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Forthcoming conferences

British Agricultural History Society
Winter Conference, 5 December 2015

Occupations, work and gender in rural Britain, from the Fourteenth to the Twentieth Century

The speakers are Richard Smith, Jane Whittle, Leigh Shaw-Taylor and Nicola Verdon. Further details will be available on the Society's web site, www.bahs.org.uk

Spring Conference, 4 to 6 April 2016

To be held at Wortley Hall, near Sheffield

Agricultural History Review looks forward to seeing its readers at

Rural History 2015, Girona, Spain
7 to 10 September 2015

Details are to be found on www.ruralhistory2015.org

Peasants eating and drinking*

by Jean Birrell

Abstract

This article explores the peasant experience of eating and drinking through the descriptions in manorial custumals of the meals provided at boon works. It seeks to show that the peasant recipients were well able to discriminate between good quality and bad in the food and drink they were given. Further, they valued an element of orderliness in the way the meals were served and consumed, that is, they had a sense of 'dining'. They wished, in the provision of these meals, to be treated with respect – though some expected more respect than others: they were well aware that food and the way it was served could be indicators of status within the household and the peasant community, and in relationships with their manorial lords. They were ready, consequently, to bargain and negotiate with these lords in an attempt to get what they wanted and felt they deserved.

Medieval historians have long appreciated how food and meals had a significance extending beyond their more obvious material manifestations.[1] Chris Dyer has shown how the consumption and production of freshwater fish could be both an assertion of the social exclusiveness of the aristocracy and an indicator of distinctions within it; Peter Coss, emphasizing the importance attached to meals in gentry households, has drawn attention to the role of 'dining rights', or *bouche à court*.[2] It is attitudes to food, 'dining', and dining rights lower down the social scale that will be discussed here, however. Though there have been excellent studies of peasant diet, these other aspects of the peasant experience have received little attention. This is no doubt due, in part, to the shortage of sources. Archaeology has recently been used to throw light on peasant dining practices, suggesting the presence of 'elements of ceremony', and undoubtedly has more to contribute.[3] Meanwhile, the descriptions in manorial custumals of the meals

* I wish to thank Professor Christopher Dyer, Dr Rosamond Faith and Dr Sally Harvey for helpful comments on the first draft of this article.

[1] For one very influential general approach to food and cooking – 'a study in comparative sociology' – see Jack Goody, *Cooking, cuisine and class* (1982).

[2] Christopher Dyer, *Everyday life in medieval England* (1994), pp. 110–11; more generally, referring to the work of social anthropologists, he evokes 'complexities of social behaviour and social psychology far removed from the mere satisfaction of nutritional needs'; Peter Coss, *The foundations of gentry life. The Multons of Frampton and their world, 1270–1370* (2010), pp. 5, 65.

[3] Christopher Dyer, 'Living in peasant houses in late medieval England', *Vernacular Architecture* 44 (2013), esp. p. 26; Christopher Dyer, 'The material world of English peasants, 1200–1540: archaeological perspectives on rural economy and welfare', *AgHR* 62 (2014), pp. 1–22. See also M. Johnson, *English houses, 1300–1800. Vernacular architecture, social life* (2010), pp. 65–86.

provided to peasants performing labour services, and in particular boon works, provide another possible approach.

The custumals vary greatly in the way they describe these meals. At their fullest, in the second half of the thirteenth and early fourteenth centuries, they may specify not only the quantity and type of food the meals were to contain, but also the quality of the ingredients and the circumstances in which the meals were to be eaten. It quickly emerges, sometimes in unexpected ways, that more was at stake than simply the filling of empty bellies. Of course, quantity mattered to the men and women who ate these meals. Many peasants may have been relatively prosperous, but many others struggled, and even hard-won prosperity might be precarious; hunger or memories of hunger must have been present in the consciousness of many peasants.[4]

But the custumals make plain that these men and women had wider concerns. They wished, indeed felt entitled, to be treated generously in return for their labours, and resented any attempt to cut back on what was provided; but they also wanted to be treated with respect – they were well aware that food, meals and the way they were served could be indicators of status, within the household, within the peasant community, and in relations with manorial lords. Proper treatment thus meant not only the maintenance of old standards (or what were claimed as such) and ample quantities, but also good quality and an element of orderliness in the way the meals were provided. The custumals show these peasants as constantly vigilant for any shortfall in what they saw as their proper entitlement in all these spheres. They are also revealed as being prepared to argue and negotiate with manorial administrations, seeking to get the best deal they could. Of course, their bargaining power was limited and their success inevitably relative, but the direct and indirect record of these exchanges offers valuable evidence about their attitudes to food, meals and 'dining'. Before enlarging on these statements, I need to say a little both about the records in which the meals are described and about the labour services with which they were associated.

Manorial custumals are documents whose purpose, as the name suggests, was to record the customs of the manor; which, in this context, meant primarily the obligations, that is, the 'customs and services', owed by the peasant tenants to their lords. Custumals have a long history, the earliest predating the Norman Conquest,[5] but this article will concentrate on those that survive from the thirteenth and early fourteenth centuries. It was at this period that custumals proliferated, in association with the expansion of direct demesne farming, and the labour services owed by the unfree tenants loom large in these documents. Custumals survive for every type of estate, small and large, lay and ecclesiastical, and for all parts of the country; this article will draw on a wide cross section.

Custumals survive in a variety of forms, sometimes as autonomous documents, sometimes contained within extents and surveys; in which case, the customs are generally recorded by

[4] It was only in the second half of the fourteenth century that 'the era of hunger-driven mortality … ended': Christopher Dyer, 'Did the peasants really starve in medieval England?', in M. Carlin and J. Rosenthal (eds), *Food and eating in medieval Europe* (1998), p. 7. For evidence of 'low nutritional status and poor health', see also Dyer, 'Material world', p. 21.

[5] The best introductions remain P. D. A. Harvey (ed.), *Manorial records of Cuxham, Oxfordshire circa 1200–1359* (Oxfordshire Record Soc., 1, 1976), pp. 72–8; id, *Manorial records* (1999), pp. 15–24.

tenant, or category of tenant, though certain customs applicable to whole groups may be recorded separately. They are alike, however, in that they were drawn up by a manorial lord or his officials, and written down in Latin by a clerk he employed. Nevertheless, it was not these officials who stated the customs, but a sworn jury drawn from the customary – or unfree – peasant tenants. This was a practice that both utilized local knowledge and gave legitimacy to the resulting document. The names of the jurors were usually recorded at the head of the custumal, after those of the presiding officials, revealing that the better-off customary tenants – including the holders of yardlands and half yardlands – were generally amply represented.[6] It needs to be kept in mind, accordingly, that their testimony may sometimes reflect the preoccupations or ambitions of 'the great and the good' of the village as much as those of the wider tenant body. However, the process was public – custumals were often compiled at a session of the manorial court – and the jurors spoke in the presence of the broader community they were called on to represent.[7]

Though much about the process by which custumals were compiled remains obscure, it seems probable that, on the day, the jurors were generally required to approve an existing draft; by the second half of the thirteenth century this was likely to be an earlier custumal. These records were regularly amended and updated to reflect changing circumstances, and it is clear that the process was frequently contentious. This can often be deduced from the documents themselves. With the passage of time, custumals become increasingly detailed. This is in part a consequence of a more general expansion in record-keeping in the thirteenth century and, specifically, of the more detailed accounting of manorial lords engaging in direct demesne farming. However, much of the extra detail can only be explained as an attempt to settle disagreements or disputes that had arisen regarding the precise nature of the obligations and rewards described. Many of the additions and clarifications are signposted by being the subject of notes and memoranda or of badly phrased or clumsily inserted clauses. Also, though the juries are usually 'silent' in these documents (after an initial 'they say'), custumals occasionally record interventions, as if made on the day, and quite possibly not expected by the supervising officials. Some of them are anonymous ('but they say'), but they are often explicitly attributed to the jury ('the jury say' or 'but the jury say', even 'all the jurors, speaking for themselves and the vill'). But even without these signposts it is often possible to infer that clauses are the product of bargaining and negotiation. Some appear to record victories – more often, of course, on the part of the lord – or losses, others to represent compromises; some appear to emanate from manorial lords, others from the peasant tenants. Such clauses are useful indicators of changes under way and of issues that had proved controversial. Many of them address aspects of the meals provided to tenants performing labour services, and especially boon works, in

[6] The yardland varied in size, but was typically in the region of 30 acres. Of the six jurors named for the Glastonbury Abbey manor of Ditcheat, Somerset, three are yardlanders (one holding a further half yardland) and three are half yardlanders: C. J. Elton (ed.), *Rentalia et Custumaria, Michaelis de Ambresbury, 1235–1252, Et Rogeri de Ford 1252–1261, Abbatum Monasterii Beatae Mariae Glastoniae* (Somerset Record Soc., 5, 1891), pp. 115–16 (the custumal is mid-thirteenth-century). For a recent discussion of manorial jurors (with bibliography), see Peter L. Larson, 'Village voice or village oligarchy? The jurors of the Durham Halmote Court, 1349 to 1424', *Law and Hist. Rev.*, 28 (2010), pp. 675–709.

[7] I have discussed this more fully elsewhere, in particular in Jean Birrell, 'Manorial custumals reconsidered', *Past and Present*, 224 (2014), pp. 3–37.

itself testimony to the importance these meals had acquired for peasants and manorial lords alike.

Boon works (in Latin usually *precaria*) differed from the other labour services widely demanded of customary tenants in a number of ways. First, they were concentrated at certain crucial times in the farming year, in particular the hay and corn harvests, periods when the labour of a large number of people was needed, often at short notice. Second, they had to be performed by a wider range of people than regular labour services, hinting at a different origin:[8] they were often demanded of free as well as customary tenants;[9] of the tenants' whole households, that is, their families and their servants and farmworkers ('he himself shall come with his whole *familia* except his wife', says the custumal for Horninglow, Staffs; at Houghton, Hunts., it was 'with his whole *familia* who are able to work, apart from his wife'; at Alveston, Warwicks., 'with his whole *familia* except his wife and his shepherd');[10] and of their subtenants, and even their subtenants' servants ('anyone who holds a cottage of him shall come with his hands', at Aldingbourne, Sussex).[11] On some manors the labour of the wider community was called on to bring in the hay (it was all the neifs 'of age and not directly serving their father or mother … and outsiders (*forinseci*) similarly' at Newnham, Gloucs),[12] and also sometimes the corn, as at Lessingham, Norfolk.[13] Lastly, boon works were performed, in the rather tentative phrasing of the American sociologist George Homans, 'in theory at least, out of love'; or, as it was put by some tenants pleading in the royal courts, 'in the old days (*antiquitus*), at harvest time the lord used to ask for aid and they used to aid him'.[14] Indeed the services are sometimes called 'love boons', the expression implying a voluntary nature,[15] and in some custumals

[8] As does the frequent use of English terms to describe them (these terms have been used where appropriate below).

[9] F. R. H. Du Boulay, *The lordship of Canterbury* (1966), p. 171, quoting B. C. Redwood and A. E. Wilson (eds), *Custumals of the Sussex manors of the Archbishop of Canterbury* (Sussex Record Soc., 57, 1958), pp. 17, 21. W. H. Hale (ed.), *Registrum Prioratus Beatae Mariae Wigorniensis* (Camden Soc. 1865) p. 83b (1240).

[10] The wife and the shepherd were both regarded as indispensable on the holding: Nigel J. Tringham (ed.), 'Select documents for the medieval borough of Burton-on-Trent', *A medieval miscellany* (Collections for a History of Staffordshire, fourth ser., 20, 2004), p. 12 (the custumal is of 1286); W. H. Hart (ed.), *Cartularium Monasterii de Rameseia* (Rolls Ser., 3 vols, 1884–93), I, pp. 367 (*c.*1250); Hale (ed.), *Registrum Prioratus Beatae Mariae Wigorniensis*, p. 83b (1240). See also Marjorie Chibnall (ed.), *Select documents of the English lands of the abbey of Bec* (Camden Third Ser., 73, 1951), p. 74 ('except his wife and his herd' (*custode averiorum suorum*)).

[11] W. D. Peckham (ed.), *Thirteen custumals of the Sussex manors of the Bishop of Chichester* (Sussex Record Soc. 31, 1925), pp. 33–4 (1256–7). See also R. H. Hilton (ed.), *The Stoneleigh Leger Book* (Dugdale Soc., 24, 1960), p. 103; Chibnall (ed.), *English lands of the abbey of Bec*, p. 33.

[12] Hale (ed.), *Registrum Prioratus Beatae Mariae Wigorniensis*, p. 15a (1240), quoted in H. S. A. Fox, 'Exploitation of the landless by lords and tenants in early medieval England', in Zvi Razi and Richard Smith (eds), *Medieval society and the manor court* (1996), p. 525. See also John F. Nichols (ed.), 'Extent of Lawling', *Trans. Essex Arch. Soc.*, new ser. 20, 1930–33), p. 185 (mowing 'with the commonalty of the vill').

[13] Marjorie Morgan, *The English lands of the abbey of Bec* (1946), p. 92 and note (1240s): the obligation is spelt out in a lengthy note attributed to the jury (quoted in Fox, 'Exploitation of the landless', p. 525). See also Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 367.

[14] G. C. Homans, *English villagers of the thirteenth century* (1960), p. 264; quoted by Rosamond Faith, *The English peasantry and the growth of lordship* (1997), p. 260.

[15] Christopher Dyer, 'The Language of oppression. The vocabulary of rents and services in England, 1000–1300', in Monique Bourin and Pascal Martínez Sopena (eds.), *Pour une anthropologie du prélèvement seigneurial dans les campagnes médiévales (XIe–XIVe siècles)*

certain boons are described as 'ex gratia', or 'on request',[16] though it seems unlikely that refusal was a realistic option. Nevertheless, it was possible for the meals customarily provided for the workers on these occasions to be presented as part of a reciprocal relationship, a just reward for labour freely rendered.[17] There are both similarities and differences here in comparison with another 'communal' manorial meal, the much less well-documented Christmas dinner which was provided to tenants – and often their wives – on some manors[18]; the peasants eligible to attend these meals were usually required to make more or less substantial contributions that were generally described as 'gifts', though more likely in reality obligatory.[19]

Though the provision of meals at boon works was fairly general, there were considerable variations in practice from one manor or estate to another. Some boons were not 'rewarded' by any meals at all: '*nihil debet habere ad illas precarias*', says the mid-thirteenth-century custumal of the winter ploughing boon at East Pennard, Somerset.[20] Usually, however, one or two meals a day were laid on for the workers, at midday, in the evening, or both.[21] Sometimes breakfast was provided, too, but this was less common; work at the autumn bederip at Stoneleigh, Warwicks., began at sunrise, but if the reapers wanted breakfast they had to bring their own, and eat and drink as they worked (*comedunt eeciam et bibent eundo ascendendo seu descendendo per selionem*).[22] Meals were often eaten in the fields, especially those laid on in the middle of the day: bread, bacon, and cheese were provided 'at the third hour or at noon *in campo*' at the autumn boon at Felsted, Essex.[23] Other meals, especially at the end of the working day, or at the end of the harvest, might be eaten in the manor house itself or in its precincts.[24]

Note 15 *continued*
(2 vols, Paris, 2004), II: *Les mots, les temps, les lieux,* pp. 71–85. The word was common on the Ramsey estate: Hart (ed.), *Cartularium Monasterii de Rameseia*, I, pp. 315, 432 *et al.*

[16] Hale (ed.), *Registrum Prioratus Beatae Mariae Wigorniensis*, pp. 61b ('ex gracia'), 72a ('ad petitione') *et al.*; Chibnall (ed.), *English lands of the abbey of Bec*, p. 62 ('de gracia)'. See also P. Vinogradoff, *Villainage in England: Essays in English Medieval History* (1927), pp. 281–3; he notes that some boon ploughing services were given pejorative names.

[17] It was in 'the arrangement of boon works', says Professor Raftis, that the 'mutual contractual obligations of lord and villein are most clearly described': J. Ambrose Raftis, *The estates of Ramsey Abbey* (1957), p. 196. Boon works were also frequently 'rewarded' by a range of perquisites in kind: see Andrew Jones, 'Harvest customs and labourers' perquisites in southern England, 1150–1350: the corn harvest', and 'Harvest customs and labourers' perquisites in southern England, 1150–1350: the hay harvest', both in *AgHR* 25 (1977), pp. 14–21, 98–107.

[18] Elton (ed.), *Rentalia et Custumaria*, p. 83.

[19] Dyer, 'Language of oppression', pp. 73, 77, 81.

[20] Elton (ed.), *Rentalia et Custumaria*, p. 125. See also Chibnall (ed.), *English lands of the abbey of Bec*, pp. 93, 95.

[21] The midday meal was provided 'at nones', or 'at the third hour' and the Latin term usually *prandium*; the evening meal was usually *cena*, and eaten at vespers or in *sero*.

[22] Breakfast was *ianticulum*, *gentaculum*: S. R. Scargill-Bird (ed.), *Custumals of Battle Abbey in the reigns of Edward I and Edward II (1283–1312)* (Camden Soc., 1887), p. 87 (t. Edward I); Chibnall (ed.), *English lands of the abbey of Bec*, pp. 97, 110, 111; Hilton (ed.), *Stoneleigh Leger Book*, p. 103 (the Leger Book is *c.* 1392, but the customs it records are probably late thirteenth–early fourteenth century: p. xxvi).

[23] Marjorie Chibnall (ed.), *Charters and custumals of the abbey of Holy Trinity Caen*, (British Academy Records of Social and Economic History, new ser. 5, 1982), p. 89 (1220s – see p. xxxvii).

[24] Peckham (ed.), *Thirteen custumals*, p. 72: haymakers at Ferring 'shall eat in the lord's manor house' when they had 'mowed all that meadow (mid thirteenth century); Scargill-Bird (ed.), *Custumals of Battle Abbey*, p. 5: tenants at Marley who had to do two days' muck spreading ate one meal a day in 'the common hall' (*in communi aula).* For the date of the custumal, see E. Searle, *Lordship and community. Battle Abbey and its banlieu, 1066–1538* (1974), p. 174: 'between 1307 and 1320 … for convenience … 1310').

Harvest suppers were customarily more lavish, and must have been communal events of some significance in the manorial calendar, festive occasions and a time for conviviality and relaxation, the successful bringing in of the crop a cause for celebration, the 'free' meal afterwards a right and proper reward for labour rendered. They might be attended by large numbers of people, of both sexes; if wives are not explicitly included (as they often were at Christmas dinners), they may have attended harvest suppers either as members of the *familia* or as additional labour, which we know included women.[25] At one boon on the Battle Abbey manor of Hoton the reapers could bring a friend to the harvest supper.[26] These meals must have demanded considerable preparation, if not on the scale of the more famous medieval banquets celebrating notable events in aristocratic life. Animals might be slaughtered for the occasion, as we will see; fires needed to be lit,[27] bread baked ('in the manor house', specifies a note in the custumal for Borley, Essex)[28] and ale brewed or bought in – the harvesters were often given cash to buy it themselves: haymakers at Warboys got 6*d*. 'from the abbot's purse for *sythalis* [scythe-ale]'.[29] The ale must have added to the jollity of the gathering, which might continue well into the evening. Candles were sometimes provided, if more often at the Christmas dinner than harvest suppers – and even then rather grudgingly: at Bleadon, says the custumal, the yardlanders could sit and drink as long as it was a light enough for candles not to be needed. We may suspect an attempt to impose restraint in a clause in the custumal for Lawling, Essex: at the ale boon, it says, 'he shall sit drinking with his fellows so long as five candles of tallow, each a shaftment in length, are burning together'.[30]

And the custumals reveal tensions surrounding these meals, even the harvest suppers. One sign is the way that local practice was increasingly spelled out, rather than left to custom or to the discretion of the manorial officials. Twelfth-century custumals are rarely full in their descriptions of these meals, if they mention them at all.[31] In the thirteenth century, by contrast, the meals are often described in what can seem to a modern reader obsessive detail. The enormous precision with which tenant labour services are described in thirteenth-century

[25] Women reaped, with a sickle, even if they rarely mowed with a scythe (but there were many other lighter tasks in the hayfield): Simon A. C. Penn, 'Female wage-earners in late fourteenth-century England', *AgHR* 35 (1987), pp. 10–11. For women working at the autumn boon, see Hart (ed.), *Cartularium Monasterii de Rameseia,* I, p. 49 (*cum omnibus hominibus et feminis domui sui pertinentibus*); II, p. 24; Chibnall (ed.), *English lands of the abbey of Bec*, p. 100.

[26] Perhaps in an attempt to increase the number of workers, suggests the editor: Scargill-Bird (ed.), *Custumals of Battle Abbey*, p. xxxix.

[27] The lord found the 'wood to cook the dinner' for haymakers at Ferring: Peckham (ed.), *Thirteen custumals*, p. 72. See also H. C. Maxwell-Lyte (ed.), *Two Registers formerly belonging to the Family of Beauchamp* (Somerset Record Soc., 35, 1920), p. 13; Jones, 'Hay harvest', p. 102.

[28] G. F. Beaumont (ed.), 'The extent of the manor of Borley', *Trans. Essex Arch. Soc.*, new ser. 18 (1927), p. 268 (1308). See also Elton (ed.), *Rentalia et Custumaria*, p. 99.

[29] Hart (ed.), *Cartularium Monasterii de Rameseia,* I, p. 311 (1251). See also Chibnall (ed.), *English lands of the abbey of Bec*, p. 85 (brewing for the Christmas dinner).

[30] E. Smirke (ed.), 'Notice of the customs of Bleadon, Somerset and of the agricultural tenures of the thirteenth century' in *Memoirs Illustrative of the History and Antiquities of Wiltshire and the city of Salisbury* (1849), p. 204; Nichols (ed.), 'Extent of Lawling', pp. 185–6 (1310). See also Homans, *English villagers*, p. 358.

[31] Details of the food given to boon workers are 'rarely mentioned' and 'never itemized' in the 1189 surveys of Glastonbury Abbey (and are an innovation in those of the mid thirteenth century): N. E. Stacey (ed.), *Surveys of the estates of Glastonbury Abbey c.1135–1201*, (British Academy Records of Social and Economic History, new ser. 33 (2001), p. 43.

custumals has often been remarked on, with good reason, but perhaps equally noteworthy is the amount of space devoted in many custumals to the associated meals.[32]

And just as the descriptions become more detailed over time, so the language changes too. True, in some custumals the meals are still described only briefly and vaguely: some ploughing and harrowing boons at Sidlesham, Sussex, remain simply 'at the bishop's food' in the custumal of 1275.[33] In others, the language is not only imprecise but expansive: 'And on that day the prior feeds everybody', proclaims the custumal for the Worcester Cathedral Priory estate of the Benrip and the Benerthe, the chief autumn and ploughing boons; more modestly, the custumal for Ashill, Norfolk, says simply that the mowers were to get 'a good meal' (*unum bonum repastum*).[34] A custumal for Bishopstone, Sussex, is a little more specific: at the wheat boon, it says, 'at dinner each [worker] shall have as much bread as he wishes to eat'; at Denton, Sussex, at 'the great wheat boonwork', reapers got 'cheese and ale all day'.[35] At the Christmas dinner at North Curry, Somerset, some tenants were to have 'as much ale as they will drink in the day', while one tenant, next day, was to have 'as much ale as he will drink till even'; at the Christmas dinner at Bleadon, Somerset, the tenants were to get not only 'good' bread and ale, but also one 'full serving' (*plenarium ferculum*) of beef and another of pork.[36] These are all phrases suggestive of a generous provision, freely offered.

Equally common, however, is a more cautious and cost-conscious note: at the harvest boons, says the custumal for Hartest, Suffolk, the workers were 'to have food in moderation', and it refers later to 'a small meal, that is to say a loaf and some relish'.[37] Reasonableness and moderation are an insistent theme, well exemplified in the custumal for Felsted: the servings of meat or fish at the plough and harvest boons on this manor were to be 'reasonable' (*rationabilia fercula*), and the quantity of bread, bacon and cheese to be 'within reason as was the custom' (*rationabiliter sicut mos est*).[38] The inclusion of bread in this list may seem surprising but a parsimonious attitude even to this staple food was widespread: the wheaten loaf provided at a boon at Lawling was to be 'of reasonable size'.[39] Perhaps less surprisingly, we find similar caution with regard to ale: at the plough boon at Bishopstone the amount was to be 'reasonable' (*cervisiam rationabilem*); at Moreton Sanderville, Berks., the harvest workers got 'sufficient' ale at the bedrippas.[40] But what counted as reasonable or sufficient might be interpreted differently

[32] In the custumal for Ilmer, Bucks (1337), of some nine lines devoted to the *messio ad cibum*, at most four describe the tenants' obligations, the rest are taken up with the details of the provision of food and drink: TNA, SC 11/79. Eleanor Searle notes the addition of 'the amount of food' provided to customary labourers by 1251–2: *Lordship and community,* p. 169; see also Raftis, *Estates*, p. 197 for the appearance of 'long paragraphs in the thirteenth-century extents'.

[33] Peckham (ed.), *Thirteen custumals*, pp. 22–3.

[34] Hale (ed.), *Registrum Prioratus Beatae Mariae Wigorniensis*, 83b; TNA, SC 11/465 (the custumal is undated, but of Edward I or II).

[35] Peckham (ed.), *Thirteen custumals*, pp. 89, 101 (the custumals are dated 1253–62 and 1274).

[36] Homans, *English villagers*, p. 358 (1314); Smirke (ed.), 'Customs of Bleadon', p. 204.

[37] M. Bailey, *The English Manor c.1200–c.1500* (2002), p. 50 (a survey of Hartest, 1251, and see also p. 54).

[38] Chibnall (ed.), *Holy Trinity Caen*, pp. 89–90; there are no references to food at boon works in an early twelfth-century Felsted survey: ibid., pp. 33–4; see also pp. 40–5.

[39] Nichols (ed.), 'Extent of Lawling', p. 186.

[40] Peckham (ed.), *Thirteen custumals*, p. 89; TNA, SC 11/83 (the custumal is 1333–4). Ale was not provided at the hay harvest but the mowers could on certain days go *ad tabernam* after the ninth hour. See also Peckham (ed.), *Thirteen custumals*, p. 81; Homans, *English villagers*, p. 261.

by an economically minded manorial administration and hungry peasant recipients: at Felsted, a clause had to be added to the custumal to say that, when it came to bread, what counted as a reasonable quantity was to be decided by 'worthy men' (*panis erit racionabilis per visum proborum hominum*).[41] We are a long way here from a liberality in provision, and also from peasants grateful for whatever they received.

Another approach was to avoid vague, approximate, or emotive terms in favour of listing the various components of the meal, in neutral language. Thus at Lawling a note has been added to the custumal ('and be it known that …') spelling out what the meal at the ale boon was to consist of: at midday each tenant was to get 'a wheaten loaf, milk and cheese', in the evening, 'a wheaten loaf, ale, pottage, a platter of meat, and a dish of bread and milk with cheese'.[42] Many custumals go further and specify precise quantities. Herrings, a relatively cheap food, were often counted: at Hadleigh, Essex, two men got six between them, valued at a halfpenny, at Mickleover, Derbs., each reaper got two, at Laughton, Sussex, it was one, while on the Battle Abbey manor of Marley they were doled out in fractions.[43] At Stoneleigh it was eggs that were kept count of: each reaper got four at the bedrepa.[44] It is sometimes possible to trace the appearance of the extra precision: the 'ale or cider for drinking' provided with the harvest supper at Horninglow, according to a survey of 1286, has become, by that of 1307, a measured 'one gallon of ale or cider' between two.[45] Even the quantity of bread might be strictly defined: custumals regularly specified not only how many loaves each worker was to get but also their weight: at Preston, Sussex 'each [harvester] shall have for his dinner a halfpenny loaf, and every two shall have for supper one or two halfpenny loaves', and if the bread was baked specially, then '24 loaves must be made from one hop'; or, at Bradcar, Norfolk, 'four barley loaves, and twenty loaves are made of every bushel'.[46] Small variations in the provision on different days are carefully recorded. At Appledrum, Sussex, for example, a slightly different meal was provided at each of four harvest boons and each of them was separately described in the custumal: the bread at the second was to be half wheat and half rye, but at the third all wheat, and so on; at Ilmer, Berks., the tenants were to get more ale on the second day than the first.[47] The provision of salt might be recorded: sometimes how much (a 'basketful' for haymakers at Hartest), often in association with cheese ('two cheeses and as much salt as may cover a cheese mould' for haymakers at Lawling),[48] or meat, as

[41] Chibnall (ed.), *Holy Trinity Caen*, p. 90.

[42] Nichols (ed.), 'Extent of Lawling', p. 185.

[43] Hugh Pigot (ed.), 'Extent of the Manor of Hadleigh', *Procs. of the Suffolk Institute of Arch.*, 3 (1859–63), p. 237 (1305). See also Beaumont (ed.), *Extent of the manor of Borley*, p. 268; Hart (ed.), *Cartularium Monasterii de Rameseia,* I, pp. 414, 432; Tringham (ed.), 'Select documents', p. 43 (1307); A. E. Wilson (ed.), *Custumals of the manors of Laughton, Willingdon and Goring* (Sussex Record Soc., 60, 1961), p. 3 (1292); Scargill-Bird (ed.), *Custumals of Battle Abbey*, pp. 6, 7, 9 *et al.* (and see p. xiii). See also Hart (ed.), *Cartularium Monasterii de Rameseia,* I, pp. 414 (3 herrings between two), 432.

[44] Hilton (ed.), *Stoneleigh Leger Book*, p. 103.

[45] Tringham (ed.), 'Select documents', pp. 13, 38.

[46] Peckham (ed.), *Thirteen custumals*, p. 81 (mid-thirteenth century); William Hudson (ed.), 'Three manorial extents of the thirteenth century', *Norfolk Arch.*, 14 (1901), p. 28 (1298–9). See also Beaumont (ed.), 'Extent of Borley', p. 264; Pigot (ed.), 'Extent of Hadleigh', p. 237.

[47] Scargill-Bird (ed.), *Custumals of Battle Abbey*, p. 54 (t. Edward I); TNA, SC 11/79 (1337).

[48] Bailey, *English Manor*, p. 50; Nichols (ed.), 'Extent of Lawling', p. 185. See also Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 336 (*fiscellam plenam sale*); Scargill-Bird (ed.), *Custumals of Battle Abbey*, p. 81 (t. Edward I).

at Brightwalton, Berks.,[49] or to season the haymakers' broth or pottage, at Borley.[50] The custumal for North Curry specifies that mustard should be provided with the beef and bacon at the Christmas dinner.[51]

The dread hand of the accountant is clearly visible in many of these clauses. Further, everywhere provisos and exclusions creep in, often revealing a notably penny-pinching attitude, but also hinting at local disputes. Why else should it be recorded that the harvest workers at Chatteris, Cambs., were to get 'sufficient ale' at the third lovebene, but that at the fourth, if they got ale, it was not as of right but as a favour (*nisi ex gratia*); or that if the haymakers at Ferring, Sussex, wanted ale with their harvest supper, they had to provide it themselves; or a note be added at Lawling to the effect that there were to be as many ale boons as dry boons – the latter no doubt more popular with the administration than with the harvest workers.[52] The cheaper but less attractive option of water was often written into the custumal: this was spelled out in a note at Borley for the oat boon (though the harvesters got ale at the wheat boon); at Goring, Sussex, it was water at the first autumn boon, ale at the second; the third autumn boon at Hartest was the eponymous 'Waterbedrepe'.[53] The provenance of the water was specified at Denton – it was to be 'of the king's well'.[54] And a different type of parsimony is suggested at Barnwell, Cambs., in this case with regard to time: on that day (the first day of haymaking), says the custumal, a half yardlander could sit down 'with all the lord's men' to drink the 12*d*. worth of ale provided 'without challenge' (*sine vendicatione*);[55] had this 'privilege' been contested?

If much of this new detail was included in an attempt to settle or forestall local disputes, why had these arisen? Reasons are not hard to find. For their part, manorial lords had increasingly strong grounds for wanting to cut back on these meals, which were often fixed by custom at a notably generous level.[56] In the thirteenth century they faced a pincer movement of rising food prices and falling labour costs, which made the customary provision of food and drink for workers performing labour services an increasingly heavy burden. Awareness of the high price of providing meals relative to the value of the labour is visible in many custumals: it was increasingly common to attach a cash value to the meals, often together with a calculation of the value of the labour rendered. This might reveal only a narrow margin of profit, or even an outright loss: at Barnhorn, Sussex, in 1306–7, Battle Abbey calculated each of two Lent harrowing services to be worth 4*d*., and the cost of providing the customary three meals a day to the workers at 5*d*., leaving the lord, the document notes, 1*d*. out of pocket; a similar calculation was made with regard to mowing services, with the

[49] Scargill-Bird (ed.), *Custumals of Battle Abbey*, p. 61 (1283–4).

[50] Beaumont (ed.), 'Extent of Borley' p. 264 (1308). See also W. H. Hart (ed.), *Historia et Cartularium Monasterii Sancti Petri Gloucestriae* (Rolls Series, 3 vols, 1863–7), III, p. 203.

[51] Homans, *English villagers*, p. 358.

[52] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 432 (1240); Peckham (ed.), *Thirteen custumals*, p. 72; Nichols (ed.), 'Extent of Lawling', p. 186.

[53] Beaumont (ed.), 'Extent of Borley', p. 268 (see also Pigot (ed.), 'Extent of Hadleigh', p. 237); Wilson (ed.), *Custumals of Laughton, Willingdon and Goring*, p. 50 (1321); Bailey, *English manor*, p. 50.

[54] Peckham (ed.), *Thirteen custumals*, p. 101.

[55] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 49 (*c*.1275).

[56] Dyer, *Making a living*, p. 134; id., 'Changes in diet in the late Middle Ages: the case of harvest workers', *AgHR* 36 (1988), p. 34.

same result.[57] The temptation to cut back on the customary provision in these circumstances may often have proved irresistible: 'it is not surprising', in the words of Professor Raftis, 'to find attempts to standardise and control … consumption'.[58] And, in 1291, the villeins of the Ramsey Abbey manor of Broughton walked out in the middle of the great harvest bene on the grounds ('giving the malicious and false cause', claimed the manorial administration, at the November manorial court) that the loaves of bread they were offered were not 'as large as they were accustomed formerly and ought to have them'. A search of the register/custumal showed they had no right to 'more bread than may be purchased so that two men together have bread worth 3 farthings' unless 'the lord wishes'.[59] Had the lord perhaps so wished in previous years? Had the loaves been larger when the Abbey had baked its own, and no account was taken of the price of corn, as the custumal hints had once been the case? This we cannot know, but what is clear is the strength of feeling on both sides, and the assertiveness of the peasant tenants. They must have been aware they risked a heavy fine for their actions – in due course they were adjudged to be in contempt of the lord and amerced 40*s*. – but they went ahead with their action nevertheless. It is noticeable that, even as translated into Latin and written down by a scribe in the formal court record, their language was one of 'rights' ('ought to have') and not of humble requests. Eventually, as the century passed, many labour services were commuted for cash, in whole or in part, temporarily or permanently, in favour of cheap wage labour. But old habits died hard, and there were still circumstances and occasions in which it remained profitable or convenient to use labour services; and boon works, as we have seen, had a particular value to manorial lords and were among those most frequently still called on.

Though the quantity and type of food provided at these works was clearly a matter of concern on both sides, if for different reasons, it is notable that it was not only these aspects that mattered to the peasants. Many clauses reveal quality to have been an issue, too, even if the food itself remained fairly basic. High quality is often specified and if we assume, as seems reasonable, that the impetus for such clauses came from the peasants, they are revealed as well able to discriminate. This is immediately apparent in the case of bread, an important component of all these meals. As we have seen, custumals regularly stated not just its quantity but also the type of corn from which it was to be baked. Barley bread, cheaper and less highly prized, was often found, as at Goring at the first autumn boon, but the more expensive bread baked from wheat was generally preferred and also often specified: mowers at Ashbury, Berks., got wheaten bread twice a day with their cheese.[60] The value attached to this bread corn and the level of discernment present, not to speak of the pernickety nature of some of the bargaining that must have taken place, is suggested by a proviso in the custumal for Holywell, Hunts.: the bread at the first autumn boon, it says, was to be 'of wheat and rye, but mostly wheat'

[57] Searle, *Lordship and community*, p. 179. The phrase '*nec extenditur propter reprisam cibi*' is twice repeated in the custumal for Hadleigh: Pigot (ed.), 'Extent of Hadleigh', p. 237.

[58] Raftis, *Estates*, p. 198.

[59] J. Ambrose Raftis, *Tenure and mobility. Studies in the social history of the mediaeval English village* (1964), p. 10; Homans, *English villagers*, p. 262 (slightly different translations in each case). See also Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 337, where the bread allowance is described in detail.

[60] Wilson (ed.), *Custumals of Laughton, Willingdon and Goring*, p. 49; Elton (ed.), *Rentalia et Custumaria*, p. 52.

(*major pars sit frumentum*). Meanwhile, at Burton Abbey, the reapers got 'two loaves, one of wheat and the other of rye', each 'of the same weight as the bread of a monk'.[61] White bread was similarly highly valued, and occasionally specified, if in modest quantities: each reaper at Stoneleigh got one small white wheaten loaf; haymakers at Marley got two and a half 'black' loaves (*panes nigros*) each, but also, 'in common', three large and three small simnel loaves, that is, loaves of fine white wheat flour.[62] Even the best white wastel bread is occasionally found: at Ilmer reapers got one dish of some sort of pudding made with it (*ferculum mortrellorum de wastelle*); wastel bread from the county town ('*wastelli* of Derby'), that is, from a superior urban bakery, was given to reapers at Mickleover.[63] One is inevitably reminded of the beggars in *Piers Ploughman* who 'refused the bread that had beans in it, demanding milk loaves and fine white wheaten bread'.[64]

Another luxury food, at least for the peasantry, was fresh meat. So highly was it valued that boons at which it was customarily provided were sometimes named after it: it was at 'the great metebene' on the Burton Abbey estate that the reapers got a meal that included 'one dish of meat, either beef or pork' (*carnis bovis vel porci*) between two.[65] At Cranfield, Beds., it was 'one dish of beef', similarly shared between two, at one boon.[66] More often, however, custumals said simply 'meat' or 'fresh meat'.[67] At Broughton, the very inclusion of the latter was left uncertain: 'recent or salt' (*recentem vel salatam*) says the custumal of one autumn boon: had the manorial administration here refused to let themselves be pinned down?[68] An even more grudging attitude is suggested at Stoneleigh, where the reapers got '*potagio scilicet* Gruwel *sine carnibus cocto*', that is, pottage without cooked meat, unless the lord decreed otherwise (*nisi dominus aliter permiserit*).[69]

However, fresh meat must have been a frequent component of the main harvest supper at the end of haymaking, as it was common for an animal to be slaughtered for the occasion. Mowing and haymaking – 'very much group activities' – are characterized by 'common' rewards, as opposed to 'servings', and often surrounded by ritual.[70] It was traditional on many manors – after the hay had been carried in – for a sheep to be turned out into the field,

[61] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 300 (1252); Tringham (ed.), 'Select documents', p. 38.

[62] Scargill-Bird (ed.), *Custumals of Battle Abbey*, p. 5;

[63] TNA, SC 11/79; Tringham (ed.), 'Select documents', p. 43. Wastell bread was introduced into the reapers' supper at Laughton between 1292 and 1325: Wilson (ed.), *Custumals of Laughton, Willingdon and Goring*, p. xxxv. See also Teddington (1225) ('1 *gastelkum* worth a farthing'): CUL MS Kk 5, fo. 24 (I am grateful to Barbara Harvey for lending me her microfilm of this custumal).

[64] William Langland, *Piers the Ploughman* (Penguin Books edn, 1959), pp. 127–8; note also the threat of having to eat barley bread, p. 123.

[65] Tringham (ed.), 'Select documents', pp. 13, 38 (and for pork, see above, p. xx). For other 'meat boons', see Hart (ed.), *Historia et Cartularium Monasterii Sancti Petri Gloucestriae,* III, pp. 90, 94, 110 *et al.* For a 'chesebene' see Chibnall (ed.), *English lands of the abbey of Bec*, p. 93.

[66] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 463 (*carnis bovini*) (1245); Beaumont (ed.), 'Extent of Borley', p. 268 (spelled out in a note). On the manors surveyed by Dyer, fresh beef was included in meals for harvest workers in 1286: Dyer, 'Changes in diet', p. 28 (though he emphasizes the relative unimportance of meat in the meals provided to harvest workers at this period: pp. 26–8).

[67] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, pp. 311 (*carnem recentam*), 415, 432 (*unum ferculum carnis*); see also Peckham (ed.), *Thirteen custumals*, p. 34 ('fresh meat').

[68] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 337.

[69] Hilton (ed.), *Stoneleigh Leger Book*, p. 103.

[70] Jones, 'Hay harvest', p. 100.

for the haymakers to try to catch and kill themselves; if they succeeded they had it for their supper, if they let it escape it remained the lord's. More prosaically, by our period, mowers were more likely to be given a sum of money to purchase an animal ('a sheep worth 12*d*., or 12*d*.', a note inserted into the Goring custumal specifies).[71] Or an animal was provided and slaughtered by the lord. Either way, many custumals stipulate that it was not to be an inferior beast: it was to be 'one of the best sheep in the bishop's fold', declares the custumal for Sidlesham, 'the best [wether] they like to choose', says that for Preston, and 'the second best ram in the lord's fold' was specified at Winterbourne, Wilts.[72] At Badbury, Wilts., the haymakers could select a sheep themselves, but by sight alone; they were not permitted to feel it.[73] At Laughton, where an ox was slaughtered for the reapers, it 'must be fattened on the better pasture of the lord until the time when it must be used'.[74] These peasants were well able to tell the difference between good and less good meat, it is clear, and such provisos may well be attempts to thwart a common and resented practice on the part of manorial lords of choosing inferior animals for these occasions.[75]

A whole cheese was often provided for haymakers, and again we find stipulations as to quality: a note added to the Borley custumal specifies that the cheese was to be 'from the lord's dairy', and 'after the better sort'; at Broughton the cheese for the mowers was to be one of the best in the curia; the yardlanders required to shear the lord's sheep at Bleadon were to share 'the best cheese' then being salted (*qui jacet in augeo ad saliendum*); on some Glastonbury manors it was to be a cheese made that same day.[76] Concern for the quality of dairy products emerges also in relation to milk, sometimes specified as a superior alternative to water, as we have seen at Lawling.[77] That of the milk given to mowers at Borley was very precisely stipulated, in phrases that hint at hard prior bargaining: it was to be from the morning milking and 'from all the cows of the whole dairy at one and the same time' (the milk fat yield is higher in the morning, mixing means that the thinner, earlier-drawn milk cannot be used).[78] Clauses insisting on the high quality of these dairy products may be instances of small victories for the tenants but a word of caution is needed: the cheese for the yardlanders and their men mowing on the Glastonbury Abbey manor of Burton in Marnhull, Dorset, might well be 'one cheese

[71] Jones, 'Hay harvest', pp. 102–3; Chibnall (ed.), *English lands of the abbey of Bec*, p. 103 (*si possit evadere remanebit ad opus domini* at Atherstone); Wilson (ed.), *Custumals of Laughton, Willingdon and Goring*, p. 49 (though a sheep was turned out into a meadow and killed by haymakers ['with a knife'] at Alrewas in 1336): Staffordshire RO, DO3 (W), Roll Oct. 1335–Oct. 1336, mm. 1, 1d).

[72] Peckham (ed.), *Thirteen custumals*, pp. 23, 80; Elton (ed.), *Rentalia et Custumaria*, pp. 61–2. See also Jones, 'Hay harvest', pp. 103–5.

[73] Elton (ed.), *Rentalia et Custumaria*, p. 58 (*per visum et non per tactum*), quoted by Jones, 'Hay harvest', p. 103.

[74] Wilson (ed.), *Custumals of Laughton, Willingdon and Goring,* p. 3 (1292).

[75] For the 'procession of ancient bulls, enfeebled oxen, sterile cows and culled wethers and ewes' slaughtered for harvest workers, see Dyer, 'Changes in diet', p. 30. In their own homes, peasants may often have been obliged to eat the meat of 'elderly cattle and sheep', younger animals having been sent to market: Dyer, 'Material world', p. 21.

[76] Beaumont (ed.), *Extent of Borley*, p. 264; Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 336; Smirke (ed.), 'Customs of Bleadon', p. 204; Elton (ed.), *Rentalia et Custumaria*, pp. 58, 61 etc.

[77] See above, xx; see also TNA, SC 11/79 (milk for reapers at Ilmer).

[78] Beaumont (ed.), 'Extent of Borley', p. 264. Morning milk was specified for the tenant acting as shepherd at Bleadon: Smirke (ed.), 'Customs of Bleadon', p. 207.

from the best cheeses' made in the lord's curia, as it is put in the custumal, but only as long as it did not cost more than 5*d*. There were clearly limits to what a cost-conscious administration was prepared to countenance.[79]

Quality is indicated in a different – and highly significant – way elsewhere in the custumal for Burton in Marnhull, where it is related to the quality, or status, of the tenant rather than the foodstuff: at one of the winter ploughing boons, says this custumal, the yardlander was to be fed not only sufficiently but 'honourably' (*sufficienter et honorifice*).[80] The same word is used again in the custumal for another Glastonbury Abbey manor, Sturminster Newton, Dorset, this time of the ale to be provided to the yardlander and his wife at the Christmas dinner: it was to be 'sufficient and honourable and clear' (*sufficientem et honorifice et clera*).[81] It is an unusual word to find in this context, that is, in a manorial document and in connection with a peasant tenant, and we can only speculate how this loaded language came to be used. It seems unlikely to have been volunteered by the manorial administration, more likely that it came from the peasant tenants. It is unlikely to be by chance that it is in both cases employed in connection with yardlanders, that is, with members of a sort of village elite from whom, we may remember, the jurors were often recruited. Should we assume that these tenants used the word themselves in conversations in the village? Or was it perhaps produced for the occasion, in an attempt to convey the quality or type of appropriately respectful treatment these men felt was their due, in the face of the lord's officials – possibly inclined to look down on them?

That the concept of a yardlander's 'honourable' status was present in villages elsewhere is confirmed by other custumals, again in connection with food and drink. It is articulated in those for some of the Ramsey Abbey manors, where the yardlander was expected to treat the 'servants of the curia' on the day of his marriage: at Broughton, the custumal says, he should provide a meal of bread, meat and ale 'as his honour demanded and his financial situation allowed' (*secundum quod suum honorem deceat et suae competat facultati*), a nice combination of aspiration and realism; at Warboys, Hunts., it was '*pane, cervisia, carne vel pisce servientes curiam honorifice respiciet*'.[82] There may be a hint that this vocabulary was unwelcome to manorial lords in a comparison of two surveys made at an interval of two decades on the Burton Abbey estate: the word 'honourable' is used in the earlier survey (1286) of a 'gift' (*honorabile exennium*) the yardlanders were required to make to the abbot on certain fixed dates, but it has disappeared from the survey of 1306 on all but one manor, along with the element of discretion allowed to the tenants. The exceptional manor is Mickleoever, where its continued use is laboriously and clumsily insisted on, presumably a victory for the local tenants on a matter about which they felt strongly.[83]

If a desire on the part of this category of tenant for treatment appropriate to their status is visible in custumals, so also is a readiness on the part of manorial lords to go along with it,

[79] Elton (ed.), *Rentalia et Custumaria*, p. 96. See also Lechford, where mowers got 'one second best cheese': *Rotuli Hundredorum* (Record Commissioners, 2 vols, 1812–18), II, p. 772.

[80] Elton (ed.), *Rentalia et Custumaria*, p. 96.

[81] Ibid., p. 83, cited in Dyer, 'Language of oppression', p. 73.

[82] Hart (ed.), *Cartularium Monasterii de Rameseia*, I, pp. 338, 312 (1252); see also p. 326.

[83] Tringham (ed.), 'Select documents', pp. 13, 39, 41; discussed more fully in Jean Birrell, 'Rereading manorial custumals: lords, tenants and custom on three Staffordshire estates (1297–1341)', in *Staffordshire Studies*, 19 (2008), p. 8.

by showing them special favour at boon feasts. This preferential treatment might take various forms. Sometimes it was simply more or superior food and drink: at the three autumn beddrips at Moreton Sanderville, the custumal flatly states, the yardlander was to receive better food and drink (*melius cibari et potari*) than the workers he brought with him.[84] At Teddington, Middlesex, the yardlander got ale with his dinner at the great boon while his men got water (though everyone was given ale at supper); added to which he received a substantial further allowance of 32 gallons of ale, which, if he shared it with his workers, put him in the happy position of distributing largesse, for all the world a little lord in his own small patch.[85] At the two harvest boons at Aldingbourne the yardlander received an additional and exclusive midday meal (there was bread and cheese for everyone in the evening), lavish enough at the wheat boon to include fresh meat and ale.[86]

The yardlanders might also be singled out by where and how they ate the meals. At the three autumn beddrips at Moreton Sanderville the yardlander – who was, as we have seen, to receive better food – was to be more 'honourably' seated: *sedebat honestius* says the custumal. At the third autumn boon at Felsted, the *probi homines* – the expression apparently used as synonymous with yardlanders, a significant equivalence – were to come to the manor house (*ad curiam domine*) for the evening meal, but seemingly not the reapers they had to supply, though they too received a meal.[87] A note has been added to the Bishopstone custumal to clarify that it was only those who contributed oxen to the teams at the ploughing boon ('they and not more') who were to come to the lord's house to dinner.[88] At the second and third harvest boons at Hoton, Essex, the yardlander was entitled to eat 'with the sergeant', that is, in superior company.[89]

And there may have been other ways of distinguishing certain categories of tenant not noted in the custumals. For example, it is known that tablecloths were sometimes used at harvest suppers. A cloth bought at Sedgeford, Norfolk, was not big enough to cover a table seating all the harvest workers; perhaps it adorned one end of a long table, or perhaps a smaller more selective table.[90] The use of a cloth as a marker of status is suggested in some custumals for the Glastonbury Abbey estate, where the yardlander was to bring his own plate, cup and cloth *(discum et cifum et mappam*) to the Christmas dinner; at Burton in Marnhul the phrase 'should he wish to eat off a cloth' (*si voluerit de mappa comedere*) has been added – perhaps betraying a hint of disdain on the part of the scribe?[91] Yet the use of tablecloths in late medieval peasant

[84] TNA, SC 11/83.

[85] Barbara Harvey, *Westminster Abbey and its estates in the Middle Ages* (1977), pp. 219, n. 2, 221 (the custumal is of 1312).

[86] Peckham (ed.), *Thirteen custumals*, pp. 33–4.

[87] Chibnall (ed.), *Holy Trinity Caen*, pp. 89–90. See also Hart (ed.), *Historia et Cartularium Monasterii Sancti Petri Gloucestriae,* III, p. 43.

[88] Peckham (ed.), *Thirteen custumals*, p. 95 (see also p. 89) (the custumal is t. Edward II). See also Wilson (ed.), *Custumals of Laughton, Willingdon and Goring*, pp. 75–6.

[89] Scargill-Bird (ed.), *Custumals of Battle Abbey*, pp. xxxix–xl (1311–12).

[90] It was five ells long: Dyer, 'Changes in diet', p. 28; see also p. 31. The obligations of a sokemen at Haywood as recorded in the episcopal survey of 1297/8 included finding cloths – and towels – for the mowers and reapers (and also dishes, cups, pitchers and tankards, and other utensils): Staffordshire RO, D1734 J2268, fol. 23 (for this reference, I thank Dr Nigel Tringham, who is preparing an edition of this survey).

[91] Elton (ed.), *Rentalia et Custumaria*, pp. 83, 97 (were the plate and bowl likely to be of better quality than whatever was routinely supplied, presumably treen?) See also Homans, *English villagers*, 358.

households is documented in inventories; cloths are often recorded in association with towels, suggesting that hands might be washed before meals.[92]

So there were a variety of ways in which manorial administrations showed special favour to the tenants of the standard yardland holdings at boon feasts. In doing so they were implicitly equating these particular customary tenants with peasant tenants of higher status, those who were free or on the border between free and customary, who were often entitled to similar forms of preferential treatment; or, as it is put in the custumal for the ancient demesne manor of Stoneleigh, they – that is, the free sokemen – were to be 'ministered to in a better fashion … as their status demanded' (*meliori modo ministrabitur secundum exigenciam status eorum*).[93] More explicitly, at Preston, the tenant of a yardland that owed only light services, including two ploughing and two harvest boons, was on these occasions to 'eat with the sergeant of the manor'; similarly, two tenants of uncertain, but not customary, status at Houghton were to eat in the hall with the farmer (of the manor) at the boon, unlike their reapers, who, the custumal says, were to eat 'with the other workers' (*cum operariis aliis*).[94]

These forms of privilege – eating in the manor house or in the hall within it, eating in superior company, eating better food – are reminiscent of the dining rights, or *bouche à court*, more usually discussed in relation to aristocratic households. However, they were common at lower social levels too, perhaps in particular in the case of certain manorial officials. The most important of these, the reeve, a man chosen or elected from the customary peasant tenants, was on many manors entitled to eat in the manor house on certain occasions, especially at key times of the farming year. This may often have been at table with the lord's *familia*, that is, the permanent demesne farmworkers, but it might also be in 'superior' company: 'at table with the bailiff of the manor' during the winter and Lent sowing and the autumn harvest at Bradford on Tone, Somerset, and 'in the lord's hall at the table of the manorial officials' when the lord was resident on the manor. At Stoke-sub-Hamdon, Somerset, the reeve 'shall be with him at table … whenever the steward shall be at table for holding courts'.[95] There were obvious practical advantages in such an arrangement – saving of time, ease of exchange of information and decision-making etc. – but the practice must have brought benefits of a more intangible kind, too, encouraging the reeve to feel part of the manorial administration, bringing him, as it were, onside, while at the same time distancing him from his fellow tenants. It seems likely that the preferential treatment offered to the yardlanders was intended to achieve a similar effect.

But in any case, if the yardlanders received marks of public recognition of their status at boon feasts, this only reflected an already existing hierarchy, not only in the home,[96] but also

[92] Dyer, 'Living in peasant houses', p. 22; see also Dyer, 'Material world', p. 20.

[93] Hilton (ed.), *Stoneleigh Leger Book*, p. 103.

[94] Peckham (ed.), *Thirteen custumals*, p. 79; Hart (ed.), *Cartularium Monasterii de Rameseia*, I, p. 368 (see also p. 492). See also Wilson (ed.), *Custumals of Laughton, Willingdon and Goring*, p. 76; Redwood and Wilson (eds), *Sussex manors of Archbishop of Canterbury*, p. 1.

[95] T. J. Hunt (ed.), *The customs of the manors of Bradford on Tone, near Taunton, Somerset* (Somerset Record Soc., 66, 1962), pp. 86, 89 (1353–4); Maxwell-Lyte (ed.), *Two registers*, p. 23 (1287). The range of 'dining rights' of reeves and other manorial officials, like their other perquisites of office, deserves fuller discussion than is possible here.

[96] Chris Dyer has noted 'the single chair' recorded in late medieval inventories, signalling 'the authority

in the harvest field, which was similarly encouraged by manorial lords. As we have seen, the yardlander was generally required to provide the labour of several reapers at the autumn boon, and these were drawn primarily from his family and household, supplemented if necessary by hired labourers. On many manors, custumals state that on certain days he was not required to labour himself, but only to supervise the workers he supplied, and see, in the words of the Moreton Sanderville custumal, that they did a good job (*bene operentur*).[97] Further, some custumals specify that he was on these occasions to carry a rod, traditional symbol of authority, further enhancing his role as supervisor: at the metebene, says the Burton Abbey custumal, he must, 'as their overseer … stand there all day with a rod' (*custos eorum … cum virga*).[98] In this, the yardlander was once again being put on a par with tenants of higher status, such as the free sokemen of Stoneleigh, though they, with their rods, were required to ride to the bedrepa (*equitantes cum virgis suis*), and also not only to see that the labourers they supplied did a good job, but present them in a special court if they offended.[99] The potential advantages for the lord in this practice are clear. Firm supervision of the disparate body of workers assembled for the corn harvest must have been an urgent necessity. This was the job of the manorial officials, of course, specifically the ripreeve or hayward, more generally the reeve and bailiff. Nevertheless, making the yardlanders responsible for their own workers might greatly contribute to the efficiency of the harvest, and giving them this formal right to supervise, rod in hand, must have seemed a good way of winning their cooperation.

How the customary yardlanders reacted is difficult to gage, and raises wider issues than can be discussed fully here.[100] No doubt they generally welcomed privileges that recognized or enhanced their status as heads of household and as gaffers, perhaps even sought them out; and no doubt they felt that children and servants should know their place and be amenable to their supervision. But in the field, at least as formally demonstrated in the ways I have described, the hierarchy was specific and limited; on many occasions in the harvest, as when performing other labour services, and as indeed throughout the farming year on their own farms, master and servants worked alongside each other. The yardlanders remained peasant tenants owing a range of rent obligations that marked them out as unfree. And there is evidence that they were not necessarily won over. Labour services were never popular and often poorly performed. By the late thirteenth century, as is well known, men and women were regularly presented in manorial courts for offences or derelictions of duty at boons, and the offenders frequently included village worthies. An excellent example is Henry Godswain, a tenant on the Ramsey Abbey manor of Elton, presented at the very same manorial court at which he was a sworn

Note 96 *continued*
of the male head of household, at the top of the family hierarchy': 'Public and private lives in the medieval household', in Isabel Davis, Miriam Müller, and Sarah Rees Jones (eds), *Love, marriage, and family ties in the later Middle Ages* (2003), p. 237; see also Dyer, 'Living in peasant houses', pp. 21, 26.

[97] TNA, SC 11/83.

[98] Tringham (ed.), 'Select documents', p. 38. See also Chibnall (ed.), *English lands of the abbey of Bec*, pp. 97, 103; CUL, Kk-5-29, fo. 22.

[99] Hilton (ed.), *Stoneleigh Leger Book*, p. 103 (the earliest surviving records of the bederepe courts date from the late fifteenth century: pp. xxxvi–xxxvii). The supervisory responsibilities of the semi-free tenants also typically extended beyond their own workers. See also E. Miller, *The abbey and bishopric of Ely* (1951), p. 126; Peckham (ed.), *Thirteen custumals*, p. 99.

[100] There are, in any case, hints that the supervisory role could be burdensome and was not always welcome.

juror; not only, it was alleged, had this man not wished to work at the second autumn boon, but he had impeded this boon by telling everyone to go home early.[101]

It would be mistaken, also, to exaggerate the extent of the special privileges the yardlanders were accorded at meals. They were neither consistent nor universal: they go unmentioned in many custumals; at the very least masters and men probably usually ate in each other's vicinity. And a rare interpolation in the early fourteenth-century custumal for Hoton suggests that the concern that things should be done properly was not confined to a tenant elite: all those attending the harvest supper at the Great *Precaria*, says this custumal, were 'to be, as they say, *solemniter depasti*', perhaps best translated as 'in a dignified fashion'.[102] We can only speculate as to precisely what was meant. The insertion of the phrase 'as they say' may imply some surprise or unease on the part of the scribe: was this a demand that had been made unexpectedly, perhaps by the jury? Had there been discontent with the way the meal had been served in previous years? However that may be, we once again find peasants concerned to maintain an element of decorum on these occasions, a sign of respect, an in this case the aspiration was expressed on behalf not only of an elite but of all who attended the harvest supper.

The amount of space custumals devote to describing the meals provided at boon works testifies to the importance they acquired for all concerned. If these meals became a focus of attention and a privileged arena for bargaining and negotiation, it was no doubt in part because this was one aspect of their relations with their manorial lords where the peasant tenants could reasonably hope to exert some influence. But it was surely also because the meals had both a material and a symbolic importance. Any 'free' food or drink was likely to be welcome to men and women who had toiled long hours to bring in the harvest on the lord's demesne. But the custumals show that they were not simply grateful for whatever they were given, and that they had clear ideas about what they were entitled to receive. And they are shown to have argued, bargained and articulated demands with the aim of getting their 'rights' written into the custumals.

Thus many clauses specify the type and quantity of food at these meals, which is perhaps unsurprising at a time when lords of manors had good reason to seek to cut back on the traditional generous provision. Perhaps more surprising are the clauses revealing a concern for quality, too, and for the way in which the food and drink was provided. Thus custumals include both clauses stipulating quality – not only in the case of notably variable products such as ale and cheese, but also of bread and meat – and clauses addressing aspects of how the food and drink were to be consumed. They range from the right of reapers to sit down to drink ale in mid-morning to that of all to be fed 'in a dignified fashion' at a harvest supper. Some of

[101] F. W. Maitland (ed.), *Select pleas in manorial courts* (Selden Soc., 2, 1889), p. 91. For other examples, see Peter Franklin, 'Politics in manorial court rolls: the tactics, social composition, and aims of a pre-1381 peasant movement', in Razi and Smith (eds), *Medieval society and the manor court*, pp. 162–98; Miriam Müller, 'Conflict and revolt: the Bishop of Ely and his peasants at the manor of Brandon in Suffolk c. 1300–81', *Rural Hist.*, 23 (2012), pp. 1–19.

[102] Scargill-Bird (ed.), *Custumals of Battle Abbey*, pp. xxxix–xl, viii (cited in Bennett, *Life on the English manor*, p. 111). At Haywood, the obligations of one sokeman (see note 90 above) included providing serving men twice a day 'when the men eat' (*homines … deserviend'*), at the 'metebon' is implicit: Staffordshire RO, D1734 J2268, fol. 23.

these clauses reveal the operation of hierarchies within the peasant community, which it might suit manorial lords to encourage, and they shed light on the internal workings of the peasant household. If such revealing clauses remain relatively rare in custumals, this is only to be expected given the nature of the documents, that is, their seigneurial origin, their purpose and their generally concrete and workaday nature. Those that appear provide a remarkable window onto the mentality and attitudes of these thirteenth- and early fourteenth-century peasants, revealed as having appreciated good quality in food, and as having had a sense of 'dining', as opposed to simply eating to satisfy hunger.

The contribution of legumes to the diet of English peasants and farm servants, *c.*1300*

by Hugo J. P. La Poutré

Abstract

A diet based only on cereals (wheat, rye, barley and oats) and legumes (peas and beans) can be calculated to provide sufficient protein to sustain human life when it contains 18 per cent dry legumes. This percentage is tested against different sources to see if it is applicable for English peasants and farm servants *c.*1300. Moreover, the percentage of legumes in arable production in the non-demesne sector *c.*1300 is found to be at least twice as large as in the demesne sector.

Estimates of the size of England's population, *c.*1300 vary considerably. Scholars agree though that the population reached its highest point in the decades around 1300 after a long period of growth, which had resulted in the intensive use of the available agricultural land. During this period of growth, pasture was converted into arable; the share of more expensive dairy produce and meat declined in the diet of large parts of the population in favour of the much cheaper cereals and legumes. In fact, in terms of both caloric value and protein content, peas were about eight times as cheap as milk or meat.[1] In contrast to the upper classes, who obtained a substantial part of their caloric intake through meat and fish, peasants could only afford to consume small quantities of meat.[2] Instead, cereals and legumes were the main components of the peasant diet.[3] Dyer found evidence for the consumption of, on average, about twelve

* I am indebted to Professor Hoyle and two referees for their valuable comments.

[1] Clark estimated that a pound of meat might have cost 0.59*d*.; using today's value of 908 kJ for 100g of mutton, gives 0.14*d*. per 1000 kJ. Milk cost about 1.338*d*. per gallon; using today's value of 261 kJ for 100g milk, gives 0.14*d*. per 1000 kJ. Peas cost about 0.514*s*. per bushel; using today's value of 1366 kJ for 100g (dried) peas, gives 0.017*d*. per 1000 kJ.

Using today's value of 17.5g of protein per 100g of mutton, gives 0.74*d*. per 100g of mutton protein. Using today's value of 3.7g of protein per 100g of milk, gives 0.96*d*. per 100g of milk protein. Using today's value of 22.5g of protein per 100g of peas, gives 0.10 pence per 100g of pea protein. So in terms of both the caloric value and protein value, peas are about eight times as cheap as milk or meat.

For the price of meat, see Gregory Clark, 'Land productivity in English agriculture, 1300–1860', in Bruce M. S. Campbell and Mark Overton (eds), *Land labour and livestock: historical studies in European agricultural productivity* (1991), pp. 215–7; for the price of milk and peas, see Gregory Clark, 'England, prices and wages since the 13th Century', Global Price and Income History Group, University of California, Davis (2006), gpih.ucdavis.edu/Datafilelist.htm; for today's values, see www.voedingswaardetabel.nl (table of nutritional values).

[2] Christopher Dyer, *Standards of living in the later middle ages. Social change in England, c.1200–1520* (1989), p. 156.

[3] Christopher Dyer, 'English diet in the Later Middle Ages', in T. H. Aston, P. R. Coss, C. Dyer and J. Thirsk (eds), *Social Relations and Ideas* (1983), p. 193.

bushels per person a year.[4] Corn (cereals and legumes) was used to bake bread, to brew beer and to boil pottage. Of these three, pottage was the cheapest. It was usually made mainly of oats, the cheapest of cereals, of peas and of beans, without any waste.[5] In contrast, to make bread, the grain had to be milled and baked in an oven; about 20 per cent of the caloric value was lost.[6] Waste in the process of brewing was even higher, probably about 70 per cent.[7] Beer, therefore, might probably have been out of reach for daily consumption of the lower classes.[8] The same holds for bread made of wheat. Wheat, the most expensive of all cereals, was superior to the much coarser bread made of maslin, rye or barley. It is not wholly an exaggeration to say that while the higher echelons ate bread made of wheat, had a high proportion of meat and cheese in their diets and drank beer made of barley, the lower classes ate bread made of barley or rye, ate pottages of oats and legumes, and drank water.

Because of the cheapness of pottage, and because sometimes even legumes were added to the coarser breads[9], one thus might expect legumes to have had a more prominent role in the diet of the lower class. Indeed, there are indications that the proportion of land sown with legumes was higher on peasant holdings than it was on demesnes. Stone has gathered 12 examples of peasant farms between 1300 and 1450 and has calculated the percentage of sown area under legumes. They were either equal to or higher than the percentage for Norfolk demesnes.[10]

This study is devoted to legumes, since they played an essential role in two different ways. On the one hand, they were an important part of a diet based mainly on arable crops, as the right combination of cereals and pulses can create a balanced protein intake. On the other hand they played an important role in the fertilization of the soil by increasing its nitrogen content. In this article the focus is on the first role. In section I a theoretical outline is presented, which is tested against evidence from payments to *famuli* in section II, against maintenance agreements in section III, against the tax list of 1283 from Blackbourne Hundred in Suffolk in section IV, against tithes and demesne output in section V. Finally, comparison of the results are presented in section VI.

I

According to the World Health Organisation (WHO) of the United Nations, adults need, on average, 0.66 gram of protein per kilogram of bodyweight per day. Since this need varies from one person to another, the WHO recommends an intake of 0.82 gram per kilogram, which should be adequate for most adults.[11] In our gastrointestinal tract these proteins are broken down into amino acids, which are absorbed in the body and used to build human proteins.

[4] Dyer, *Standards of living*, pp. 152–3.

[5] Ibid., p. 154.

[6] David J. Stone, 'The consumption of field crops', in C. M. Woolgar, D. Serjeantson, and T. Waldron (eds), *Food in medieval England, diet and nutrition* (2006), pp. 13–4; Bruce M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000), p. 215.

[7] Ibid., p. 222.

[8] Dyer, 'English Diet', pp. 203–4.

[9] Stone, 'Consumption of field crops', pp. 13–7.

[10] David Stone, *Decision-making in medieval agriculture* (2005), pp. 265–6.

[11] Since the inter-individual coefficient of variation is 12%, an intake of 0.82 g/kg should be enough for 97.5% of the population. See WHO: technical report series 935: *protein and amino acid requirements in human nutrition* (2007), pp. 150, 180.

TABLE 1. Human requirements for essential amino acids (percentage of total requirement for protein)

	Essential amino acid								
	Isoleucine	Leucine	Lysine	Methionine + cystine[a]	Phenylalanine + Tyrosine[a]	Threonine	Tryptophan	Valine	Histidine
For a child 1–2 years, average	3.1	6.3	5.2	2.6	4.6	2.7	0.7	4.2	1.8
For a child 11–14 years, average	3.0	6.0	4.8	2.3	4.1	2.5	0.7	4.0	1.6
For an adult, average	3.0	5.9	4.5	2.2	3.8	2.3	0.6	3.9	1.5

Note:
[a] Not an essential amino acid
Source: calculated from values published in *WHO technical report series 935: protein and amino acid requirements in human nutrition* (2007), pp. 150, 180.

There are 22 different amino acids. Some of these acids are made within the body and others can only be obtained from food: the so-called essential amino acids.

Table 1 gives the WHO's recommended daily intake of all essential amino acids for humans. Table 2 gives the percentages of essential amino acids in several protein-rich food products, based upon data from the Food and Agriculture Organization (FAO). These values, of course, relate to today's products. Following Campbell *et al*., these values are presumed to have remained constant since the Middle Ages.[12] If one compares Table 1 with Table 2 it is clear that animal protein contains a sufficient amount of every kind of essential amino acid. Most of the plant-based proteins, however, have a deficiency in one or two of the essential acids. In cereals the deficient amino acid is lysine. This is the reason why vegans have to be aware of the lack of lysine in cereals and eat enough lysine-rich products to make up the deficit in their diet. As can be seen in Table 1, the WHO recommends that lysine should form at least 4.5 per cent of the protein intake for adults.

In Table 2 the lysine content is given for cereals and legumes. Cereals like wheat, rye, barley, and oats contain about 3.5 per cent, legumes like beans, lentils, peas and vetches contain about 7.0 per cent. Based on these percentages and keeping in mind the WHO recommendation of 4.5 per cent for lysine, a healthy plant-based diet should contain legume protein to cereal protein in a ratio of 1 to 2.5. Table 2 also includes the protein content of a number of cereals and legumes. Cereals have a protein-content of about 12 per cent, dried legumes about 22 per cent. Keeping in mind the proportion of legume protein to cereal protein mentioned before, a healthy plant-based diet should contain legumes to cereals in a ratio of 100g to 458g. At least 18 per cent of the corn (cereals + legumes) therefore ought to be legumes. In this article this will be called the optimum *legumes-to-all-grains weight ratio*.

[12] Bruce M. S. Campbell, James A. Galloway, Derek Keen and Margaret Murphy, *A medieval capital and its grain supply: agrarian production and distribution in the London region, c.1300* (1993), p. 41.

TABLE 2. Protein content and content of (essential) amino acids in some protein-rich food products

		Amino acids (percentage of total quantity of protein)										
	Grams of Protein per 100 g of foodstuff	Isoleucine	Leucine	Lysine	Methionine	Cystine [a]	Phenylalanine	Tyrosine [a]	Threonine	Tryptophan	Valine	Histidine
Egg (hen's)	12.4	6.3	8.8	7.0	3.4	2.4	5.7	4.2	5.1	1.5	6.8	2.4
Barley (whole seed, hulls removed)	11.0	3.8	7.1	3.7	1.8	2.4	5.5	3.3	3.5	1.6	5.4	2.3
Oat meal	13.0	4.0	7.8	4.0	1.8	2.9	5.4	3.5	3.6	1.4	5.5	2.2
Rye, whole meal	11.0	3.8	6.6	3.6	1.6	2.0	4.7	2.1	3.6	0.8	5.1	2.4
Wheat, whole grain	12.2	3.5	7.1	3.1	1.6	2.7	4.8	3.2	3.1	1.2	4.7	2.5
Bean[b]	22.1	4.2	7.6	7.2	1.1	0.9	5.2	2.5	4.0	1.0	4.6	2.8
Broad bean[b]	23.4	4.0	7.1	6.5	0.7	0.8	4.3	3.2	3.4	0.9	4.4	2.4
Chickpea[b]	20.1	4.4	7.5	6.8	1.0	1.2	5.7	2.9	3.8	0.9	4.5	2.6
Lentil[b]	24.2	4.3	7.6	7.2	0.8	0.9	5.2	3.3	4.0	1.0	5.0	2.7
Pea[b]	22.5	4.3	6.8	7.5	0.9	1.1	4.6	2.7	4.1	0.9	4.7	2.3
Vetch	25.8	3.6	6.9	5.8	1.1	1.0	3.8	2.4	3.3	–	4.0	2.5
Almond, dry	16.8	4.2	7.5	2.7	3.1	1.0	5.8	3.5	2.9	1.0	6.3	2.7
Hazelnut	19.9	7.4	7.3	3.5	0.9	0.5	4.2	4.4	3.1	1.3	7.5	2.1
Linseed	18.0	5.1	7.2	4.5	2.3	2.3	5.7	3.2	4.5	1.8	6.4	2.5
Chicken, edible flesh	20.0	5.3	7.4	8.0	2.5	1.3	4.0	3.3	4.0	1.0	5.1	2.6
Clupeiformes (incl. herring)	20.0	5.3	8.8	9.0	3.1	1.2	4.6	3.9	5.1	1.1	6.1	3.1
Perciformes scombroidei (incl. tuna)	27.0	4.4	6.8	8.6	2.4	1.1	3.4	3.6	4.0	1.2	6.6	5.0
Cheese	18.0	5.3	10.4	8.7	2.9	0.4	5.3	5.4	4.0	1.2	7.7	3.1

Notes:
[a] Not an essential amino acid
[b] Dried, moisture 11%.
Source: calculated from values in *FAO food and nutrition series 21, amino-acid content of foods and biological data on proteins* (1970).

In this calculation cereals and legumes are assumed to be the only sources of protein in the diet. In reality common people also ate cheese, eggs, fish and meat, but in small quantities. As Table 2 shows, these animal food products also contain lysine, which diminishes the need for legumes. However, as the poet Gower complained in 1375 about the demands of the labourers of his day: 'Labourers of old were not wont to eat of wheaten bread; their meat was of beans or coarser corn, and their drink of water alone. Cheese and milk were a feast to them and

rarely ate they of other dainties'.[13] Because of these small quantities the effect on the optimum percentage of legumes in a healthy diet will be quite small.

The values in Table 2 relate to dried legumes. Medieval sources however do not mention if quantities relate to dried or non-dried legumes. The difference between these two is substantial. A dried pea, for example, contains only 11 per cent moisture, whereas a fresh garden pea contains 75 per cent. Campbell therefore considers it risky to determine the nutritional value of legumes.[14]

A dried legume however is not only much lighter and smaller, but can also be preserved much longer. For instance peas that contain a moisture content of 27 per cent and are stored without ventilation at a temperature of 20°C will get mould within a few days. Therefore it is important to harvest them in a dry condition. Nowadays peas are harvested mechanically when the crop has already withered, and the peas have dried until their moisture content is about 20 per cent. When harvesting manually an even lower moisture content is possible.[15] Therefore it seems quite likely that the qualities mentioned in medieval sources relate to dried legumes with a moisture content between 11 and 15 per cent.

To test if the diet of the medieval peasantry could have been healthy if based on arable crops alone, the sources have to be checked for quantities of cereals and legumes. In most of them volumes are given instead of weights. Therefore it is necessary to convert measures of volume into weight measures.

Campbell *et al*. have estimated the density of several cereals *c*.1300 in a very ingenious way. They estimated the density of wheat in three steps. First they determined how many pounds of bread could be baked out of a bushel of wheat, next they estimated the moisture content of bread and finally they estimated the proportion of the wheat used to make flour. The density of barley and oats they estimated by comparing the costs of transporting these cereals, calculated from two Sheriff's accounts for Hertfordshire and Essex in 1295–6 and 1296–7, to those of wheat.[16] Fortunately their estimates closely match today's values, those of the Joint Committee on Administrative Rules of Illinois (JCAR). The deviation between them is no more than 13 per cent. In this article the JCAR-values are used, complemented by estimates for maslin and for dredge, assuming that maslin is mixed half wheat half rye, and dredge is mixed half barley half oats. These values are given in Table 3. When necessary, the density of peas is used for all kinds of dried legumes.

Information on consumption patterns of the ordinary people is scarce. Scholars have found indications in liveries of *famuli*, in maintenance agreements, in the patterns of production of demesnes, in tithes and in tax lists. All this information is at least one remove from actual consumption. The evidence we have also differs widely from instance to instance. Let me illustrate this with an example of two inhabitants of Culford, a village mentioned in the 1283 tax list of Blackbourne Hundred in Suffolk. According to that list, Adam Capellanus had 1.4 quarters of rye and one quarter of barley in his possession, whereas Herveus Overhe possessed

[13] Sir William Ashley, *The bread of our forefathers, an inquiry in economic history* (1928), pp. 94–5.

[14] Campbell, *English seigniorial agriculture*, p. 228.

[15] R. D. Timmer, 'Teelt van droge erwten' ['The cultivation of field peas'], *Teelthandleiding 28* (1989), pp. 67, 70 and 72.

[16] Campbell *et al., A medieval capital,* pp. 41, 191–4.

TABLE 3. Density, caloric value and price of several crops

Crop	*Density in lbs per bushel*		*Caloric value in kJ per 100 grams*[c]	*Price c.1300 (1296–1305)*	
	c.*1300*[a]	*JCAR*[b]		*In* s. *per bushel*[d]	*In* d. *per 1000 kJ*[e]
Wheat	53	60	1381	0.625	0.020
Rye		56			
Barley	46	48	1396	0.438	0.017
Oats	36	32	1567	0.259	0.012
Peas		60	1366	0.514	0.017
Maslin		58			
Dredge		40			

Sources:
[a] Campbell *et al.*, *A medieval capital and its grain supply* (1993), p. 41.
[b] Joint Committee on Administrative Rules (JCAR), Standard Weight Per Bushel for Agricultural Commodities, www.ilga.gov/commission/jcar/admincode/008/00800600ZZ9998bR.html
[c] *De voedingswaarde tabel* [table of nutritional values], www.voedingswaardetabel.nl
[d] Gregory Clark, 'England, prices and wages since the 13th Century', Global Price and Income History Group, University of California, Davis (2006), gpih.ucdavis.edu/Datafilelist.htm
[e] Calculation: $e = \frac{1200000 \times d}{454 \times b \times c}$

one quarter of barley and no rye at all.[17] Adam's case might suggest that, in Culford, rye was more important crop than barley, while Herveus' case might suggest exactly the opposite.

To give another example, as Table 4 shows, the *famuli*, i.e. farm servants, of Wellingborough manor received no legumes at all in 1304, while in 1305 almost half of the liveries were in legumes. Even in two consecutive years the foodstuffs provided might vary considerably. Single instances are potentially a very misleading guide to actual consumption. By selling and buying goods one could fill the gap between production and consumption. A peasant or labourer could sell a product he had in abundance to his neighbour or buy the foodstuffs that he lacked. For large groups, however, this kind of neighbour-to-neighbour trade is averaged out. Therefore one might expect to get a better impression of consumption patterns by determining average values out of a large group of data.

Of course a large group of data does not guarantee a valid result. Every source used in this article brings with it problems that might cast serious doubts on the results obtained. Did, for instance, famuli secure their whole diet from their liveries? Are the payments to them representative of the diet of other peasants on the manor? Do maintenance agreements say anything useful about diets of the beneficiaries, who might have had additional sources of income? Do tax lists give an indication of diets, since taxes were evaded and whole groups were exempted? However, while every source can be questioned, taken together they create, as will be seen, a consistent picture of the consumption of legumes. Since they all point to the same conclusion, one can have confidence in the results.

[17] Edgar Powell, *A Suffolk hundred in the year 1283* (1910), p. 135.

TABLE 4. Corn liveries given to the *famuli* at Wellingborough, 1257/8 to 1314

	Total volume in quarter							Legumes-to-all-grains weight ratio (%)
Year[a]	*Wheat*	*Rye*	*Barley*	*Dragetum*	*Oats*	*Bolemong*	*Peas*	
1257 or 1258		16	41	3	7			0
1266 or 1267	19					28	3	31
1270 or 1271	13		3			3		7
1276	12		20			9	2	14
1280	34		29				9	13
1281	40		3			11	25	38
1282	33		17			6	11	22
1283		36			3	26	15	36
1285	19	17	7			14	15	31
1289	41					12	25	39
1290		32	12			31		19
1291		26	24		15	6		4
1292		25	35			18		11
1295	4	59	8		5	4		2
1297		12	21		15	19		14
1298		36	28			18		10
1299	1	32	21		4	25		14
1302	6	41	15			7		4
1304		68						0
1305		30	8				31	47
1308		55					17	25
1310		34	28				11	17
1312		44			8		24	35
1314		35				6	35	52

Note:
[a] The dating given by T. H. Aston, 'The dating of the rolls', in the 1965 reprint has been adopted.
Source: Frances M. Page (ed.), *Wellingborough manorial accounts, A.D. 1258–1323* (Northamptonshire Record Ser. 8, 1936, sec. edn, 1965), *passim*.

Unfortunately, the landless poor are largely absent from these sources. They do not have sufficient possessions to appear in tax lists, nor do they have a job like the *famuli*, and, since they had no land, they would not have a maintenance agreement drawn up when they passed it to the their heir. Information on their diet is very scanty. Occasionally details of alms giving offers some insight into the composition of the food they ate, but rarely in a consistent way. On Founder's Day 1340, for instance, Norwich Cathedral Priory gave 18 quarters of wheat to the poor, probably in the form of bread. This bread must have been similar to that which the

monks ate themselves. In contrast, in 1346, the priory distributed among the poor 27 quarters of wheat, 82 quarters of rye, 166 quarters of barley and 82 quarters of peas.[18] This distribution contained hardly any wheat (only 8 per cent); instead, 23 per cent were legumes. However, since it is unknown whether these alms were expected to form the lion's share of the recipient's diet, or were just an important, but small, supplement, these examples can only be used as an indication that legumes were familiar in the diet of the poor.

The use of cereals and legumes as fodder outside the demesne sector is extremely hard to quantify. In this article, therefore, the use of corn for fodder is ignored. How damaging to our argument will this be?

On demesnes, oats and legumes, and sometimes even barley, were used as fodder. Quantities vary considerably from one demesne to another.[19] On average, Wrigley suggests that maybe 30 per cent of the oat harvest was fed to livestock.[20] Although this percentage relates to demesne economies, most scholars assume it applies to the non-demesne sector too.[21] However, this study intends to demonstrate that the two sectors might have differed. What figures can be used for the non-demesne sector?

Campbell states that the use of legumes for fodder on demesnes 'varied considerably, according to local circumstance'. He mentions examples varying from 5 per cent to 45 per cent. Broadberry *et al*. suggest that about 50 per cent of legumes were used as fodder.[22] Compared to the examples offered by Campbell, Broadberry *et al.*'s figure seems rather extreme. However, it is quite useful to show that ignoring the consumption of legumes as fodder has only minor effects on the results of this study. Following the suggestions of Wrigley and Broadberry *et al*., probably about 12.5 per cent of the total demesne harvest was used as fodder.[23] For the non-demesne sector the number of animals per sown acre was probably higher than for the demesne sector.[24] However, to cut down costs, peasants might have fed their animals less corn, and more of the cheaper foodstuffs, hay, straw and grass.[25] Since these effects work in opposite ways and therefore partly nullify each other, I therefore take the estimate of 12.5 per cent to hold for the non-demesne sector too. The legumes-to-all-grains weight ratio in fodder is estimated to be 32 per cent.[26] Since oats were cheaper than peas with respect to their caloric

[18] Ashley, *Bread,* p. 106; Stone, 'Consumption of field crops', p. 18.

[19] Campbell, *English seigniorial agriculture*, pp. 222–9; Robert Trow-Smith, *A history of British livestock husbandry to 1700* (1957), pp. 117–8.

[20] E. A. Wrigley, 'The transition to an advanced organic economy: half a millennium of English agriculture', *EcHR* 59 (2006), p. 445.

[21] Campbell, *English seigniorial agriculture*, pp. 391–6; Wrigley, 'Transition', pp. 442–5; R. C. Allen, 'English and Welsh agriculture 1300–1850: output, inputs and income', paper given at IEHC 2006, XIV International Economic History Congress, www.helsinki.fi/iehc2006/papers3/Allen.pdf, p. 12; Stone, 'Consumption of field crops', pp. 19–21; Stephen Broadberry, Bruce Campbell, Alexander Klein, Mark Overton, Bas van Leeuwen, *British economic growth, 1270–1870* (2015), p. 7.

[22] Campbell, *English seigniorial agriculture*, pp. 228–9; Broadberry *et al*., *British economic growth*, p. 8.

[23] The 'Feeding the city' results (discussed below, section V) show that for demesnes in the FTC counties, about 29% of the demesne harvests was oats, 9% was dredge and 5% legumes. Assuming dredge to have been half barley, half oats, this makes 33.5% of oats. If 30% of the oats was used as fodder, this makes 10% of the harvest; 50% of legumes for livestock makes 2.5% of the harvest to be legumes fed to the animals.

[24] Broadberry *et al*., *British economic growth*, p. 9.

[25] John Langdon, 'The economics of horses and oxen in medieval England', *AgHR* 30 (1982), p. 39.

[26] Taking 30% of oats and 50% of legumes (see n. 23) gives 10% of the harvest in oats, 2.5% in legumes. Using table 3 gives the mass percentage of legumes for fodder to be 32%.

value (see Table 3), one might expect peasants to have less rather than more legumes in their animals' fodder. The legume content of fodder might therefore not have differed too much from the healthy diet for humans. In addition, since fodder accounted for only a small part of total harvest, the effect of differing percentages of fodder and human diet is less than a few per cent.

So, even when accepting the rather extreme figure of 50 per cent of legumes used as fodder, ignoring the use of corn as fodder will have a minor effect on the outcome of this study.

Finally, attention needs to be given to the reliability of the data. Dodds warns that the data for legumes 'are difficult to use because of the frequency with which they were fed unthreshed to livestock and no quantity for the amount collected entered in the account'.[27] In this study this warning can be put to one side, because it concentrates on the use of legumes for human consumption.

II

In accounts of demesnes one can discover what payments were received in money and in kind by the *famuli*, the farm servants hired for the year. Page wrote about them:

> The real force to be considered and compared with the tenant-labour, is the service of the lord's '*famuli*'. These were the personal farm servants of the lord … The '*famuli*' differed from the ordinary administrative officials of the manor, such as the reeve and collector, by being landless labourers housed on the demesne and dependent upon wages, and by being appointed by the 'serviens' or reeve instead of elected in the manor court.[28]

Dyer collected liveries of *famuli* from 20 manors in the West Midlands between 1281 and 1349. Together they received 791 quarters of corn, of which 12 per cent was wheat, 13 per cent maslin, 31 per cent rye, 19 per cent barley, 3 per cent dredge, 15 per cent pulses and 7 per cent tollcorn.[29] Using Table 3, taking 50 lbs. per bushel for tollcorn, the legumes-to-all-grains weight ratio is calculated to be 16 per cent, quite close to the 18 per cent optimum for a healthy plant-based diet.

Another source of information on the liveries paid to the *famuli* are the account rolls of Wellingborough in Northamptonshire, a manor of Crowland Abbey where we have 26 surviving accounts dated between 1257 and 1323. They record payments to the *famuli* in money and in kind, the payments in kind consisting of cereals and legumes. These accounts make no consistent distinction between full-time stipendiaries and those who received their payments for only a few weeks during harvest-time. Since their payments are sometimes mentioned individually, sometimes grouped together in configurations that change from year to year, it is practically impossible to separate the payments to the casual harvest-workers from those to the full-timers. In this inquiry, therefore, they will be considered as one group.

To get some idea about the payments, in 1299, the eight ploughmen, two carters, one cowherd, three shepherds and one maid received, on average, 5*s*. and 36 bushels of corn per

[27] Ben Dodds, 'Demesne and tithe: peasant agriculture in the late middle ages', *AgHR* 56 (2008), p. 127.

[28] Frances M. Page (ed.), *Wellingborough manorial accounts, A.D. 1258–1323* (Northampton Record Ser. 8, 1936, sec. edn, 1965), pp. xxxii–iii.

[29] Dyer, 'English diet', pp. 211–2.

person. Such a wage must have been enough for one person to live a comfortable life and it might even have been just enough to support a family. The swineherd received much less, only 20*d*. and 17 bushels of corn. In the autumn of that same year the manor hired one extra carter, six tithe-gatherers and one stacker. They received for their work in harvest-time on average 20*d*. and three bushels of corn each.[30]

Table 4 gives the total volumes for 24 years. Two years are omitted. The account of 1307 does not record which kind of corn was used for a large part of the payments in kind, which makes it useless for our purposes. The account of 1322 mentions such small quantities – less than five quarters in total for sixteen people – that it cannot give any reliable picture of what the *famuli* consumed in that year.[31]

Special attention is needed for one of the mentioned crops, bulmong. Rogers calls it a mixture of oats, peas and vetches. Stone describes it as a mixture of oats, beans and peas. Campbell says it is 'pea based, sometimes bean based, and sometimes vetches were included, but the grain component was almost invariably oats'. William Harrison, writing in the third quarter of the sixteenth century, described it as 'peas and beans sown together, tares and oats.[32] For the purpose of calculation, this study assumes that the Bulmong was half oats, half peas.

As Table 4 shows, the distribution of the percentage of legumes in the liveries is quite wide. In 1257 and in 1304 it was zero, in 1314 it was as high as 52 per cent. On average it is 20 per cent, the median being 16 per cent. In spite of the large dispersion, both mean and median are quite close to a healthy plant-based diet.

III

When a peasant retired from active cultivation, or a widow relinquished management of her land for a share of its produce, a maintenance agreement might be drawn up which was registered in the court rolls.[33] Sometimes specific quantities of cereals and legumes were mentioned. In 1247 Simon de la Strate of Park manor of the liberty of St Albans (Herts.), surrendered his land for the use of his son Alexander, on condition that he provided his father with food and drink, that he annually gave him a tunic (worth 2*s*.) and 6*d*. for shoe-repairs. However, if Simon found his son unwilling to fulfil his bargain, Alexander agreed to give his father half a quarter of winter crop and one quarter of oats annually, besides the tunic and the shoe-repairing.[34]

To give another example, in Warboys in 1343, Bochardus Rolf, tenant of a yardland in Caldecote, waived all claims to the inheritance of the land that had once belonged to his father, for the benefit of William le Loonge, in return for a ring of wheat, two bushels of dredge and two bushels of peas annually. In addition, Bochardus was allowed to use one acre of the land for as long as he lived. After the death of his mother he had at his disposal the messuage with the house where she lived at the time of the agreement. However, when he died, 'all the above

[30] Page (ed.), *Wellingborough manorial accounts*.

[31] Ibid., pp. 95–6, 129–31.

[32] Stone, 'Consumption of field crops', p. 17; William Harrison, *The description of England,* ed. Georges Edelen (1968), p. 434; Campbell, *English seigniorial agriculture,* p. 227; T. Rogers, *A history of agriculture and prices in England,* I, *1259–1400* (1866), p. 27.

[33] Dyer, 'English diet', p. 197.

[34] A. E. Levett, *Studies in manorial history* (1938), p. 306.

quarter of corn, acre of land, and messuage shall entirely devolve to the above William and his heirs so that neither the widow nor children of the same Bochardus should receive anything'.[35]

Unfortunately, one cannot be sure that the food mentioned reflects the diet of the beneficiaries like Simon de la Strate or Bochardus Rolf. As Dyer states, they might have had other means to acquire income, such as earning wages or keeping animals.[36] They might have sold part of their allowances as explicitly mentioned in the maintenance agreement of Walter, in Ellington (Cambs.) in 1278, who was given by his son William Koc six bushels of wheat, two bushels of barley and two bushels of beans and peas twice a year, at Michaelmas and at the feast of the Purification of Blessed Mary. 'And the same Walter, to assure the above agreement, and for licence to withdraw from the village with his chattels, paid the lord abbot annually 2*s*. from the above grain'.[37]

Dyer collected 83 maintenance agreements registered between 1240 and 1458, of which 70 were made between 1248 and 1349. In total these agreements gave their beneficiaries a yearly maintenance of over 198 quarters consisting of 47 per cent wheat, 4 per cent maslin, 7 per cent rye, 20 per cent barley, 3 per cent dredge, 11 per cent oats, 9 per cent pulse and 1 per cent unspecified.[38]

The prominence of wheat, forming almost half of the total, is striking. To illustrate how high this is: Campbell found a much lower percentage of 29 per cent for demesnes in the environs of London.[39] As to why, one can only speculate. Could it be that the elderly ate more wheat than the young, because bread made of wheat was easier to digest then coarser bread? Could it be that they wanted it in such large quantities in their allowances since it was very suitable as a cash crop?

Neglecting the unspecified part, the legumes-to-all-grains weight ratio is only 10 per cent. Clearly this is less than the desirable percentage for a healthy plant-based diet. However it is important to notice that these maintenance agreements are not only drawn from the average, or poorer, members of the peasantry but also from the more prosperous members of society. In addition, if we accept the possibility that the wheat was partly sold for cash, then pulses might have formed a larger part of the recipient's diet. If, for instance, they sold half their wheat, the percentage for legumes would raise from 10.0 to 13.5 per cent.

IV

In late January 1283 the whole of England was assessed for a taxation to be levied at a thirtieth part of each man's movable goods. Movable goods included oxen, cows, pigs, sheep, cereals, peas and beans and possessions that could be transferred from place to place, but 'treasure, riding horses, bedding, clothes, vessels, tools, geese, capons, hens, bread, wine, beer, cider and all kinds of food provided and ready for use' was expressly excluded.[40] We must assume that

[35] Translation from Latin by J. Ambrose Raftis, *Tenure and mobility: studies in the social history of the mediaeval English village* (1964), pp. 44, 221. A ring was half a quarter, see Rogers, *History of agriculture and prices in England*, I, *1259–1400*, p. 168.

[36] Dyer, 'English Diet', p. 198.

[37] Raftis, *Tenure and mobility*, pp. 45, 221.

[38] Dyer, 'English Diet', p. 201.

[39] Calculated from the aggregate net crop yields, given in Campbell, *English seigniorial agriculture,* p. 216.

[40] Powell (ed.), *Suffolk Hundred,* p. xi.

farming equipment (ploughs etc.) and household goods (such as cooking vessels) were also held to be exempt, since they are not mentioned at all on the tax list. Unfortunately most of the lists have been lost but those for Blackbourne Hundred in north-west Suffolk have survived. Powell has tabulated the possession of cereals, legumes and livestock for all of the 1393 taxpayers that are mentioned in this tax list.[41] The poor were exempted from this tax, the lower threshold being half a mark.

The detailed information on individual taxpayers makes this source very attractive to historians; but they have long had doubts about the reliability of the data. In his comprehensive study of parliamentary taxes between 1290 and 1334, Willard stated that any cereals and legumes that were assessed were the surplus that the peasant had for sale. The part that was stored for family consumption, for fodder and for seed, would have been exempt. His argument is built upon the observation that the quantities of grain recorded are very small. He mentions averages per capita for a few vills, varying from 12 to 70 bushels. They might have been sufficient as food for the household, but not enough to use as fodder and to sell for cash to make necessary payments.[42] Langdon shares this line of reasoning. Glasscock and Hadwin find it a plausible explanation, although by no means proven or certain.[43] However Postan thinks that the corn assessed was 'the grain found in their possession or sown on their land, but not yet gathered as a crop'. He notes 'that the tax list for the village of Walsham le Willows had been returned from the Exchequer in order that the grain sown in the autumn should be included, as it should have been if the instructions had been faithfully observed'.[44]

The second major objection to the reliability of the data contained in the tax list is, as Hadwin states, 'it seems likely that nearly everyone participated, to some degree, in undervaluation'.[45] When comparing county totals for the assessments between 1275 and 1334, with taxes varying between the Thirtieth (1283) and the Tenth and Sixth (1294 and 1322), he finds that 'the temptation to cheat was greatest when the fraction of one's wealth being demanded in tax was largest'.[46] In addition to this effect, one might assume that tax evasion was much more common after 1297 than it was before 1294. Until 1294 this kind of taxes were imposed at fairly long intervals (1275, 1283, 1290). However from 1294 to 1297, taxes were levied annually. This must have made people creative in finding ways to avoid paying tax. Once learned, they might have used the same trick again when having to face new taxations.[47]

How relevant are these objections to the list of 1283? To start with the second objection, compared to the taxes from other years, this tax, the Thirtieth, was relatively mild. Since it was also one of the earlier taxes, Hadwin expects that tax evasion was relatively small.[48] In addition, this study is not about absolute quantities of cereals and legumes, but instead about

[41] Ibid., pp. 122–200.

[42] J. F. Willard, *Parliamentary taxes on personal property, 1290 to 1334* (1934), pp. 81–5.

[43] John Langdon, *Horses, oxen and technological innovation: the use of draught animals in English farming from 1066 to 1500* (1986), pp. 179–80; Robin E. Glasscock, *The lay subsidy of 1334* (1975), pp. xxv–xxvi; J. F. Hadwin, 'The medieval lay subsidies and economic history', *EcHR* 36 (1983), pp. 204–5.

[44] M. M. Postan, 'Village livestock in the thirteenth century', *EcHR* 15 (1962), pp. 220–1.

[45] Hadwin, 'Medieval lay subsidies', p. 205; Langdon, *Horses, oxen and technological innovation*, p. 182.

[46] Hadwin, 'Medieval lay subsidies', p. 208.

[47] Willard, *Parliamentary taxes*, p. 345; Langdon, *Horses, oxen and technological innovation*, p. 184.

[48] Hadwin, 'Medieval lay subsidies', p. 213.

the relative proportions of cereals and legumes. If cereals were under-assessed as much as legumes, it would leave the proportion unaltered.

The first objection states that only the surplus left after a household had paid tithes and used corn for seed, for human consumption, and for fodder, was taxed. Willard's remark that one needed a surplus to sell to raise the cash used for necessary payments is based on the idea that such a household could live on their lands alone. Suffolk, however, was a densely populated county. Out of 7337 tenancies of manors of Bury St Edmunds in 1285, 72 per cent were found to have been ten acres or less, of which 41 per cent had five acres or less. Kanzaka's analysis of the Hundred Rolls of 1279–80 reveals that, for the neighbouring county of Cambridgeshire, 72 per cent of free holdings, and 48 per cent of villein holdings, were smaller than six acres.[49] Subdivision and subletting led to an even higher degree of fragmentation of the land. Even as late as 1370–83, when the Black Death and subsequent epidemics had reduced population pressure, the majority of the holdings in Suffolk were of five acres or less.[50] In addition to the production of their land, therefore, the majority of the peasants must have had other sources of income, like wage work. It is thus not surprising that at least part of the presumed surplus is lacking in the tax list.

A rough estimate shows that an average family needed about nine acres of sown land to have enough corn for family use.[51] If one accepts Willard's argument, that only the surplus was being taxed, one has to assume that every household that was assessed for corn must have sown at least these nine acres, since otherwise it would not have had any surplus of corn. Of the tax list, 1300 out of 1393 taxpayers were assessed for corn. Langdon has compared the tax list with a number of contemporary records: he has found that in some villages at least 30–35 per cent of the households were missing.[52] Taking this figure to hold for the Hundred as a whole, there would have been about 2142 households in Blackbourne Hundred. Based on these figures, at least 60 per cent of the households would have had more than nine sown acres. This percentage must have been even higher, since some of the missing households must have had possessions above the threshold of half a mark. Sixty per cent is quite high, compared to what might be expected for this region and this must cast doubt on Willard's argument.

[49] Junichi Kanzaka, 'Villein rents in thirteenth-century England: an analysis of the Hundred Rolls of 1279–1280', *EcHR* 55 (2002), p. 599; Bruce Campbell, 'The agrarian problem in the early fourteenth century', *Past and Present* 188 (2005), pp. 51–62.

[50] John Hatcher and Mark Bailey, *Modelling the middle ages, the history and theory of England's economic development* (2001), p. 45; Christopher Dyer, *Everyday life in Medieval England* (1994), p. 223.

[51] Assume that 25% of the harvest was reserved for seed, 10% for tithes, 12.5% for fodder. A household without surplus would then use 52.5% of its corn production for human consumption. Taking five persons per household and twelve bushels corn per person as supply for a year gives 60 bushels for human consumption, and, since this is 52.5% of total production, this household would have needed 114 bushels for family use (seed, human consumption and fodder) and tithes. When sowing just barley, the corn with the highest yield per acre (about 15 bushels per acre), the average peasant should have had at least 7.6 acres of sown land to produce a yield of 114 bushels. Since he cultivated other crops as well, a sown area of about nine acres is more realistic. For the number of persons per household, see Cicely Howell, *Land, family and inheritance in transition, Kibworth Harcourt, 1280–1700* (1983), p. 235; N. J. G. Pounds, *An historical geography of Europe* (1990), p. 147; for the median quantity per person, see Dyer, *Standards of living*, p. 152; for the yield per acre of field crops, see Broadberry *et al.*, *British economic growth*, appendix, p. 30.

[52] Langdon, *Horses, oxen and technological innovation*, pp. 184–5.

As mentioned above, Willard's argument was based upon averages per capita for a few vills, varying from 12 to 70 bushels, for the assessments between 1290 and 1334. Based upon the figures of Powell, Bailey has calculated the average for the Blackbourne taxlist of 1283, to have been 56 bushels per taxpayer.[53] At first sight, this result might be quite comparable to the figures that Willard mentions, and Willard's argument therefore might seem to hold for the taxlist of 1283 also. However, Willard's figures relate to assessments at Michaelmas, whereas the assessment of 1283 was meant to assess all movable goods at the octave of St Hilary, i.e. four months after Michaelmas. In these four months, about one third of the corn that was stored for family consumption and fodder, would already have been consumed, and part of the seed was already sown.

To shed light on the subject, a rough estimate how much corn was needed for human consumption, fodder, seed and how much might have been transported out of the Hundred, shows that the harvest of Blackbourne Hundred should have yielded some 200,000 bushels of corn.[54] Of this quantity, 37 per cent was mentioned in the tax list and 23 per cent was already consumed by man and animal. This, then, leaves a gap of 40 per cent missing. This seems to be quite high, compared to the 15 per cent shortfall that Langdon calculated for missing draught animals in this same list.[55] However, the gap would be filled if we assume that seed was not assessed. For Willard, exemption of seed seemed entirely reasonable: 'it is highly probable that seed corn would also be excused on the ground that it was a part of his waynage and needed for "carrying on the agriculture which was his livelihood"'.[56] If we make the assumption that seed was not assessed, then about 15 per cent of the corn harvest is missing from the tax list. Part of this might already have been transported out of the region, part might have been omitted due to evasion, part might have been exempt. I therefore find it plausible to suppose that, in 1283, grain reserved for household consumption and fodder was not exempted, but seed was.

According to the tax list, part of the population had very small quantities of corn in their possession, surely not enough to feed more than one person. They could have obtained more corn during the year by payment in kind, by buying it at the market or by receiving alms. As their possession must have been just a very small part of their consumption, it might not reflect their consumption pattern. Therefore, they are left out of account, putting a lower threshold at 1.5 quarters. That leaves 1103 taxpayers.

Before calculating the yearly consumption, one last issue has to be addressed. Blackbourne is

[53] Mark Bailey, *A marginal economy? East Anglian Breckland in the later Middle Ages* (1989), p. 137.

[54] Assuming the previously calculated 2142 households consisted of five persons per household, this would lead to a total population of a little over 10,000 for the whole region. At twelve bushels per person, this would make a total of 120,000 bushels a year needed to feed the population of the Hundred. Please note that one does not have to take into account the surplus that households sold for cash to be able to make necessary payments, since what one sells, the other buys. The surplus of the Hundred as a whole, the corn that was transported out of the region, surely must have been just a small percentage of the harvest, perhaps no more than 5%. Note too that tithes no longer have to be treated as a separate category, since corn that is gathered as tithes ends up as food, fodder, seed or is transported.

Using the figure of 12.5 per cent for fodder and 25 per cent for seed, results in about 57.5 per cent of the harvested corn to have been used as food for humans. The total harvest can then be calculated to have been about 209,000 bushels of corn.

[55] Langdon, *Horses, oxen and technological innovation*, p. 184.

[56] Willard, *Parliamentary taxes*, p. 82.

TABLE 5. Taxpayers of the High Suffolk region of Blackbourne hundred, 1283, possessing more than 1.5 q of corn, subdivided in ten percentiles according to the total value of their possessions (n=862).

Percentile	*Total value in* s.	*Average possession according to the tax list (in kg)*		*Legumes-to-all-grains weight ratio*		
		Cereals (kg)[a]	*Peas and beans (kg)*[a]	[b]	[c]	[d]
1st	8–15	334	75	18.4	16.6	17.7
2nd	15–20	362	112	23.5	17.8	19.4
3rd	20–25	476	112	19.1	15.3	17.0
4th	25–30	570	161	22.1	15.5	17.0
5th	30–35	649	177	21.5	18.7	20.5
6th	35–42	802	206	20.4	15.5	17.4
7th	43–51	948	253	21.1	16.5	18.4
8th	51–65	1213	265	17.9	13.2	15.1
9th	65–92	1601	300	15.8	12.0	13.7
10th	92–1242	5507	1009	15.5	11.4	13.3

Notes:
[a] Average possession per taxpayer, according to the tax list
[b] Calculated directly out of the quantities mentioned in the tax list without correcting for seed
[c] Calculated by computing the yearly consumption and assuming that sown winter seed was not counted in the tax list
[d] Calculated by computing the yearly consumption and assuming that sown winter seed was counted in the tax list.
Source: Calculated from the quantities mentioned in the tax list of Blackbourne Hundred in Edgar Powell, *A Suffolk hundred in the year 1283* (1910).

a hundred that consists out of two quite different kind of regions: the one region being a part of Breckland, an area of poor sand and heaths where animal husbandry, especially of sheep, was very important; the other region being a part of High Suffolk, an area of arable farming.[57] As these two areas are so different, they will be treated separately.

In High Suffolk the 1283 tax list mentioned 862 taxpayers who owned more than 1.5 quarters of corn. In Table 5 they have been subdivided in ten percentiles, arranged to their total value of possession. The legumes-to-all grains weight ratio has been calculated under three different assumptions: first directly out of the quantities mentioned in the list without correcting for seed, next by computing the yearly consumption and assuming that sown (winter) seed was not counted in the tax list, finally by computing the yearly consumption and assuming that sown (winter) seed was counted in the list.

Technical details of the calculation of the corrections for the last two assumptions are found in the appendix. In all three cases the overall percentage of legumes appears to be constant in the first seven percentiles. In the last three percentiles it is a little lower. The differences

[57] Mark Bailey, *Medieval Suffolk, an economic and social history, 1200–1500* (2007), p. 2.

between the three computations are limited. In the first one the legumes-to-all grains weight ratio is 21 per cent, in the second it is 17 per cent, in the third it is 18 per cent. In all three the result is quite close to a healthy diet based on arable crops alone.

For the Breckland region the picture is completely different. As Bailey shows, on Breckland soil very little wheat and legumes were grown, since a taxpayer in this region had on average only 1.3 per cent of his grains in wheat and only 2.6 per cent in legumes.[58] Undoubtedly this must have been related to the soil type of this heathland area. Drought is a severe problem on these infertile sands, which makes it hard to cultivate peas and beans.[59] Barley, rye and oats are more tolerant of difficult circumstances; therefore it was these crops that were cultivated in larger quantities. What, however, are the consequences of these marginal soils for consumption? The evidence of the tax list is that the common people of this region scarcely possessed any legumes, but held more sheep than in the High Suffolk region. Taxpayers in Breckland who possessed less than 51*s*., had on average 8.6 sheep compared with 3.5 in the High Suffolk region. Therefore it seems likely that they ate hardly any legumes but consumed more milk, cheese, butter and meat. However there are three lines of argument against large differences in consumption patterns between the two regions. Firstly, the two regions are adjacent to each other. In Blackbourne, the distance between a Breckland village and High Suffolk is no more than ten miles. It seems highly improbable that these two regions, so close to each other, could have such different food cultures, especially because most sheep in Breckland were not in the possession of peasants, but instead are in the possession of the rich. To illustrate this, the wealthiest percentile owned 45 per cent of all the sheep. Second, comparing the percentage of legumes for an average demesne in High Suffolk to an average demesne in England, legumes are more important in High Suffolk than elsewhere in England. Assuming that part of the crop was sold, there must have been a considerable supply of legumes in the vicinity of Breckland. Third, animal products were quite expensive compared to legumes.[60] Therefore it seems reasonable that peasants and labourers sold a large part of their animal products and bought cheaper legumes for consumption. Because of these arguments it is improbable that these low levels of production accurately reflect the balance of crops consumed.

V

One tenth of the yield was taken as tithe for the church. In accounts of the Durham priory between 1350 and 1450 Dodds found 278 accounts which mentioned which field crops were gathered. Overall these broke down into 25 per cent wheat, 29 per cent barley, 18 per cent peas and beans, and 24 per cent oats, all in volume percentages.[61] Assuming the remaining 4 per cent to have been rye, and using Table 3, the legumes-to-all grains weight ratio is 21 per cent, just a few per cent above the optimum for a healthy plant-based diet.

In the research project 'Feeding the City', which concentrate upon food production for London around 1300, data were collected on the production of manors in ten counties in

[58] Bailey, *Marginal economy?*, p. 137.
[59] Timmer, 'Teelt van droge erwten', pp. 20–1.
[60] See n. 1.
[61] Ben Dodds, 'Tithe and agrarian output between the Tyne and Tees, 1350–1450' (University of Durham Ph.D thesis, 2002), p. 145.

TABLE 6. Volume percentages of legumes in corn in collected tithes and in demesne-yields

	Legumes in Tithe		*Legumes in demesne-yield*		*Ratio*
	n	%	*n*	%	
Eastry (Kent)	29	10	24	6	1.7
Monkton (Kent)	31	6	18	0	∞
Birchington (Kent)	31	8	–	–	–
Hambledon (Hants.)	39	5	50	3	1.7
East Meon (Hants.)	27	5	51	0	∞
East Meon Church manor (Hants.)	–	–	43	1	–
Feering (Essex)	39	8	36	5	1.6

Source: Ben Dodds, 'Demesne and Tithe: peasant agriculture in the late middle ages', *AgHR* 56 (2008), p. 137.

London's provisioning zone.[62] Campbell gives the distribution of crops produced by the demesnes in the 'Feeding the City' counties between 1288 and 1315 as 29 per cent wheat, 6 per cent rye, 3 per cent winter mixtures, 18 per cent barley, 9 per cent dredge, 29 per cent oats, 1 per cent miscellaneous grains, 5 per cent legumes, all volume percentages.[63] Using Table 3, taking 58 lbs./bushel for the winter mixtures and neglecting the miscellaneous grains, we get a legumes-to-all grains weight ratio of 7 per cent. If a non-demesne to demesne ratio can be determined for legumes, it can be used to calculate the percentage for the non-demesne sector out of the result for the 'Feeding the City' counties.

Dodds has used tithe receipts to compare the production of cereals and legumes by peasants to that of demesnes for six parishes in south-eastern England. From his results, the non-demesne to demesne ratio is calculated in Table 6. It is clear that legumes play a much bigger role in the non-demesne sector.

The 1283 tax list too can be used to determine this ratio, as it not only gives the possessions of each taxpayer, but also their name. These names are used to divide the taxpayers into a demesne sector (names containing dominus, prior, abbas), and a non-demesne sector (everyone else). In Table 7 the volume percentages for both sectors and the ratio are given per parish. The median of the ratio is 1.9. As legumes played a bigger role in the non-demesne sector, the true value of the ratio probably lies somewhat higher than the above mentioned 1.9, since some taxpayers might have been classified incorrectly, which raises the percentage of the demesne sector when someone is reckoned to this sector incorrectly, or lowers the percentage of the non-demesne sector when a demesne is reckoned to this sector. In both situations the ratio is lowered. Based on the findings of Dodds and those for Blackbourne a ratio of two to three seems reasonable.

Combining this result with our estimate of 7 per cent legumes for the demesne sector, gives a percentage for the non-demesne sector of at least 14 per cent, which is a few per cent below the optimum for a healthy plant-based diet.

[62] Campbell, *English seigniorial agriculture,* pp. 31–2.

[63] Percentages are calculated out of the aggregate net crop yields, given in Campbell, *English seigniorial agriculture,* p. 216.

TABLE 7. Volume percentages of legumes in corn in the 1283 tax list of Blackbourne Hundred

	Volume legumes in corn (%)		*Ratio*
Parish	*Non-demesne sector*[a]	*Demesnes*[a]	
Ashfield Magna	24.4	18.5	1.3
Ashfield Parva	19.4	0.0	∞
Bardwell	11.4	6.0	1.9
Barnham	0.3	3.7	0.1
Barningham	19.4	19.0	1.0
Culford	1.6	0.0	∞
Elmswell	12.9	2.7	4.8
Fakenham	3.9	0.0	∞
Hepworth	17.3	17.1	1.0
Hinderclay	16.4	8.5	1.9
Hopton	2.3	0.0	∞
Ingham	1.1	0.3	3.7
Ixworth	2.7	1.5	1.8
Market Weston	18.7	100	0.2
Norton	21.9	9.0	2.4
Rickinghall Inferior	19.1	12.8	1.5
Rushford	2.8	0.0	∞
Stanton	10.4	13.3	0.8
Thelnetham	26.4	8.5	3.1
Thorpe	11.8	11.4	1.0
Walsham	35.7	30.8	1.2
Wattisfield	26.2	12.5	2.1

Note:
[a] taxpayers whose names contain 'dominus', 'prior', 'abbas' or 'manerium' are reckoned to the demesne sector, all others to the non-demesne sector
Source: Calculated from the quantities mentioned in the tax list of Blackbourne Hundred in: Edgar Powell, *A Suffolk hundred in the year 1283* (1910).

VI

Despite large ranges found in all the sources we have used, there is a remarkable agreement between them over the average percentage of legumes. Except for the maintenance agreements, all averages lie quite close to the requirements of a healthy plant-based diet. As noted before, since the proportion of wheat that is mentioned in the maintenance agreements was exceptionally high, part of this wheat was probably used to for sale, which would bring the legumes-to-all grains weight ratio more in line with the other results. This study therefore makes it plausible

TABLE 8. Summary of the different results

Description	*Period*	*Percentage of legumes*
Liveries of *famuli* of 20 demesnes (Dyer)	1281–1349	16
Liveries of *famuli* in 26 Wellingborough accounts	1257–1314	16–20
83 maintenance agreements (Dyer)	1240–1458	10
278 tithe receipts Durham priory (Dodds)	1350–1450	22
Tax list of Blackbourne hundred, non-Breckland	1283	17–21
Demesnes FTC counties (Campbell), combined with the non-demesne sector to demesne sector ratio	1288–1315 1288–1348	14

Sources: Christopher Dyer, *Standards of living in the later middle ages. Social change in England, c.1200–1520* (1989); Frances M. Page (ed.), *Wellingborough manorial accounts, A.D. 1258–1323* (Northamptonshire Record Ser. 8, 1936, sec. edn, 1965); Ben Dodds, 'Demesne and tithe: peasant agriculture in the late middle ages', *AgHR* 56 (2008); Edgar Powell, *A Suffolk hundred in the year 1283* (1910); Bruce M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000).

that the diet of peasants and farm servants achieved such a diet. A supplement of meat and dairy products was not required to stay healthy. Unfortunately, the sources used do not show if the diet of the poor matched such a diet too, since they do not appear in these documents. One can only presume that such a diet would have been in their reach, since it could consist of rye, barley, oats and legumes, which were the cheapest foodstuffs.

In the non-demesne sector legumes played a role twice as big as in the demesne sector. Since the yield per acre of legumes was lower than those of cereals, the proportion of land devoted to peas and beans should have been at least 11 per cent to produce so much legumes. Such a proportion of the acreage sown with legumes would not be found again until the seventeenth century.[64] Undoubtedly this must have had a positive effect on the fertility of the soil and on the yield of the seed. The results of this article, therefore, support Stone's assumption that yields per crop on peasants' land were higher than those on demesnes.[65] However, since yields of legumes were lower than those of cereals, the effect on the mean yield per acre might be partly mitigated.

Since legumes played a much bigger role in the diet of the lower class then was presumed until now, the framework used by Campbell and by Stone for estimating population size *c.*1300, based on the production and consumption of wheat, rye, barley and oats, should be adjusted to include legumes. Such an adjustment is beyond the scope of this study. To be able to undertake such an adjustment requires more knowledge of the diet of the poor and of the need for legumes in the more pastoral regions, where dairy products and meat might have been more prominent in peasants' diet. But to give legumes more weight in the diet goes some way to explaining how the prevailing levels of agricultural technology could support the population of England at its medieval peak before the collapse of the late 1310s.

[64] Broadberry *et al.*, *British economic growth*, p. 30.

Appendix

The 1283 tax list describes taxpayer's possessions in January/February. Since harvest time, ended at Michaelmas, four month had gone by. Part of the yield already must have been consumed. The winter grains (wheat, maslin, rye and winter barley) must have been sown, the summer grain (barley, dredge, oats, legumes) had not yet. Using the tax list to get an impression of the consumption pattern of cereals and legumes, one can compute the yearly consumption (C) out of the property at the time of the list (P), correcting for seed:

$C = \alpha P$, whereby α is a correction factor.

First this correction factor is calculated. Using Y for yield, T=Y/10 for tithe and S=Y/ys for seed, where ys is the yield per seed (gross of tithe), and assuming that no grain was bought, sold or preserved for next years, one can say that $Y = C + T + S$. Assuming that the tax list was held four months after harvest time, then at the time of the list 4/12 parts of the yearly consumption had already been consumed, so $P = 0.67\ C + S$. After some algebra one finds

$$\alpha = \frac{1}{0.67 + \frac{1}{0.9ys - 1}}$$

However Postan's example of Walsham le Willows shows that in this village the sown seed was not counted at first. This leaves open the possibility that this also might have happened unnoticed by the Exchequer in other villages. In such cases $\alpha = 1.50$ should be used as a correction factor for the winter-sown grain instead of the above mentioned formula.

Campbell has calculated the mean yield per seed for demesnes of the county of Norfolk between 1250 and 1349.[66] Assuming that the values of the adjacent Blackbourne do not differ too much from these figures, these values can be used to calculate the correction factors for the 1283 tax list. These are shown in Table A1.

TABLE A1. Correction factor α, based on yields per seed for Norfolk, 1250–1349

		Correction factor α	
Crop	*Yields per seed, Norfolk*[a]	*winter-sown seed inclusive*	*winter-sown seed exclusive*
Wheat	5.1	1.05	1.50
Rye	3.9	0.94	1.50
Barley	3.6	0.90	0.90
Oats	2.9	0.77	0.77
Peas	2.9	0.77	0.77

[a] Source: Bruce M. S. Campbell: *English seigniorial agriculture* (2000), p. 318.

[65] Stone, 'Consumption of field crops', pp. 19–21.
[66] Campbell, *English seigniorial agriculture*, p. 318.

The creation of ring-fence farms: some observations from eighteenth- and nineteenth-century Northumberland*

by Ronan O'Donnell

Abstract

The creation of ring-fence farms is an aspect of agricultural improvement which has often been overlooked, and it is hoped that this article will provide a starting point for its examination. When farm consolidation is discussed it is usually either incidental to other issues or it is assumed to be largely a product of enclosure. The article presents four case studies of enclosure that reveal the importance of pre- and post-enclosure processes for the creation of ring-fence farms. It is shown that both landlords and tenants played a part in the process but that tenant farmers often led the way. Finally a number of barriers to farm consolidation are discussed, of which the most significant is found to be the presence of a large number of freeholds within a township.

During the eighteenth and nineteenth centuries it was reasonably common for farms to be fragmented into several discrete parcels of land (e.g. Figure 1), in stark contrast to the modern ubiquity of ring-fenced holdings. This was partly a result of the continued use of unenclosed open field systems. Holdings in open field systems were particularly fragmented for reasons that remain a matter of debate. Fragmentation of holdings could also occur as a result of piecemeal enclosure, either of open fields themselves or of small pieces of common waste. Such small-scale and unplanned enclosures often resulted in people enclosing parcels which were separate from their existing holdings simply because the opportunity arose.

A number of eighteenth- and nineteenth-century writers discussed the difficulties of running a fragmented holding, and there appears to have been a consensus that such situations should be avoided. For instance, in 1801, John Lawrence wrote that 'In laying out farms, all possible care should be taken to avoid confusion and intermixture of property, and to contrive the most convenient access to different enclosures'.[1] Similarly, John Marius Wilson, writing in 1848, suggested that farms should be laid out so as to be 'Free from intrusion of other

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[1] John Lawrence, *The modern land steward* (1806), p. 173.

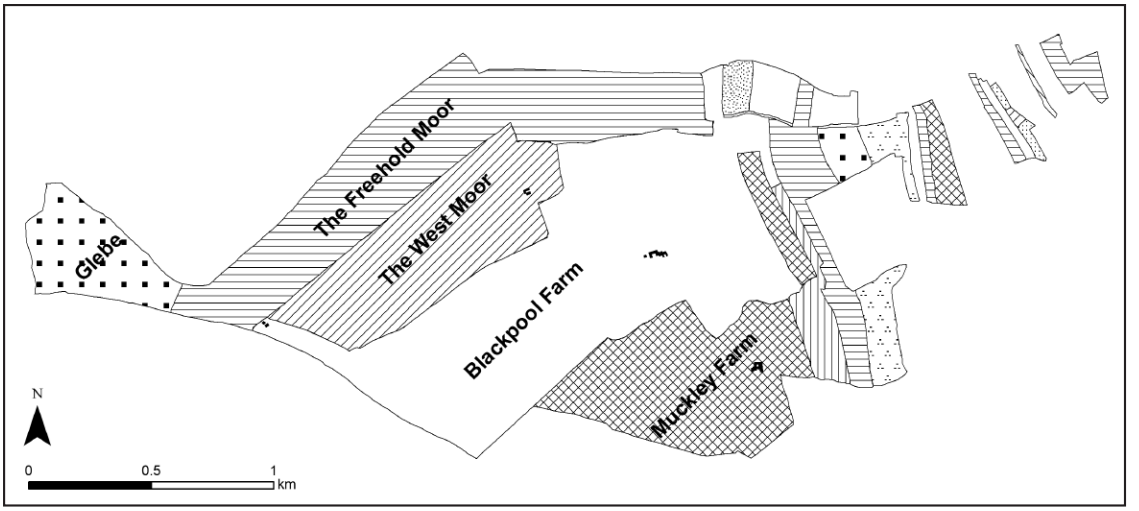


FIGURE 1. Plan of Freeholder's Quarter Longhorsley based on the tithe plan of 1842 (NRO, DT192M). Each pattern represents a different holding. Note that the holdings are very fragmented and that it is a very open township.

man's ground or intricacy, angularity and unequal distribution of its own parts'.[2] Usually contemporaries cite the inconvenience of divided farms as the justification for consolidation. Wilson is typical in suggesting that they were more expensive to farm as it took longer to travel between separate parcels, that it made spreading manure evenly more difficult, and that it prevented careful monitoring of all parts of the farm.[3] In addition to these disadvantages, William Marshall, writing in 1804, pointed out that fragmented farms could be a cause of altercations between neighbours.[4] Most commentators rarely gave more specific details than these and rarely attempted to evaluate the advantages of a ring-fence holding for particular agricultural systems. Nor did they explicitly link consolidation with enclosure, though this was common in the period, for instance the Board of Agriculture's *General Report on Enclosures* of 1808 states that 'Contiguity to the residence or farmeries of the proprietors is so much esteemed, that the immediate value of the lands must in some cases be made to give way to this general object of desire'.[5] The drawing of a link between consolidation and enclosure is common in this period and has been adopted by modern historians, indeed most discussion of the topic occurs in studies of enclosure. General works on enclosure usually only comment on the benefits of ring-fence farms and the inconvenience of holding land in fragmented parcels. For example, Mingay discusses contemporary writing, including the preambles of enclosure acts, in which fragmented holdings are criticized, and thus he saw consolidation as a principal motive for enclosure.[6] The convenience of ring-fence farms is also assumed in accounts of

[2] John Maurius Wilson, *The rural cyclopedia* (4 vols, 1848), II, p. 222.

[3] Ibid.

[4] William Marshall, *On the landed property of England* (1804), p. 130.

[5] Board of Agriculture, *General report on enclosures* (1808), p. 79.

[6] G. E. Mingay, *Parliamentary enclosure in England: an introduction to its causes, incidence and impact* (1997), pp. 33–7.

the outcome of enclosure. For example, Mingay lists it as a major advantage to the occupiers of newly enclosed land. He does however recognize that it was not possible in many cases. For example, commissioners may have thought that two allotments should be made where proprietors owned both grazing rights and field land.[7] As will be shown below, enclosure did not always result in consolidation, which could be brought about by other processes.

The most detailed study to date is that by Yelling who examined the relationships between different types of enclosure and farm consolidation. He shows that piecemeal enclosure often led to dispersed patterns of landownership. Yelling then went on to suggest that piecemeal enclosure separated consolidation from the extinction of common rights, in contrast to other forms which combined them. Piecemeal enclosure could aid in the creation of ring-fence farms by the larger proprietors because the extinction of common rights removed an obstacle to the rearrangement of land. Almost by definition, enclosure by unity of possession created ring-fence farms. Formal agreements differed drastically from piecemeal enclosure and often produced compact patterns of landholding. Finally, parliamentary enclosure often consolidated lands, but did not always make perfect ring-fence farms. This was because most enclosure acts required the commissioners to place allotments with regard to convenience. This was usually interpreted as a need to place them as close as possible to the proprietor's existing farm, often with the smallest proprietors being given priority because the larger owners could afford to build a new farmhouse.[8] Such considerations mean that even the enclosure of commons, which made up a large proportion of parliamentary enclosure, could produce dispersed ownership patterns, though in many cases it did produce ring-fence farms through the construction of farmsteads on the newly enclosed parcels. Yelling's discussion however only covered the effect of enclosure on farm consolidation as it formed part of a larger work on the geography of enclosure in England.

There is a certain amount of evidence that consolidation occurred both before and after enclosure. Some studies which have treated the process incidentally hint at some of this complexity by illustrating the different mechanisms by which consolidation occurred. For example, Hoskins discussed pre-enclosure consolidation of open field strips by tenants, which could have led to the creation of ring-fence farms had it not been interrupted by later parliamentary enclosure.[9] Others have found cases of elite involvement in consolidation. For example, Clay suggested that if the elite bought land at all during the period 1640–1750, they did so in order to consolidate their estate. He concluded that this was as much for non-functional concerns, such as power or personal satisfaction, as for financial reasons. Nonetheless, it could be profitable if it allowed improvements such as enclosure through unity of possession.[10] This has also been observed by English in East Yorkshire where landlords often took a long-term view of their estates and were prepared to wait for the opportunity to acquire a particular piece of land.[11] Williamson also suggested that post-enclosure reorganization,

[7] Ibid., p. 83.

[8] J. A. Yelling, *Common field and enclosure in England 1450–1850* (1977), p. 125.

[9] W. G. Hoskins, *The Midland peasant: the economic and social history of a Leicestershire village* (1965), pp. 232–24.

[10] C. Clay, 'Landlords and estate management in England', in J. Thirsk (ed.), *The agrarian history of England and Wales,* V, *1640–1750* (2 vols, 1985), ii, pp. 178–9.

[11] B. English, *The great landowners of East Yorkshire* (1990), pp. 146–8.

perhaps including consolidation, in the Sandlings area of Suffolk may be the reason for the lack of piecemeal enclosure type field boundaries in the modern landscape despite their ubiquity on seventeenth-century plans.[12] There is no reason to view the contemporary comments on consolidation above, other than those in the *General Report on Enclosure* as being necessarily linked to enclosure. William Marshall's comments explicitly refer to post-enclosure processes. He discussed the ways that freeholders who own fragmented farms may remedy the situation. The simplest was by exchange, which could be achieved through arbitration. Where this was impossible landholders could sell and purchase pieces of land in order to create a ring-fence holding. This was usually reasonably easy as the land to be purchased was worth more to the purchaser as part of a compact holding than it was as a detached parcel to the seller.

The process of consolidation was, then, a complex one, and worthy of more attention than it has hitherto received. It is clear that consolidation occurred both before and after enclosure, so it will be argued below that it may be seen as a separate process to enclosure though one which might occur during enclosures. For the purposes of this article enclosure will be defined as the abolition of common rights, following Thirsk's 1967 definition.[13] We may also define a related process of concentration in which a tenant or landowner collected parcels of land in one general area though without joining them. In practice there is only limited evidence for this process in the cases discussed here, though it may have been more common elsewhere. Certainly such behaviour could make actual consolidation easier at a later date. Four case studies will be used to illustrate and examine the process of consolidation and the actors involved in it.

I

The landscape of Northumberland of the eighteenth- and nineteenth-centuries was one of open fields and commons with fairly large amounts of sixteenth- and seventeenth-century enclosure in some areas.[14] The Northumberland landscape may be divided into four regions (Figure 2). The coast and central plain both stretch the entire length of the county and are largely dedicated to arable production. Within these two regions the pre-enclosure landscape was dominated by two- or three-field open field systems, with small parcels of common waste around their edges. It has been demonstrated that these field systems functioned in a similar way to the Midland system.[15] Both regions saw relatively large amounts of enclosure by agreement and piecemeal enclosure during the early modern period as a result of the growth of industry in the county. In the extreme west of the county the Cheviot Hills form the Northumberland uplands. This area is much more pastoral, with large commons and only very small areas of open fields usually placed close to settlements. These areas saw much less early enclosure and were often subject to very late enclosure acts. Finally, Tweedside forms a unique region. This area has a harsh climate but particularly fertile, if somewhat heavy, soils. Tweedside was found to be particularly suitable for turnips so it attracted improving farmers in

[12] T. Williamson, *Sandlands: the Suffolk coast and heaths* (2005), pp. 91–3.

[13] J. Thirsk, 'Enclosing and engrossing', in J. Thirsk (ed.), *The agrarian history of England and Wales*, IV, *1500–1640* (1967), p. 200.

[14] R. A. Butlin, 'Field systems of Northumberland and Durham', in A. R. H. Baker and R. A. Butlin (eds), *Studies of field systems in the British Isles* (1973), pp. 93–144.

[15] Ibid., p. 111.

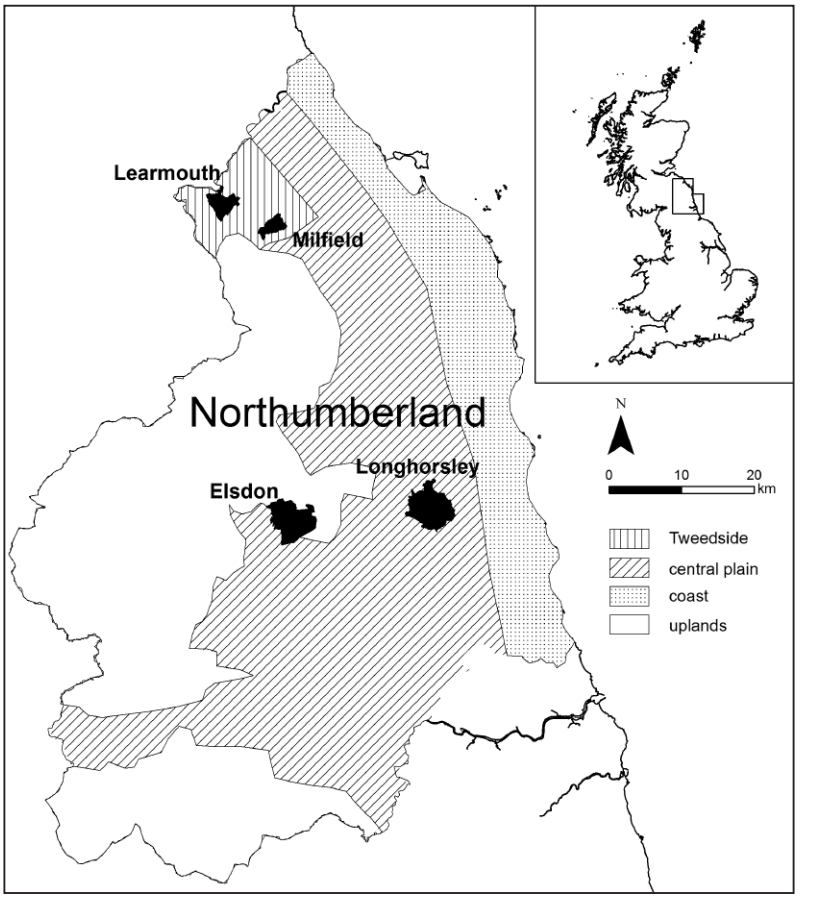


FIGURE 2. The locations of the case study townships. Note that they include a wide range of farming regions. Regions based on R. A. Butlin, 'Field systems of Northumberland and Durham', in A. R. H. Baker and R. A. Butlin (eds), *Studies of field systems in the British Isles* (1973), pp. 93–144.

the eighteenth and early nineteenth centuries, when such agriculture was seen as the cutting-edge. Thus, the landscapes to be studied present a variety of different conditions the effect of which on the process of consolidation will be demonstrated below.

The case studies themselves have been selected in order to cover as wide a range as possible of the environmental and social conditions pertaining within Northumberland in the eighteenth and nineteenth centuries. Milfield is in Tweedside. It had three major landowners; the Greys of Howick, the Ordes of Nunnikirk and the Blakes of Twizel, all of whom let their farms to tenants. The common was enclosed by agreement in 1789,[16] while the rest of the township was enclosed earlier, probably by an agreement as the field boundaries in this area are particularly straight.[17] Learmouth is also in the north of the county, immediately south of the Anglo-Scottish border. It is on the same fertile turnip land as Milfield, but was a closed township, owned almost entirely by the Greys of Howick. Elsdon is in the Northumberland

[16] Northumberland RO [hereafter NRO] QRD6, Milfield enclosure award, 1789.

[17] For more detailed discussion of the enclosure histories of these parishes, see R. O'Donnell, 'Conflict, agreement and landscape change: methods of enclosure of the northern English countryside', *J. Hist. Geography* 30 (2013), pp. 1–13.

uplands. It was subject to a parliamentary enclosure of its common in 1731, the rest of the township being enclosed by piecemeal enclosure and small scale agreements before and after this date. In comparison to Milfield and Learmouth it was very open with nearly 80 landowners recorded in the tithe apportionment.[18] Finally, Longhorsely is on the central plain. Longhorsely consists of three townships, Bigge's Quarter, Riddle's Quarter and Freeholder's Quarter. The second of these is too poorly documented to contribute to the discussion here, so analysis will focus on the remaining two. All three townships were subject to an enclosure agreement of 1664.[19] This, however, only completed a process which had proceeded through piecemeal enclosure and small-scale agreement up to this point. Bigge's Quarter was a closed township, initially belonging to the Earls of Carlisle and from 1807 to Charles William Bigge. Freeholder's Quarter, as the name suggests, was an open township possessed by several freeholders.

II

As Yelling demonstrated, enclosure forms an important part of farm consolidation in many townships.[20] However, its results could vary and it rarely led to townships composed entirely of ring-fence farms. It will be argued below that pre- and post-enclosure processes are at least as important as enclosure itself. Nonetheless enclosure is significant in the creation of ring-fence farms, and as the most familiar process will be considered first.

Of our case studies Milfield has the highest proportion of consolidation by enclosure. Half of Milfield was enclosed around 1777 or shortly thereafter. It is unclear whether this enclosure produced ring-fence farms or not. By the time the second half was enclosed in 1789, however, these were certainly ring-fence farms as their locations can be determined from a comparison of the text of the enclosure award and the tithe plan.[21] The documentation for the second enclosure is fairly good so some comment may be made concerning its contribution to the creation of ring-fence farms. By comparing the award made by the commissioners to the tithe plan it has been possible to determine the locations of the allotments. Most were laid out next to the ancient lands of the owner, thus ensuring consolidation. This was true even where the ancient lands lay outside the township, as in the case of Francis Blake, one of whose allotments was placed next to his estate at Crookhouse.[22] There were however two instances in which the commissioners did not create the most compact farms possible. The first is an allotment to the Earl of Tankerville as the lord of the manor. It was put in quite a marginal location and awarded in two pieces separated by a road. The other example is an allotment made to George Grey for lands at Sandy House, which is in a separate township to Milfield.[23] It was placed next to George Grey's freehold at Sandy House but could have been placed near to his much more substantial leasehold farm at Milfield Hill, which was the property of the Earl Grey. It is possible that the commissioners did not want to do this because it may have created inconvenience in the future if the tenancy of Milfield Hill had gone to a different person. Alternatively, they may

[18] NRO, DT164M, Elsdon tithe apportionment, 1840.

[19] NRO, 358/21/10, Longhorsley enclosure agreement, 1664.

[20] Yelling, *Common field,* pp. 120–45.

[21] NRO, DT322S, Milfield tithe plan and apportionment, May 1842.

[22] NRO, 00309/M/33, plan of the Crookhouse estates.

[23] NRO, QRD6, Milfield enclosure award, 1789.

have felt that allotments for lands in a particular township should be made in that township so as not to create detached portions. In addition to the allotments made in the original award an additional allotment was later made out of William Orde's allotment to one Mr Lowry who complained that he should have been awarded land.[24] This could not be placed next to Lowry's existing holdings as they consisted of houses and gardens in the village which did not border the common. On the whole then the enclosures of Milfield did create ring-fence farms, and it is quite likely that this was the intention of the enclosure commissioners. There were however a small number of instances in which they were unable to create ring-fence farms largely due to the situation of existing holdings.

In our other case studies enclosure was much less important for the creation of ring-fence farms, partly due to the constraints of existing holdings already observed in Milfield, but also due to greater importance being placed on other factors. At Longhorsley the legacy of earlier events was particularly important. An enclosure agreement of 1664, which appears to have largely or entirely enclosed common waste, seems to have allotted land in blocks, but earlier piecemeal enclosure had already established a fragmented pattern of landownership. The agreement of 1664 only awarded 961 acres and 11 perches of land, which is a small fraction of the 6205 acres within the parish. Examination of the forms of fields reveals a pattern of long, thin fields – some with reversed S-shaped boundaries – near the village, and rectangular fields with straighter boundaries further out. In some places the regular fields have names indicative of former common, such as 'The Freehold Moor' (Figure 1). This pattern is to be explained by piecemeal enclosure of an area of long thin fields followed by enclosure by agreement of the more regular areas. A 1719 plan of Bigge's Quarter shows that the pattern of occupation in the area of long thin fields was itself quite fragmented as the result of piecemeal enclosure. The enclosure of 1664 brought additional complexity to an already very fragmented pattern of ownership.

At Learmouth on the other hand, consolidation occurred several decades before enclosure. Enclosure was achieved by two processes. Firstly an agreement of 1778 enclosed some glebe and gave land in lieu of tithes creating a small ring-fence farm called Tithe Hill. The remainder of the land belonged to one owner and was farmed by one tenant, and so could be enclosed by unity of possession in 1799. The result of this enclosure thus had no effect on farm consolidation which occurred by pre-enclosure engrossment and in a way which will be described in detail below.

At Elsdon the process was more complex. It appears that in many cases the parliamentary enclosure of 1731 attempted to create ring-fence farms, but sacrificed this to other more important considerations. The enclosure commissioners fragmented holdings by awarding lands in more than one piece. In most cases this was to provide at least some land next to the original tenement, and it is thus most common near the villages and hamlets. For example, three of the allotments for farms in the hamlet of Hatherwick were divided in two, with one piece near the village and another further north. Bartholomew Hedley's allotment for Landshot was also split into three pieces, one next to the original tenement, one further east on the common proper, and the third on a small piece of common called East Fair Moor in the

[24] NRO, ZCU/16, correspondence William Orde to Mr Laidler, 22 Apr. 1791.

middle of the ancient land. Knightside and Spartishaw are also good examples. In these cases if the whole of Spartishaw allotment had been put next to the farm it would have surrounded Knightside, so a small piece was placed near to Spartishaw itself and the rest further south, splitting the Knightside allotment. These could be considered to be an unavoidable outcome and is certainly the consequence of the pre-existing pattern of landownership. They do however result just as much from certain factors, such as proximity to the ancient holding or land quality, being considered more important than compactness. This is all the more significant when it is realized that it would have been possible for the owners of the lands involved to have allowed the creation of ring-fence farms by making the entire township – including ancient enclosures – subject to the Enclosure Act.

In a few cases the enclosure commissioners did attempt to make compact allotments, possibly at the instruction of the landowners. This was difficult because the large number of proprietors meant that some allotments could not be placed next to the appropriate ancient holdings. There were, however, some strategies which the commissioners used to overcome this. The most common was to treat several farms owned by the same person as one. A certain area of land was allotted in proportion to the total area of the farms, which was then divided between each of the farms as convenient. This meant that each could be of the most suitable size for the space in which it was to be put. For example, part of an allotment to Matthew Reed for Shittleheugh was placed with his allotment for Killhouse on the other side of the township.[25] In this case the award specifies that this was at his direction, and it seems likely that this option could only be exercised with the owner's consent.[26] Similarly, Charles Francis Howard's properties at Heirshouse and High Carrick were treated in this way but not his tenement at East Hatherwick,[27] showing that this was not automatically done in cases of a proprietor owning several properties. Thus, we see that at Elsdon a number of factors were taken into consideration by the commissioners when placing the allotments. The result of this was that, although compact holdings were valued, other factors like the convenience of having land near earlier allotments or the differing quality of land across the township were sometimes thought more important, resulting in dispersed holdings. Some proprietors can be shown to have had a greater desire than others for compact holdings as they gave the commissioners instructions to this effect.

Piecemeal enclosure could also contribute to consolidation. Up to this point we have discussed piecemeal enclosure as a force for creating dispersed ownership patterns. However, by joining open field strips it did consolidate to some extent. This is best demonstrated in Elsdon where, by 1839, a large area of the remaining open field comprised one farm called Landshot, with only a few small strips around it. The remaining strips continued to be consolidated throughout the late nineteenth century. Often this was done by tenants who leased strips adjoining one another. A particularly good example is the case of Mr Gow who bought one strip in 1874 then attempted to buy a neighbouring strip later in the same year.[28] The sale of the second strip did not go through, however, probably because it was glebe. From 1895, however,

[25] NRO, QRD3, Elsdon enclosure plan, 1731.
[26] Ibid.
[27] Ibid.
[28] NRO, ZHE/14/3, correspondence, J. Snowball to C. S. Bell, 14 Apr. 1874, C. S. Bell to A. Proctor, 4 Oct. 1873 – 14 Apr. 1874.

he leased it[29] and so joined the strips in practice. Thus, piecemeal enclosure was often a step towards consolidation even though it did not usually result immediately in ring-fence farms.

The preceding discussion shows that while enclosure is important in the creation of compact farms it is far from being the only force at work in the process, and indeed could work to produce fragmented holdings. This supports Yelling's conclusions that different types of enclosure produced different levels of consolidation and that parliamentary enclosure often left detached parcels of farms.[30] It therefore goes some way to correcting a common implication that ring-fence farms result from enclosure in most cases. This article will go on to investigate some of the other influences and processes at work in the townships under consideration in order to reveal what they were and who was behind them.

III

In addition to enclosure the most obvious way in which ring-fence farms were created was by the joining of fields through purchase or by lease, essentially a process of engrossment. This process can be detected on both sides of enclosure in all of our townships. Both tenants and landlords participated in the process, however there is some evidence that tenants were more important. We have already seen the importance of tenants in piecemeal enclosure, but it can also be demonstrated in post-enclosure consolidation. This is perhaps clearest at Elsdon. An analysis of the 1840 tithe apportionment shows that occupation was much more consolidated than ownership (Figures 3 and 4 see pp. 50–51). There are many documented examples of tenants taking the leases of adjacent properties. Often these properties become almost permanently associated, as one was let to the tenant of the other habitually despite the fact that they were under different ownerships. This association led to physical changes to the properties in some cases as the boundaries between them were allowed to deteriorate. A farm called Bainshaw Bog provides a good example. This was formed from part of an allotment for Stichells,[31] which was divided between Lowick and Alwinton glebe.[32] At the time of the tithe commutation Bainshaw Bog was let to Andrew Brown who was also the tenant of the neighbouring Pearson's House. By 1864 this had been let to Michael and Thomas Thornton who had previously bought Pearson's house.[33] From the lack of field boundaries shown on the 1866 Ordnance Survey it appears that the Thorntons simply ran stock across the whole area. The Flatt Fell is similar and appears to have always been let to the tenant of Dunshield. At the time of the tithe commutation this was Edward Charlton, who first took the property in 1826.[34] By 1848 both had been let to Robert Fail.[35] The Flatt Fell became so closely associated with Dunshield that the boundaries between the two were allowed to fall into disrepair.[36] In

[29] NRO, DN/E/9/1/103, Alwinton and Holystone glebe terrier, 20 Mar. 1895.

[30] Yelling, *Common field*, pp. 120–45.

[31] NRO, QRD3, Elsdon enclosure award, 1731.

[32] NRO, DT164M, Elsdon tithe apportionment, 1840.

[33] NRO, ZHE/14/3, Lease of Bainshaw Bog, 12 May 1864, NRO, ZBS/26/1, will of Robert Thornton, 29 Oct. 1814.

[34] NRO, DT164M, Elsdon tithe apportionment, 1840, ZHE/14/4 rough notes probably by John Bell.

[35] Durham University Special Collections [hereafter DUSC], DRPI/1/1848/T12/1–2 will of Thomas Thornton, 14 Jan. 1848, NRO, ZHE/14/13, 1852 survey of Flatt Fell.

[36] NRO, ZHE/14/13, valuation of lands at Elsdon, 1868.

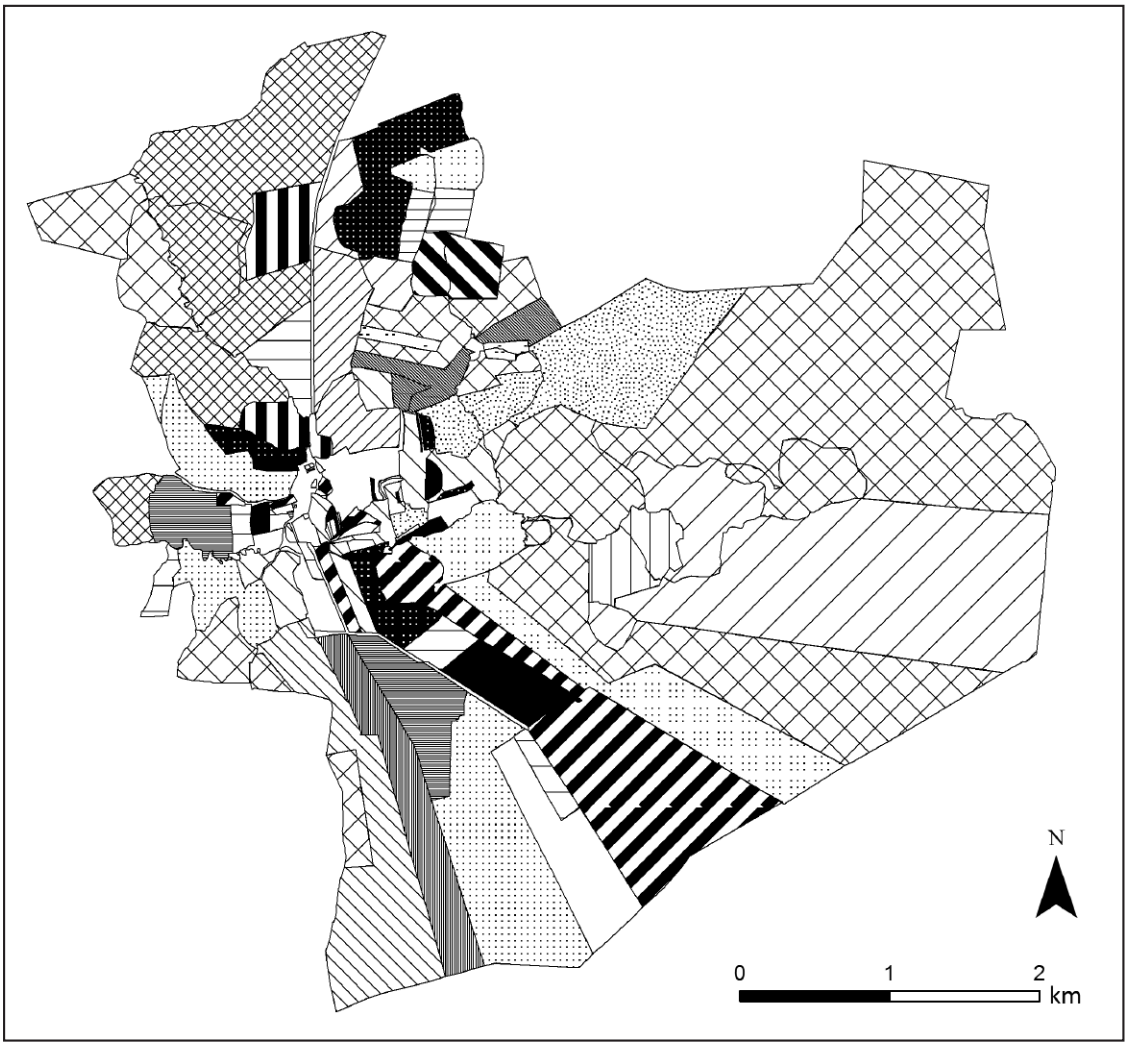


FIGURE 3. Plan showing the pattern of farm occupation in Elsdon based on the 1840 tithe plan (NRO, DT164M), each pattern represents a different occupier. Note that the occupation is much more consolidated than ownership shown in Figure 4.

both these cases the properties in question were commonly let together, and were thus, very close to the ideal of a ring-fence farm, albeit one rented from two owners.

There are also cases of landowners joining farms by purchase, though, in Elsdon at least, these are less frequent than those made by tenants. Knightside and Spartishaw farms provide one example. By 1840, the ancient land of these two farms had been joined together to form Knightside and Spartishaw, while the enclosure allotment had been joined to the neighbouring Redshaw.[37] A similar process happened at East Nook, where all the allotments for East Nook and two for Landshot were joined together. By 1840 they were owned by William Orde,

[37] NRO, DT164M, Elsdon tithe apportionment, 1840.

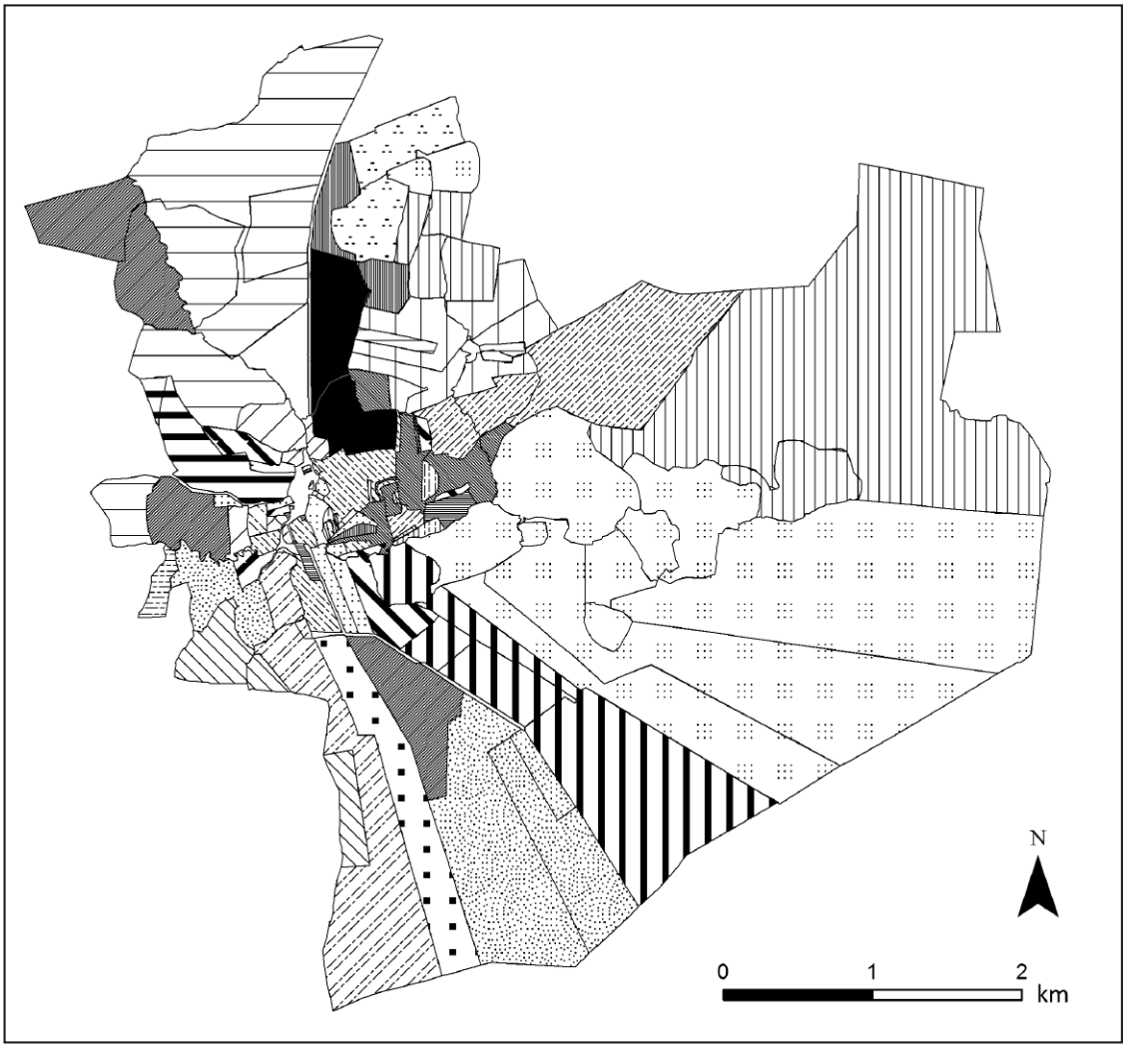


FIGURE 4, Plan showing the pattern of ownership in Elsdon based on the 1840 tithe plan (NRO, DT164M), each pattern represents a different owner. Note that ownership is much less compact than occupation shown in Figure 3. Also note that the dotted and striped properties are particularly dispersed and result from a number of different purchased of separate parcels.

who, perhaps significantly, was also the owner of Knightside and Spartishaw.[38] Among other examples, three very small allotments in a detached piece of common called East Fair Moor had been joined by 1840.[39] One of these allotments was made to Thomas Hedley who also owned a farm in the hamlet of Hudspeth.[40] By 1840 the three allotments had become part of Hedley's Hudspeth farm,[41] suggesting that he or one of his successors had joined them.

[38] NRO, DT164M, Elsdon tithe apportionment, 1840.
[39] NRO, QRD3, Elsdon enclosure plan, 1731, DT164M, Elsdon tithe plan, 1840.
[40] NRO, QRD3, Elsdon enclosure award, 1731.
[41] NRO, DT164M, Elsdon tithe plan, 1840.

At Milfield tenants and land owners also consolidated parcels of land following enclosure despite the extent to which enclosure had already consolidated farms. One instance occurred when Lowry sold his allotment to John and George Grey, who were tenants of the Greys of Howick, effectively joining it to their farm at Milfield Hill. The only other case is when the Earl of Tankerville leased his allotments to the tenants of Francis Blake against whose farm they abutted. In both these cases lands were amalgamated to form a ring-fence farm in practice by joining lands of different owners under one occupier.

At Longhorsley the tenants also appear to have created ring-fence farms in the decades following enclosure, though they must have required the consent of the landlord who may even have encouraged it. Comparison of plans of 1719 and 1773 shows the effect that changes in tenants had on farm boundaries (Figure 5).[42] An example of this is the area in the west of the township which is marked as Henry Kirsop's, Widow Hume's, Young's, Carnaby's and Town's Farms on the 1773 plan (Figure 5). The boundaries of these seem to result from a series of events which occurred between 1740 and 1743 and which can be reconstructed from rentals. In 1740 the farms in this area were held by William Grey, William Bell and Margaret Leighton; Ralph Young and Ralph Carnaby held farms in Todburn bordering this area.[43] It is not possible to determine exactly which parts were held by each tenant without the book of survey which accompanied the 1719 plan. This plan shows a small parcel in the south-west, which is probably that belonging to William Grey (Figure 5).[44] On the east of this is a much larger area stretching from the north to the south edges of the map. Further to the east is an area in which some or all field boundaries may be depicted. From the descriptions in some 1719 leases these last two areas must have been divided between at least two farms.[45] In 1740 a man called Thomas Pinkney took both William Bell's and William Grey's farms, uniting most of the land in this area.[46] At the same time George Leighton inherited his mother's farm.[47] The opportunity seems to have been taken to rearrange the boundaries of the farms in this area, creating the east-west boundary between widow Hume's and Henry Kirsop's farms on the 1773 plan.[48] Further changes occurred in the following year, when Pinkney left. Part of his lands was let to Thomas Hume and Edward Towns as partners and the rest to Ralph Carnaby and Henry Young who were also partners.[49] The fact that Carnaby and Young only paid £24 per annum in rent suggests that they were enlarging their own or, in the case of Henry Young, their relatives', farms in neighbouring Todburn.[50] This seems to be confirmed by the 1773 plan which disguises the tenurially complex situation showing the Longhorsely land simply as extensions of their separate farms in Todburn and drawing a boundary straight through the Longhorsley farms

[42] DUSC, HNP1967/Lambert Plans, fos 6v–7r, plan of Longhorsley, 1719, and N190/97 plan of Longhorsley and Hayclose, 1773.

[43] DUSC, N113, rental of Longhorsley and Hayclose, 1740.

[44] DSUC, HNP1967/Lambert Plans, fos 6v–7r, plan of Longhorsley, 1719.

[45] DUSC, N12/29–34 and DUSC, N31/2, 29 Apr. 1719.

[46] DUSC, N113, rental of Longhorsley and Hayclose, 1740. The analysis carried out here required examination of the whole sequence of rentals, which makes directing the reader to a single rental for a piece of information difficult. Where particular rentals are cited here they are the rental following the change referred to in the text.

[47] DUSC, N113, rental, 1740.

[48] DUSC, N190/97, plan of Longhorsley and Hayclose, 1773.

[49] DUSC, N113, rental, 1741.

[50] DUSC, N113, rental, 1741.

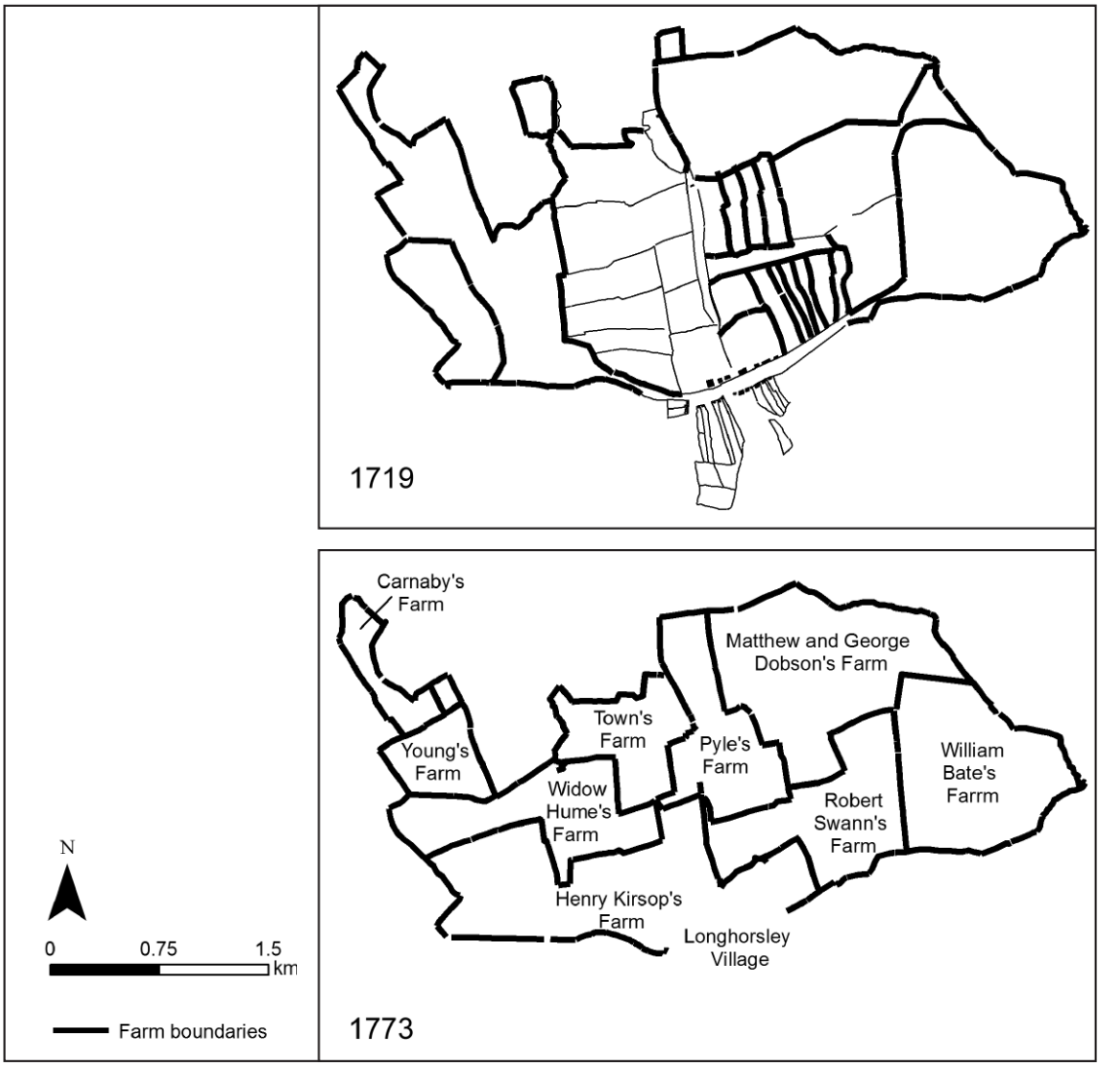


FIGURE 5, Plans of Bigge's Quarter, Longhorsley in 1719 (based on DUSC, HNP1967/Lambert Plans, fos 6v–7r) and 1773 (based on N190/97). Note that farms become consolidated between the two plans as described in the text.

which were still a single farm in the rentals (Figure 5).[51] Thus, the 1741 changes created the northern boundary of Hume's Farm and the boundary between Carnaby's and Young's farms, which seems to simply be an extension of the boundary of their earlier farms. The final change to the boundaries in this area was the division of the jointly held farm of Town and Hume in 1743 creating the final boundary of the 1773 plan (Figure 5).[52] Kirsop later replaced Leighton before the 1773 plan was made.

[51] DUSC, N190/97, plan of Longhorsley and Hayclose, 1773.

[52] DUSC, N114, rental, 1743.

In the eastern half of the township there was a similar degree of consolidation of leasehold farms including the amalgamation of several small strips which had originated through piecemeal enclosure. On the 1719 plan the strips are in two groups with an east-west finger of land between them, possibly an area of common grazing around a track and almost certainly a former headland.[53] The strips to the north of this were added to a piece of land taken from George Dobson the younger's farm to the north and some land to the west to create Pile's farm. Robert Pile was the tenant of this in 1773, but had only come to it through his marriage to Ann Dobson.[54] She had, in turn, inherited it from her first husband William who had it from his grandfather William. This elder William split a large farm between three sons, one of whom was the younger William's father John.[55] The farms from which land had been taken to create the 1773 Pile's Farm were probably those of George Dobson, who still held his farm in 1773, and James Dobson, which having been rented by William Grey had mostly become Town's and Hume's farms through the changes described above.[56] Both James and George were also sons of William Dobson senior. While the boundaries of Pile's Farm cannot have been created by the division of William Dobson's land between his sons in 1699, it may be that the tenanting of these farms by close relatives aided the quite complex alterations which were carried out. Nonetheless, such alterations could not have been carried out without at least the consent of the landlord, and may have been entirely his decision.

The group of strips to the south of this were also amalgamated to form Robert Swann's farm along with the headland between the two groups of strips and some of the block of land to the north-east of this.[57] It was actually divided between George Dobson's farm and Robert Swann's farm though it is not possible to show whose it had been before this time. This led to the removal of several of the boundaries between the strips in order to create large fields.[58] These alterations are more difficult to connect to the tenants of the farm. Robert Swan's predecessor in the rentals is another George Dobson,[59] who held the farm until 1748. There is no evidence that either he or Swann divided his farm or joined it to others. It is possible that the two George Dobsons were related, though clearly not directly, and that such blood ties may have helped negotiation. An alternative possibility is that the farm was created for Robert Swann, which may explain why the rent was increased by £1 on his arrival.[60] In this case it could be that the landlord created a new farm when George Dobson left in order to make it easier to let. Finally, the 1773 farm may be a combination of both changes made by George Dobson the elder and those made for Robert Swann's arrival. Thus, in three of our four townships, processes of engrossment contributed to farm consolidation for decades or even centuries after enclosure. These processes were performed by both landlords and tenants but on the whole tenants seem to have led the way.

Very similar processes operated before enclosure, and at Learmouth led to complete consolidation before enclosure by unity of possession in 1799. Learmouth had been the property of

[53] DUSC, HNP1967/Lambert Plans, fos 6v–7r, 1719 plan of Longhorsley, 1719.

[54] DUSC, N116, rental, 1755.

[55] DUSC, N108/12, p. 84 lease, 13 Sept. 1700, DUSC, N113 rental, 1739.

[56] DUSC, N112–7, rentals.

[57] DUSC, HNP1967/Lambert Plans, fos 6v–7r, plan of Longhorsley, 1719.

[58] Ibid.

[59] DUSC, N115, rental, 1748.

[60] DUSC, N111, rental, 1774.

the Greys of Howick in its entirety since the medieval period, so the engrossment here is nearly entirely the work of the tenants. The process began before the earliest documents, but can be picked up in its early stages in a rental of 1708.[61] This lists eleven tenants at Learmouth. Of these, six: John Hall, John, William and Widow Crawford, Lionel Bolton and Ralph Archibald, held farms. The remaining tenants held a malt barn and kiln (Thomas Tebbit), a mill (William and Thomas Bolton) and a cottage (Stephen Elliot and John Murdy). The evidence of engrossment is limited but present as John Hall held two separate farms, one called Learmouth and Cornhillhaugh, and another called Hurtch Law and Mill Land. In 1712 two of the farms of the 1708 rental, those of John and William Crawford and Lionel Bolton, and the Malt barn and kiln held by Thomas Tebbitt were engrossed by a Thomas Gregson of Sunnilaws. The lease describes this property as "those six farmes com[m]only called the West side of Learmouth",[62] which suggests that Bolton and the Crawfords had also engrossed farms. This was the beginning of a sequence of events which ultimately led to the whole of Learmouth coming into the tenure of one Anthony Compton.

In 1719 Anthony Compton of Berwick-upon-Tweed began to acquire tenancies in Learmouth. This is recorded in a 1719 lease of a farm called Hurch Law and Mill Land.[63] The rent of £22 7*s*. 0*d*. is close to either the farm of Widow Crawford or that of John Hall in the 1708 rental. Unfortunately the 1719 lease records Anthony Compton as the occupier so it is not possible to determine which. By 11 June 1724 a lease shows that he had also acquired a farm called Cornhillhaugh and Learmouth. The rent of this is the same as that of the holding of John Hall (£110) so they are probably the same farm, though, as before, Compton was already in possession by a lease of the previous 22 June. Following the occupation of Cornhillhaugh and Learmouth, Compton surrendered his 1719 lease,[64] presumably so that it would expire in the same year as that for Cornhillhaugh. This was described as six farms, and was let for £72 per annum. It must represent a larger farm than in the 1719 lease of Mill lands and Hurch Law, and probably shows that Compton had taken one or both of the farms of Ralph Archibald and Widow Crawford. In 1729 Compton acquired the mill from John Gregson.

It appears that by 1729 the whole township was in the hands of two people: Compton and Gregson. Compton completed his acquisition of the township in 1733 when Gregson surrendered his lease of Learmouth Westside.[65] Compton then surrendered his leases of Learmouth eastside, Mill lands and Hurch Law and Cornhillhaugh, and replaced them with new leases. The final act of consolidation was an agreement made to enclose the glebe between 1778 and 1793.[66] The exact details of this are unknown but Ralph Compton (at length the heir of Anthony Compton), and Sir Henry Grey, the owner of the Learmouth farms, had jointly acquired the glebe and most of the tithes in 1778.[67] Grey then allotted lands to Compton in exchange for his portion of the glebe and some tithes.[68] This essentially enclosed the glebe, thus

[61] DUSC, GRE/X/P80, rental, 1708.

[62] DUSC, GRE/X/P72, lease, 1712.

[63] DUSC, GRE/X/P73, lease, 1719.

[64] DUSC, GRE/X/P73, lease of Mill lands and Hurch Law.

[65] DUSC, GRE/X/P74, lease, Learmouth Westside, 1733.

[66] DUSC, GRE/X/P276, map with a note concerning the tithes and glebe, 1793.

[67] DUSC, GRE/X/P29, Lease for a year of Learmouth Glebe and certain tithes, 28 Oct. 1778.

[68] DUSC, GRE/X/P276, map with a note concerning the tithes and glebe, 1793.

dividing the whole of Learmouth into two ring-fence farms, one Tithe Hill, owned outright by Ralph Compton and the other, much larger, farm rented by him from Grey.

We can now appreciate the importance of pre- and post-enclosure processes in the creation of ring-fence farms. It has also been shown that both landlords and tenants were involved in these processes, though tenants may have been slightly more important. The caveat to this is that landlords determined to whom farms were let and would have had at least to agree to any boundary change. This may have allowed them to encourage engrossment by selecting tenants who wanted to join parcels of land, or by suggesting boundary changes while negotiating the lease. This however would not explain the cases observed in Elsdon where tenants joined lands owned by more than one landlord.

IV

In addition to the engrossment discussed above ring-fence farms were also created by the construction of new farmsteads on detached portions of farms. This was only ever done by landlords because a farmhouse was fixed capital and therefore their property. This, obviously, could only occur where the detached piece was large enough to support an entire farm. Perhaps more importantly it could only be done when the landowner was wealthy enough to make the necessary investment. An obvious example is the creation of Wark West Common Farm near Learmouth. In 1799 a parliamentary enclosure allotted land on Wark Common for rights held by the owner of Learmouth.[69] This allotment was detached from the other Learmouth farms because Learmouth township does not adjoin Wark Common. Shortly thereafter a farm was built on the allotment and appears on the first edition Ordnance Survey.[70] In this case the owner was the Earl Grey, who certainly had the capital to invest in building work. Similar examples may be seen in Elsdon. Here farmhouses were constructed on five detached enclosure allotments. Of these Pearson's House is the only one for which documents survive. This was built on the allotment for an open field holding called Burnstones. It was almost certainly built after the purchase of the farm by a Mr Thomas Pearson in 1766.[71] Pearson was wealthy, and had made his fortune from owning a quarry at Walbottle.[72] In this case then the construction of a new farmstead awaited the arrival of someone with the money to build it. It is possible that the detached allotments on which no new farms were built were always owned by people without the means to build on them.

Thus, we have seen that two types of pre- and post-enclosure processes, farm building and engrossment, sit alongside enclosure in the creation of ring-fence farms. We have also seen that both tenants and landlords were involved in these processes and that an ability to invest was necessary. The importance of wealth is also evident in townships where ring-fence farms did not form.

[69] NRO, QRA 63/1, Wark enclosure award, 1799.

[70] First Edition Ordnance Survey.

[71] NRO, ZBS/26/2, lease and release of a moiety of Burnstones, 28–29 Feb. 1820.

[72] NRO, ZBS/26/2, Will of Thomas Pearson, 30 May 1773.

V

And so we turn to considering the barriers to farm consolidation. Two of our townships, Elsdon and Freeholder's Quarter, Longhorsely, never became dominated by ring-fence farms. Freeholder's Quarter is less well documented than Elsdon but provides a clear example of the type of landholding pattern to be discussed. Nearly all the farms in Freeholder's Quarter comprise a group of small closes near the village, usually including a house, and in most cases a block of land further out in the west of the township (Figure 1).[73] This pattern probably resulted from piecemeal enclosure of lands near the village followed by the enclosure of more peripheral lands by agreement. Very few of the closes of any one farm lie next to one another, suggesting that little attempt had been made at consolidation. The difference between Freeholder's Quarter and the other two Longhorsley townships may be because Freeholder's Quarter contained several freehold farms, whereas the other two townships were almost entirely owned by one person each. This means that the boundaries shown on the tithe map of Freeholder's Quarter are ownership boundaries as well as occupation boundaries. As a result, for parcels in Freeholder's Quarter to be amalgamated actual purchases, requiring large amounts of capital, were necessary rather than just the renegotiation of leases as in the other two townships. This may imply that there was no lack of willingness on the part of the owners of Freeholder's Quarter to create ring-fence farms, simply a lack of the capital to do so.

Elsdon has already been discussed in detail, and also had a large number of freehold farms. In Figure 4 each pattern represents a different freeholder. Often these properties are quite fragmented, for instance the striped lands which belong to William Laidler and the dotted lands belonging to Thomas Thornton are both spread across most of the township. In both of these cases, and many others, the creation of a ring-fence farm would require several, possibly quite expensive, transactions. It is quite likely that it was the greater amount of capital required to purchase freehold farms, in comparison with renting leasehold farms, which prevented ring-fence farms becoming common in open townships.

In addition to this there were also cases of landowners and tenants who were prepared to create fragmented holdings and thus had little regard for farm consolidation. There are several cases of people purchasing lands which are separate from one another. The best example of this is Thomas Thornton. He came from Harwood, to the south of Elsdon and purchased several farms between 1810 and 1825.[74] The first was Scotch Arms, which was purchased jointly with his father in 1810 (see Figure 6 for the locations of all these properties).[75] Robert and Thomas also jointly owned Mill Lands, so this was probably bought under a similar arrangement.[76] He bought Townfoot Farm from Eleanor and Robert Blakey on in 1816. Following this he purchased Burnstones in two parts from Francis and Thomas Pearson in 1820 and 1825.[77] Finally, Thomas Thornton bought Low Mote from Alexander Hall in 1824.[78] Few of these purchases adjoin pieces

[73] NRO, DT192M, tithe plan of Freeholder's Quarter.

[74] E.g. NRO, ZBS/26/2, release of a moiety of Burnstones, 29 Feb. 1820.

[75] NRO, ZBS/26/2, release of Scotch Arms lands, 12 May 1810.

[76] NRO, ZBS/26/1, will of Robert Thornton, 29 Oct. 1814.

[77] NRO, ZBS/26/2, lease and release of a moiety of Burnstones, 28–29 Feb. 1820, ZBS/26/2 lease and release of a moiety of Burnstones, 17–18 May 1825.

[78] NRO, ZBS/26/2, Conveyance of Low Moat, 11 May 1824.

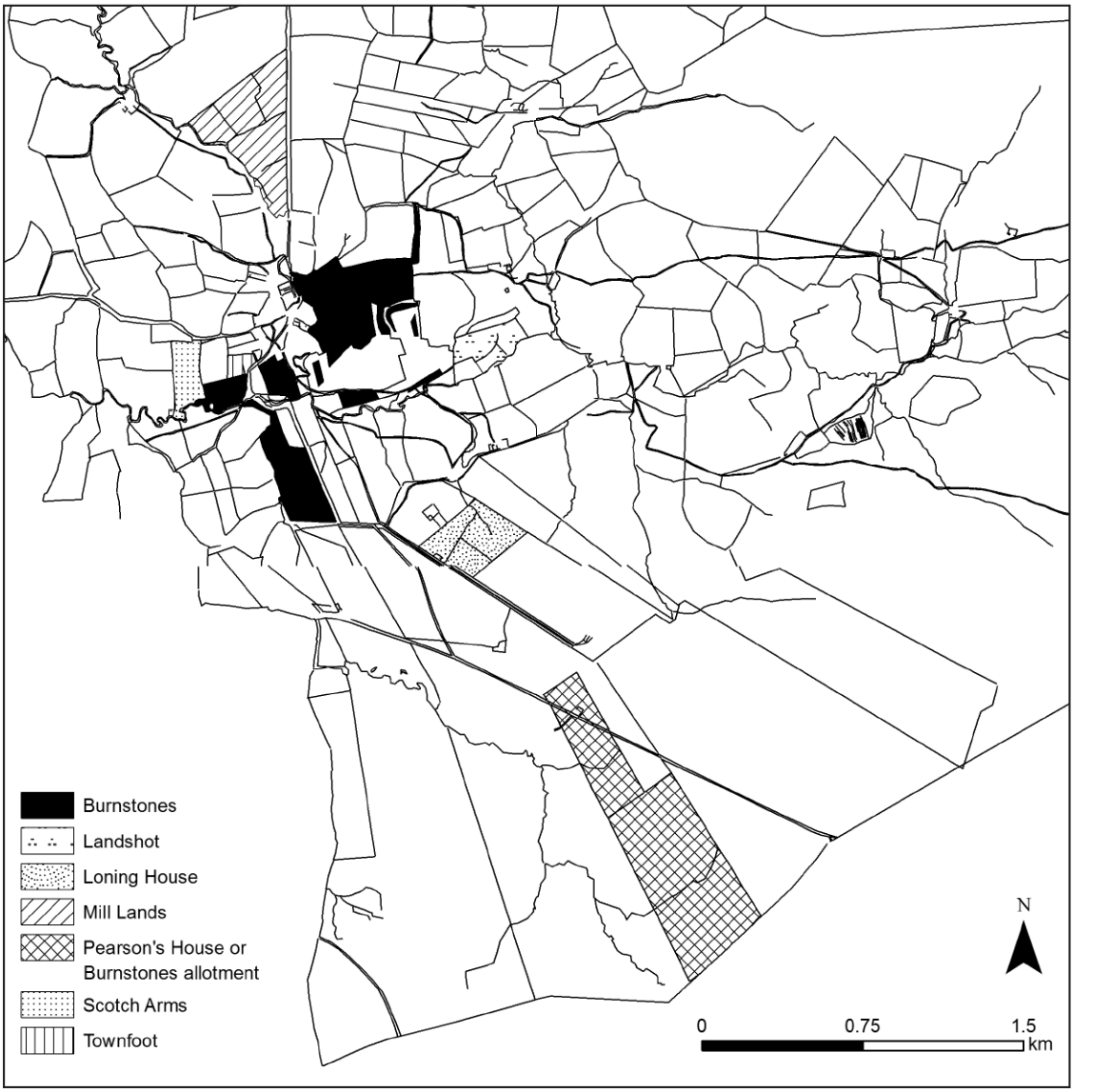


FIGURE 6. Plan of the estate built up in Elsdon by Thomas Thornton in the early nineteenth century. Note that it does not form a ring-fence farm.

of land already in his possession, so it is unlikely that Thornton intended to create a ring-fence estate. It might be noted, however, that they are concentrated in the centre of the township, apart from some outlying pieces which were bought in the same transactions as more central lands. It may be significant that, though Thornton was a farmer, he did not farm his lands in Elsdon but let them to tenants. Many of these tenants did join pieces of land together to make near-ring-fence farms. There are, however, also cases of tenants taking detached pieces of land.

Such tenants were prepared to create farms of dispersed closes by renting fields individually. One example is James Brown, who was tenant of the Flatt and Moat Hills from the Duke of

Northumberland[79] and part of Scotch Arms from Thomas Thornton.[80] Some notes made by the surveyor Thomas Bell record that James Brown rented the Flatt in 1839. Before 1847 he acquired Moat Hills, which is directly opposite the Flatt but separated from it by a road.[81] A James Brown is recorded as the tenant of the fields belonging to Scotch Arms in the 1848 will of Thomas Thornton; Brown was dead by 1848 but this is only around a year afterwards and such descriptions of farms can be out of date. These fields did not join to Brown's other tenements, so by taking this lease he only increased the size of his holding and did not make a ring-fence farm. Mote Hills, due to its small size, was often joined to other property by tenants. For example, Archdeacon Singleton, whose rectory is opposite Moat Hills but separated from it by a road, rented it in 1825.[82] Andrew Amos at least tried to rent it, as he wrote a letter expressing his interest in 1848. In this letter he says that one of his reasons for wanting it is that he already held the Haugh.[83] So he appears to be attempting to build up a farm in Elsdon, though again, the Haugh does not physically join to Moat Hills. Amos also held the enclosure allotments for Burnstones and Townfoot and a house in Red Hall field from Thomas Thornton.[84] Robert Fail, who was tenant of Low Mote, Burnstones, the Flatt Fell and Dunshield,[85] is a further example. He tried to purchase freehold land at Cheek Gate and Bainshaw Bog in the 1870s, and was to become the tenant of these in 1896 according to an 1895 glebe terrier.[86]

In these two townships, then, we see the interplay of several different factors in preventing or slowing the creation of ring-fence farms. Perhaps most important is the division of the townships into several dispersed freehold farms. This meant that in order to join parcels of land their freeholds had to be purchased. This would have been much more expensive than the renegotiation of leases required in more closed townships and so was less frequent. It also meant that lack of wealth could reduce the ability of farmers to consolidate their lands, as a wealthy landowner would be more likely to be able to make the purchases necessary to create a ring-fence farm. Indeed the importance of wealth has already been observed at Learmouth where Anthony Compton who was a particularly wealthy tenant was responsible for joining leasehold farms. Finally, several instances of both tenants and landowners creating dispersed holdings have been observed at Elsdon suggesting that ring-fence farms were not considered essential in all cases.

VI

While the case studies described here do not allow estimation of the importance of different processes by which ring-fence farms were formed, and probably fail to demonstrate some processes that operated in other places, they do allow an appreciation of the complexity of

[79] NRO, ZHE/14/13, valuation of Flatt and Moat Hills, 1852.

[80] DUSC, DRPI/1/1848/T12/1–2, will of Thomas Thornton, 14 Jan. 1848.

[81] NRO, ZHE/14/13, valuation of Flatt and Moat Hills, 1852.

[82] NRO, ZHE/14/13, valuation of Moat Hills, 1852.

[83] NRO, ZHE/14/13, correspondence, A. Amos to T. Tate, 22 Jan. 1848.

[84] DUSC, DRPI/1/1848/T12/1–2, will of Thomas Thornton, 14 Jan. 1848.

[85] Ibid.; NOR, ZHE/14/13, survey of Flatt Fell, 1852. It is possible that he held these consecutively rather than at the same time.

[86] NRO, DN/E/9/1/103, Alwinton and Holystone terrier, 20 Mar. 1895.

consolidation, and the place of enclosure within it. Enclosure has certainly been shown to be important for farm consolidation. This was especially clear at Milfield, where the final part of enclosure left a near-perfect pattern of ring-fence farms. Of our townships it best fits the traditional view that enclosure was the principal agent of farm consolidation.[87] The remaining four, however, suggest that Milfield may in fact be exceptional. Enclosure also contributed to consolidation at Elsdon and Longhorsley where piecemeal enclosure, enclosure by agreement and parliamentary enclosure all created blocks of land which were more easily made into ring-fence farms later. Indeed at Elsdon the commissioners often added to fragmentation by allotting several different plots for one farm. There is some evidence, however, that they avoided fragmentation, as they occasionally joined the allotments for the farms of one owner in order to create conveniently sized parcels. This is somewhat similar to the conclusions of Yelling who found that the role of enclosure in farm consolidation varied depending on the type of enclosure.[88]

However, pre- and post-enclosure processes are at least as important. Indeed at Learmouth the enclosure of 1799 dealt with an already ring-fence farm, as a result of engrossment of leasehold farms which occurred in the early eighteenth century. At Elsdon, Longhorsley and Milfield tenants and landowners contributed to post-enclosure consolidation by buying or renting neighbouring fields. Wealth was often necessary for both pre- and post-enclosure consolidation which required either buying land or renting and stocking an enlarged farm. It is probably no coincidence that Anthony Compton, the most successful engrosser studied here, was an Alderman of Berwick-upon-Tweed.

It seems to have been quite common for tenants to be involved in consolidation. Certainly at Elsdon the pattern of occupation in 1840 is much more compact than that of ownership, while at Bigge's Quarter, Longhorsely the tenants appear to have created ring-fence farms through a piecemeal process of renegotiation of farm boundaries at the arrival of new tenants. In the last instance it is possible that the landlord encouraged this and was more prepared to let to tenants who would take a ring-fence farm, however this would not explain the cases of tenant consolidation at Elsdon where there was no single powerful landlord. The role of tenants in the process is perhaps unexpected given the fact that many studies which describe farm consolidation incidentally to their main objectives often discuss cases of strong landlord involvement.[89] It is possible that such cases are more regularly reported because better documentation makes them more obvious in the absence of the detailed local examinations carried out here. Landlords were however solely responsible for the creation of ring-fence farms through farmhouse construction. This represents an additional method of farm consolidation, though one which often required large capital investment.

Finally, the open townships studied here, Freeholder's Quarter, Longhorsley and Elsdon never came to be dominated by ring-fence farms. This may suggest that it was more difficult to create ring-fence farms in townships where purchases were required in order to join parcels of land together. The desirability of ring-fence farms should not be over-emphasized however as many Elsdon tenants and landowners were prepared to farm dispersed holdings, and certainly

[87] Mingay, *Parliamentary enclosure.*
[88] Yelling, *Common field,* pp. 120–45.
[89] See references in nn. 10–13 above.

the opportunity to create ring-fence farms offered by the 1731 parliamentary enclosure was not taken. This re-evaluates the traditional picture of ring-fence farms as being universally favoured.

It is notable that there seems to be very little relationship between the farming system and the desirability of, or process by which, ring-fence farms were created. It is possible that Learmouth's early consolidation was an indirect result of its suitability for turnip rotations as this led to it being occupied by an improver who wanted a modern farm. Similarly Elsdon's incomplete consolidation may result from the relative poverty of its inhabitants which in turn results from its less fertile conditions. It may also be that without crops to transport from the fields to the farm that a ring-fence farm is less necessary in a largely pastoral economy. However, Freeholder's Quarter, which saw similar slow consolidation, is in a more fertile grain-focused area. Given the very general advantages cited by contemporary writers it is probable that the desirability for ring-fence farms transcended the differences between farming regimes, though examination of a wider geographical area would be required to confirm this.

It is hoped that the article presented here provides a starting point for the examination of a neglected subject. It cannot pretend to make a definitive statement on the formation of ring-fence farms from a small sample of townships from one corner of England, and from only a small range of the farming systems which operated in the country. It does however make a number of important suggestions which go some way to refuting the common assumption that enclosure created ring-fence farms and that these were necessarily desirable. It is hoped that future work elsewhere will expand the list of processes by which ring-fence farms came into being which has been started here.

Seasonal patterns in food markets in north-west Europe in the second quarter of the nineteenth century: the evidence of periodic markets in France, England, and Belgium, 1820 to 1850

by Laurent Herment and Wouter Ronsijn

Abstract

This article explores seasonal patterns in grain markets in England, France and Belgium between the 1820s and 1840s. More particularly, the magnitude and regularity of seasonal cycles are investigated for the trade in wheat, rye, oats, and barley. It is found that the grain trade followed a seasonal cycle in all the areas investigated. Usually, the volume traded was largest in the months following the harvest and smaller during spring and summer. The magnitude of these cycles tended to be larger in the English and smaller in the French areas considered, while the regularity of seasonal patterns was often more pronounced in the Paris basin. We explain these patterns by evoking technical constraints (availability of labour, labour-saving technology, demand by the processing industry, demand for fodder, storage techniques, and the conditions for transport) as well as social and economic constraints (payment of rents, consumer preferences, and the degree of economic specialization).

In 1932, with the publication of his doctoral dissertation, Ernest Labrousse introduced the concept of *soudure* into French historiography. The *soudure* refers to the time of the harvest year when the supplies of the previous harvest were running low and the next was still in the fields. Especially when the previous harvest had been meagre, many consumers faced difficulties in making ends meet – literally bridging both harvests.[1] According to Labrousse, many small-scale agricultural producers sold much of their crop shortly after harvest, either because they needed the money or because they lacked the means to store the grain adequately. As a result, markets were flooded with grain and prices were depressed during these months. Conversely, towards the end of the harvest year, usually between May and July, prices soared, since many of the small-scale producers now had to buy extra supplies, to the benefit of the larger *fermiers*, speculators or others who had been able to keep stocks.[2]

Ever since Labrousse described this seasonal cycle, many French scholars have used the

[1] The term *soudure* is used in metallurgy, where it means 'welding'.

[2] C. E. Labrousse, *Esquisse du mouvement des prix et des revenus en France au XVIIIe siècle* (1932), p. 160.

concept of the *soudure* to understand seasonal patterns in rural societies. However, few scholars have actually investigated what the *soudure* meant for trade volumes. The *soudure* argues for a rise in trade volumes during the months after the harvests, but it is unclear what its effect was later on, during the months before the new harvest. On the one hand, trade volumes could be expected to rise, since many people had to buy extra supplies during this time. On the other hand, trade volumes might also be expected to decline, since supplies were running out. Whether a cycle in trade volumes actually existed, and its shape and magnitude, remain unclear. In one of the rare studies considering trade volumes, Morineau found no notable seasonal cycles in the grain trade at the market of Charleville, a French town near the Belgian border.[3] In addition, Béaur, looking at prices, recently showed that the potential gains from storing grain until the end of the harvest year were rarely rewarding, and that those who did so took a big risk.[4]

The aim of this article is to look at seasonal patterns in the grain trade in French, English and Belgian markets during the second quarter of the nineteenth century. Our first aim is to search for seasonal patterns: can such patterns be found, and if so, were trade volumes characterized by one peak (after harvest) or two peaks (the second one falling during the *soudure*)? What was their magnitude (the difference between highest and lowest seasons) and regularity (clockwork precision or not)? Our second aim is to explain these findings by looking at the broader 'social agrosystem' in which farming households operated.[5]

Therefore, this study places trade volumes registered at markets to the fore. Up to now, historians have mainly considered market prices instead of trade volumes to assess and reassess the degree of market integration and efficiency.[6] However, we need to keep in mind that people did not eat and drink prices, but grain and potatoes, beer, wine or cider. Contemporaries were not only concerned about prices, but also about supplies, and the enormous amount of data collected by the governments in France, England and Belgium testifies to their concern. This huge collection of data has been virtually ignored by historians up to now. Exceptions are the work by Morineau mentioned before as well as that of Hubscher in France, studies by Fairlie, Adrian, and Vamplew in England, and Vandenbroeke, Vanderpijpen, and Goossens in Flanders.[7] Yet these are rare cases. Furthermore, many of them were not primarily interested

[3] Michel Morineau, 'A la halle de Charleville: fourniture et prix des grains, ou les mécanismes du marché (1647–1821)', in Michel Morineau (ed.), *Pour une histoire économique vraie* (1985), pp. 141–95.

[4] 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.

[5] The social agrosystem is an analytical concept developed by Erik Thoen to study regional differences between rural societies, indicating which factors determine their specific characteristics. See Erik Thoen, 'Social agro-systems as an economic concept to explain regional differences. An essay taking the former county of Flanders as an example (middle ages-19th century)', in B. J. P. van Bavel and Peter Hoppenbrouwers (eds), *Landholding and landtransfer in the North Sea area (late middle ages - 19th century)* (CORN Series, 5, 2004), pp. 47–66.

[6] Giovanni Federico, 'How much do we know about market integration in Europe?', *EcHR* 65 (2012), pp. 470–97; Mats Olsson and Patrick Svensson (eds), *Growth and stagnation in European historical agriculture* (Rural History in Europe, 6, 2011).

[7] Ronald H. Hubscher, *L'Agriculture et la société rurale dans le Pas-de-Calais du milieu du XIXe siècle à 1914* (1979–80); Susan Fairlie, 'The Corn Laws and British wheat production, 1829–76', *EcHR* 22 (1969), pp. 88–116; Lucy Adrian, 'The nineteenth-century Gazette corn returns from East Anglian markets', *J. Hist.*

in the trade volumes themselves, let alone seasonal patterns, but rather used them as proxies of output volumes or as a means to arrive at better price series.

The next section describes how we have conducted this research, by indicating the sources drawn upon, the cases analysed and the method used to identify and describe seasonal patterns. Afterwards, we present our results. The next step is to explain these results. First we consider the technical constraints imposed on agricultural producers, and second we consider the economic and social constraints they faced. Finally, we offer some concluding thoughts.

I

The sources used for this study are the official records of trade volumes at the public markets: the English Corn Returns and the French and Belgian *mercuriales*.[8] The governments of these countries registered trade volumes so they might weigh the prices registered at the markets: the largest markets should have a greater influence on the official mean prices than the smaller markets. Still, the official mean prices were not always weighted by trade volumes. Another reason why trade volumes were recorded, at least in France and Belgium, was to monitor supplies, out of a concern for urban provisioning.

In all three countries, the market data are based on the observations from local officials, which were then collated by the central government. The English Corn Returns are based on the reports which grain factors from a large sample of periodic markets had to submit every week to the local Inspector, who forwarded the reports to the Receiver of the Corn Returns at the Treasury, after which they were published in the *London Gazette*. The grain factors' reports listed the total quantity of grain they had transacted by each price at which it was transacted. Similarly, in France and Belgium, the *mercuriales* were established in the municipalities where the main markets were held by a public official appointed by the local authorities. The data he gathered was forwarded to the departmental or provincial authorities and finally to the government in Paris or Brussels. These higher authorities often sent the *mercuriales* back for verification if they contained implausible or impossible values. It is likely that foreign cereals were not included in these data.[9] Imported cereals were usually traded through channels other

Note 7 *continued*
Geography 3 (1977), pp. 217–36; Wray Vamplew, 'A grain of truth: the nineteenth-century corn averages', *AgHR* 28 (1980), pp. 1–17; Chris Vandenbroeke, 'Graanbevoorrading en graanaanvoer te Gent en Brussel tijdens de eerste helft van de 19de eeuw', *Handelingen der Maatschappij voor Geschiedenis en Oudheidkunde te Gent*, 26 (1972), pp. 93–115; id., 'Voedingstoestanden te Gent tijdens de eerste helft van de 19de eeuw', *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 4 (1973), pp. 109–69; Chris Vandenbroeke and W. Vanderpijpen, 'Landbouw en platteland in de Zuidelijke Nederlanden, 1770–1844', *Algemene geschiedenis der Nederlanden* 10 (1981), pp. 183–209; Martine Goossens, *The economic development of Belgian agriculture: a regional perspective, 1812–1846* (Studies in Social and Economic History, 24, 1993), pp. 158–9.

[8] The sources used for this study are listed in the Appendix. About these sources: Liam Brunt and Edmund Cannon, 'The truth, the whole truth, and nothing but the truth: the English Corn Returns as a data source in economic history, 1770–1914' (Norwegian School of Economics, Department of Economics, Paper SAM 9, 2013); Wouter Ronsijn and Laurent Herment, 'The nineteenth-century mercuriale: monitoring and managing market prices and supplies in France and Belgium, 1789–1914' (forthcoming).

[9] This was the case with the English and (at least at the end of the nineteenth century) the Belgian data. For France, the *circulaire ministérielle* on the *mercuriales générales* of 1 Apr. 1817 did not mention imported cereals, though they were excluded for the *mercuriales spéciales* recorded for the regulation of import and export tariffs.

than the public markets, which means that the records in all three countries only include grain produced domestically.

An important drawback of these sources is that they probably did not include domestic grain sold outside the public markets or grain sold by sample. In England, the grain factors were expected to include transactions by sample in their reports, but they may have neglected to do this. The English trade volumes only add up to about 25 per cent of the gross domestic output. In France, the data did not usually include trade outside markets. Still, the *mercuriale* of Étampes, one of the main markets in the Paris basin, separately indicated sales by sample, but given the implausible nature of these data (the numbers provided sometimes remained the same for several months), these have been excluded from the analysis. Finally, in Belgium, practices differed from one market to the next, but in Flanders, the trade in grain outside the markets considered here was not very extensive. For all three countries, we can assume that seasonal patterns in the grain trade outside the public markets are similar to those in the markets.

These data were analysed for four coastal counties (Norfolk, Suffolk, Kent, and Devon) and three inland counties (Berkshire, Cambridgeshire, and Surrey) in England, three departments in the Paris basin (Oise, Seine-et-Oise, and Eure-et-Loir) and three coastal departments in France (Pas-de-Calais, Calvados, and Morbihan), and three Flemish markets (Sint-Niklaas, Oudenaarde, and Kortrijk) in Belgium. These areas both have important similarities and differences (see Table 1 for the composition of trade volumes). The French departments in the Paris basin mainly sold wheat to supply the capital, as well as large volumes of oats.[10] Similarly in England, arable farming was to a large extent oriented towards the production of wheat for London, except in Norfolk and Suffolk where barley was important as well. Trade volumes tended to be more diversified in the French coastal departments as well as in Flanders, especially in the market of Sint-Niklaas. In general, the importance of wheat relative to other grains grew considerably during the period under study.

Other factors may have played a role in determining seasonal patterns. The delivery of grain by sea, water or road may have affected the seasonality of trade. The size structure of holdings also differed between these regions. At one extreme is England, where large holdings predominated: around the middle of the nineteenth century, about three quarters of the land was in holdings of over 40 hectares, and about a third was in holdings of over 120 hectares. The *grande culture* also predominated in the Paris basin, although the importance of smallholdings was increasing in this region. Holdings in the west of France were smaller. At the other extreme is inland Flanders, where almost all holdings were small by English standards: holdings of more than 20 hectares were few, and included less than a quarter of the land near Oudenaarde and less than five per cent of the land in parts of the region near Sint-Niklaas.[11]

[10] They also supplied the main towns in the Paris region, including Versailles, Pontoise, Étampes, Rambouillet and Beauvais, though most of the grain sold in the markets was destined for the capital itself.

[11] G. E. Mingay, 'The size of farms in the eighteenth century', *EcHR* 14 (1962), pp. 469–88; David Grigg, 'Farm size in England and Wales, from early Victorian times to the present', *AgHR* 35 (1987), pp. 179–89; Leigh Shaw-Taylor, 'The rise of agrarian capitalism and the decline of family farming in England', *EcHR* 65 (2012), pp. 26–60; Laurent Herment, *Les fruits du partage. Petits paysans du Bassin Parisien au XIXe siècle* (2012); Jean-Claude Farcy, 'Le monde rural face au changement technique: le cas de la Beauce au XIXème siècle', *Histoire, économie et société (HES)* 2 (1983), pp. 161–84; Annie Antoine, 'Systèmes agraires de la France de l'Ouest : une rationalité méconnue?', *HES* 18 (1999), pp. 107–32; Erik Thoen and Eric Vanhaute,

TABLE 1. Composition of the grain trade by region, 1829, 1839, 1849

		Year	Wheat (hectolitre)[a]	Trade volume relative to wheat (in %):			
				Rye and maslin[b]	Buckwheat[c]	Barley	Oats
Flanders	East Flanders (Sint-Niklaas)	1829	27,640	105	70	56	68
		1839	36,290	78	30	38	34
		1849	35,550	76	43	35	34
	East Flanders (Oudenaarde)	1829	7,764	47	0	0	15
		1839	10,470	36	0	0	26
		1849	10,442	31	0	0	16
	West Flanders (Kortrijk)	[d]1829	3,562	46	0	0	44
		1839	8,940	39	0	0	23
		1849	8,066	36	0	0	7
England	Kent	1829	170,021	0	0	50	32
		1839	192,527	0	0	46	15
		1849	203,792	0	0	32	6
	Norfolk	1829	776,383	1	0	140	6
		1839	813,552	1	0	177	5
		1849	1,018,494	0	0	103	2
	Suffolk	1829	520,770	1	0	117	9
		1839	774,714	1	0	122	7
		1849	923,407	1	0	81	4
	Devon	1829	63,446	0	0	98	24
		1839	59,601	0	0	70	48
		1849	64,399	0	0	55	28
	Cambridgeshire	1829	246,311	1	0	19	107
		1839	462,525	0	0	30	66
		1849	720,062	0	0	20	22
	Berkshire	1829	96,422	0	0	39	20
		1839	92,412	0	0	46	17
		1849	132,824	0	0	24	3
	Surrey	1829	31,718	0	0	31	6
		1839	61,438	1	0	36	13
		1849	55,748	0	0	6	2
Paris Basin	Seine-et-Marne	1829	437,538	17	0	6	43
		1839	452,283	12	0	6	64
		1849	400,067	10	0	4	58
	Seine-et-Oise	1829	358,768	55	0	13	111
		1839	397,399	50	0	12	119
		1849	304,614	52	0	15	114

	Eure-et-Loir	1829	478,646	26	0	13	48
		1839	744,635	26	0	11	32
		1849	595,291	33	0	9	38
	Oise	1829	69,745	110	0	23	121
		1839	133,641	94	0	18	112
		1849	172,915	71	0	13	61
Northern France	Pas-de-Calais	1829	200,467	66	0	68	90
		1839	224,358	73	0	77	97
		1849	294,401	63	0	72	88

Notes:
[a] English data converted from imperial bushel at 36.35 litres per imperial bushel.
[b] Rye and maslin for the French *départements* and Oudenaarde; only rye elsewhere.
[c] For England, there are no data on the sale of buckwheat. We assume it was not sold at the markets.
[d] Missing data for January extrapolated by multiplying trade volumes by 12/11.
Source: the English Corn Returns and French and Belgian mercuriales as described in the Appendix.

Seasonal patterns in trade volumes will be examined for the second quarter of the nineteenth century. During this period, agriculture made progress in the three areas and the size of urban populations grew, especially in Belgium and England but also in the Paris Basin and the extreme north of France. Accordingly, more grain needed to be sold, and the rhythms of transactions and the methods of storage could have been affected.[12] In these years, agricultural price levels differed between the three countries. Everywhere, the 1820s were characterized by depressed prices after the high levels of the Napoleonic period. However, English prices stayed fairly high compared to those in France and especially Belgium, where they sank to very low levels. Subsequently, prices remained stable at a comparatively high level in England (whether or not the effect of the Corn Laws, abolished in 1846) and at a lower level in France, whereas they gradually rose in Belgium. By the late 1840s, prices in all three countries had converged and reached peak levels during the dearth crisis of 1847.[13] Changes in price levels could also

Note 11 *continued*
'The "Flemish Husbandry" at the edge: the farming system on small holdings in the middle of the 19th century', in Erik Thoen and B. J. P. van Bavel (eds), *Land productivity and agro-systems in the North Sea Area. Middle Ages–20th century. Elements for comparison* (CORN series, 2, 1999), pp. 271–96; Erik Thoen, 'A "commercial survival economy" in evolution. The Flemish countryside and the transition to capitalism (Middle Ages-19th century)', in Peter Hoppenbrouwers and Jan Luiten van Zanden (eds), *Peasants into farmers? The transformation of rural economy and society in the Low Countries (middle ages-19th century) in light of the Brenner debate* (CORN series, 4, 2001), pp. 102–57; Wouter Ronsijn, 'Mediated and unmediated market dependence in the Flemish countryside in the nineteenth century: two paths of rural development', *Continuity and Change* 28 (2013), pp. 89–120.

[12] J. V. Beckett and Michael Turner, 'Agricultural productivity in England, 1700–1914', in Mats Olsson and Patrick Svensson (eds), *Growth and stagnation in European historical agriculture* (Rural History in Europe, 6, 2011), pp. 57–81; Herment, *Les fruits du partage*; Goossens, *Economic development of Belgian agriculture*.

[13] Peter M. Solar, 'The crisis of the late 1840s. What can be learned from prices?', in Cormac Ó Gráda *et al.* (eds), *When the potato failed. Causes and effects of the 'last' European subsistence crisis, 1845–1850* (CORN series, 9, 2007), pp. 79–94.

have affected the volume of transactions or the propensity to engage in speculation. During the whole period, local agricultural producers faced little competition from abroad. It was not until the second half of the century that western Europe was flooded with eastern European and American grain.[14]

Two approaches are followed to identify seasonal patterns: firstly we look at the patterns during the calendar years 1829, 1839, and 1849, and secondly we test for autocorrelation during three subperiods, the 1820s, 1830s, and 1840s. Time series, such as monthly data on trade volumes, are tested for autocorrelation by establishing the successive coefficients of correlation (R) between a series, and that same series with a time lag. For example, without a time lag (i + 0), the coefficient of correlation will be 1, since a series is obviously perfectly correlated with itself. With a time lag of one step (i + 1), the coefficient of correlation is usually considerably lower, whereas it might become high again after a longer time lag (i + n). If we are working with monthly data, and we obtain a high R-value with a time lag of 12 steps (i.e. 12 months), we have identified an annual cycle in the data. However, these R-values only indicate the presence of a cycle, but do not indicate the magnitude of that cycle, nor the time of the year when trade volumes were low or high. To that end, the test for autocorrelation has little meaning if it is not considered together with the first approach, the actual patterns observed during the year.

A few more comments are necessary on the method for detecting seasonal patterns. The data used for both approaches are monthly aggregates of weekly observations. They were de-trended using a simple method: rather than the raw data, we expressed the amount of grain sold each month as a percentage of the total amount traded during the calendar year. This was necessary since the method of autocorrelation may fail to reveal a cycle if there is a trend in the data, i.e. if there is a rise or decline in the trade volumes in the long run. For certain markets during certain years the data are absent, which imposes some inconsistency upon the analysis. We have no data for most of the inland English counties or for France before 1828, while the other English data contain a long gap in the course of 1826, so this year was excluded from the analysis. The sample of markets included in the Corn Returns was expanded in 1828 and 1842, but only those markets for which data are available throughout the period were included in our analysis. Similarly, after 1838, the data of the Oise department apply to a larger number of markets than before that year, but for France we could not exclude these other markets from the analysis. These gaps and inconsistencies were circumvented by adjusting the period considered for the areas concerned. The analyses could not be made for all kinds of cereals, since these were not sold at all markets. Finally, in the course of 1827, the unit in which the English data were expressed changed from the Winchester (35.24 litres) to the Imperial bushel (36.35 litres). We ignored any effect this small difference of 3 per cent might have had.

[14] 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; Richard Perren, 'Structural change and market growth in the food industry: Flour milling in Britain, Europe, and America, 1850–1914', *EcHR* 43 (1990), pp. 420–37; Roger Price, *The modernization of rural France: Communications networks and agricultural market structures in nineteenth-century France* (1983), pp. 63–70; K. Verachtert, 'De Antwerpse graanhandel 1850–1914', in G. Blauwens *et al.* (eds), *De dynamiek van een haven: Liber amicorum aangeboden bij het emeritaat van Prof. Fernand Ridder Suykens* (1993).

TABLE 2. Average trade volumes by season, 1820s–1840s: ratio between peak and bottom periods

	Monthly data				*Seasonal data*			
	Wheat	*Rye*	*Oats*	*Barley*	*Wheat*	*Rye*	*Oats*	*Barley*
England coastal	2.1	14.8	3.0	24.5	1.5	4.0	2.6	16.1
England inland	2.7	124.2	3.9	121.5	2.1	6.6	3.6	61.6
France coastal	1.3	–	–	–	1.2	–	–	–
France Paris basin	1.7	1.6	1.3	1.7	1.4	1.3	1.2	1.3
Flanders	2.1	1.5	2.1	4.4	1.7	1.3	1.5	2.2

Note: Displays the ratio between the months and seasons with the lowest and highest average trade volumes for 1829, 1839 and 1849. The respective months and seasons may differ by region.
Source: the English Corn Returns and French and Belgian mercuriales as described in the Appendix.

II

A selection from our results is shown in Table 2 and in Figures 1 to 3. Figure 1 displays the monthly trade volumes of wheat, rye, oats and barley during the calendar year 1839 for four selected regions as a percentage of the total annual trade volume. Likewise, Figure 2 displays seasonal trade volumes as a percentage of the annual trade volume, here as the average for the different regions considered based on observations for the calendar years 1829, 1839 and 1849. Figures 1 and 2 allow us to assess the magnitude of seasonal cycles: they reveal the difference between months and seasons with the highest and lowest trade volumes. The ratio between peak and bottom periods is indicated in Table 2. In contrast, Figure 3, showing the successive R-values of the test for autocorrelation in our monthly data, reveals the regularity of seasonal cycles for four selected regions in the 1830s. If the coefficient of correlation after a time lag of 12, and again after a time lag of 24 steps, is high ($R \geq 0.5$), then the monthly data contain a regular, annual cycle. For all four cereals investigated – wheat, rye, oats, barley – a recurring cycle could be found. However, there were important differences in the magnitude, regularity, and timing of the cycle, depending on the type of cereals, the region and the period considered.

Most wheat was sold after the harvest in autumn, particularly during October. In Flanders, the wheat cycle started somewhat earlier, whereas in the Paris basin it extended into winter. The magnitude of the cycle, i.e. the proportion between the busiest and quietest season, was largest in the English inland counties. There, twice as much wheat (more than a third of the annual trade volume) was sold in autumn as in winter. The magnitude of the cycle was lowest in the French coastal areas and in the Paris basin. The regularity of the cycle at the monthly level was lowest in the English coastal areas, even though a clear seasonal cycle existed there. In the English coastal counties, autocorrelation does not reveal a cycle using monthly data, though it does using quarterly data.[15] In the other regions considered, in contrast, there was a regular cycle. Especially in the Seine-et-Oise department in the Paris

[15] Autocorrelation using quarterly data is not presented here.

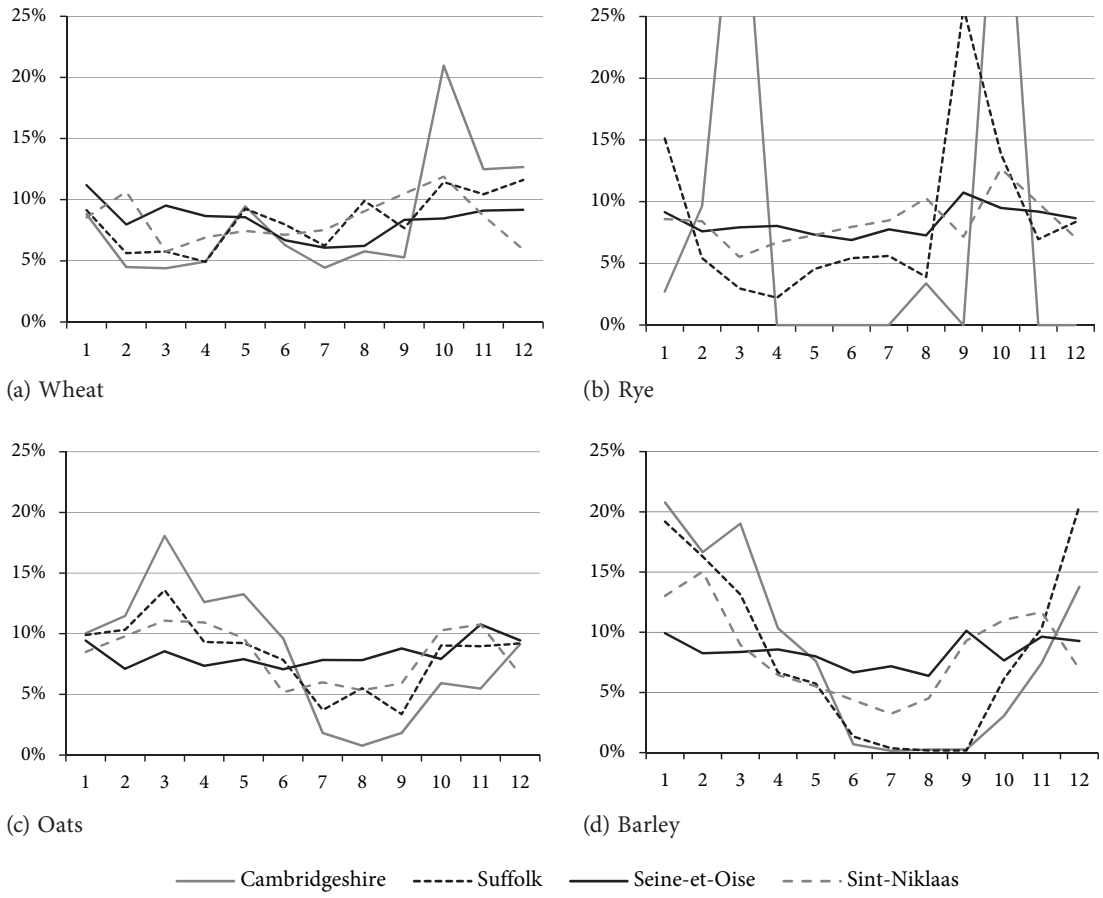


FIGURE 1. Trade volumes by month, selected regions, 1839 (calendar years beginning January).

Note: Rye data for Cambridgeshire exceed 25 per cent during certain months. For consistency, the Y-axis was not adjusted. Only insignificant amounts of rye were sold at the English markets considered here.
Source: the English Corn Returns and French and Belgian mercuriales as described in the Appendix.

basin, the wheat trade conformed to a seasonal pattern with almost clockwork precision, as revealed by autocorrelation.

The rye trade followed a seasonal pattern in Flanders, where like wheat most of it was sold in autumn. Still, the differences in trade volumes between the seasons were rather small, while the regularity of the cycle is not always clearly detected by autocorrelation using monthly data. Elsewhere, seasonal patterns were more pronounced, especially in England, but given the very small volumes of rye traded, compared to wheat, this is hardly significant.

Most oats and barley, in contrast to wheat and rye, were usually sold somewhat later, during winter and spring. Trade volumes of barley went up during the last months of the year and reached peak levels during January or February, whereas most oats were sold during March and April. However, in the Paris basin most oats were sold, like wheat, in autumn, whereas in

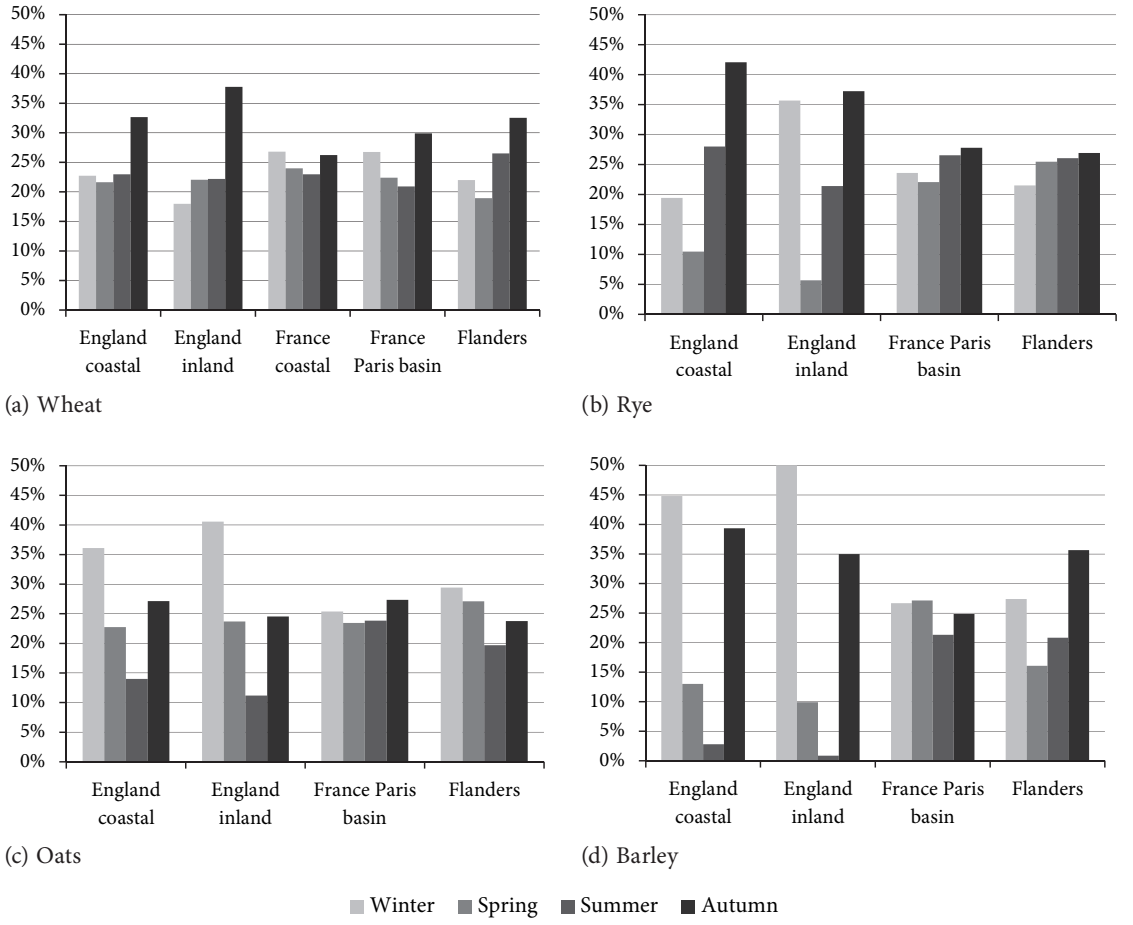


FIGURE 2. Average trade volumes by season, 1820s–1840s

Note: Unweighted average of data per region/market of 1829, 1839, 1849. Winter: January–March; Spring: April–June; Summer: July–September; Autumn: October–December.
Source: the English Corn Returns and French and Belgian mercuriales as described in the Appendix.

Flanders the barley trade was usually also largest in autumn (most barley sold in the market of Sint-Niklaas was winter barley).[16] For both oats and barley, the magnitude of the cycle was largest in England and smallest in the Paris basin, especially for barley. In England, about two thirds of all barley was sold in the four months from December to March, whereas almost none was sold during the summer months. The regularity of the cycles for oats and barley was very high, except for oats during the earliest period considered.

Exceptional circumstances could interfere with the usual seasonal patterns. The incidents and political disturbances of 1830 in France may explain why autocorrelation is less convincing in

[16] The year 1839 was an unusual year for the barley trade in the market of Sint-Niklaas, in that an almost equal proportion of winter and summer barley were sold that year. Otherwise, the amount of winter barley sold in Sint-Niklaas was usually between two to six times the volume of summer barley.

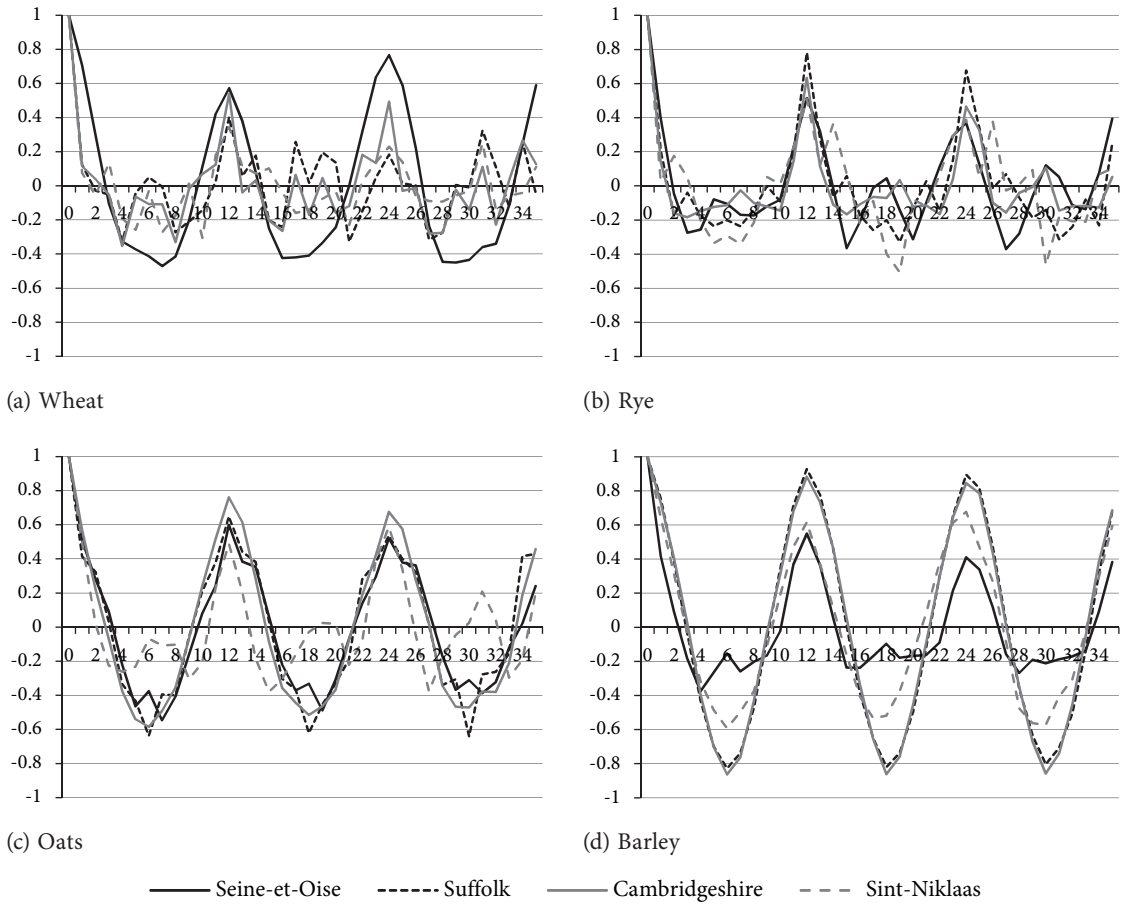


FIGURE 3. Autocorrelation, selected regions, 1830s

Note: X-axis shows the time-lag introduced in the series to calculate the corresponding coefficient of correlation; Y-axis shows the coefficient of correlation (R-values). R-values approximating to +1 and –1 indicate high correlations.
Source: based on the English Corn Returns and French and Belgian mercuriales as described in the Appendix.

revealing a cycle in Oise for the earliest period considered (based on the period 1828–32) than for the other periods.[17] Also, the dearth of 1846–7 seems to have affected the regularity of the wheat trade in the English inland counties.

To summarize, wheat and rye were mostly sold after the harvest, especially in October, while barley followed from December to March, and oats from March to May. Trade was generally quietest during the spring and especially the summer months. In England, the magnitude of these cycles was larger, especially for barley and oats. In contrast, it was smaller in France, while Flanders occupied an intermediate position. The regularity of these cycles was highest

[17] Nicolas Bourguinat, *Les grains du désordre. L'État face aux violences frumentaires dans la première moitié du 19e siècle* (Civilisations et Sociétés, 107, 2002), pp. 161–5.

for barley and oats, but more irregular for wheat and rye. Regularity was most clearly observed in the Paris basin, in the Seine-et-Oise department. If there was a *soudure*-effect, then it took the form of a decline in trade volumes at the end of the harvest year, and not a second peak in trade. Still, these monthly fluctuations were fairly modest, certainly for bread grains in France. Farmers therefore did not sell their entire crop of cereals immediately after they had harvested it, even though much of the trade was still concentrated in the autumn and winter months.

III

To explain the seasonal patterns in the grain trade, we must place grain production within the broader social agrosystem of the regions considered. There is no room here to consider all the key elements of social agrosystems, but we will focus on the technical aspects related to harvesting, preparing and selling grain. This includes agricultural technology, but also the physical environment, in particular the conditions for transport.

Agronomic publications of the nineteenth century reveal a multitude of reasons why producers did not dispose of their grain immediately after the harvest, and hence why they did not sell everything at once.[18] During the harvest months, countrymen and women devoted virtually all of their energy to collecting the harvest. All this work left them with little time to prepare the grain from the previous year for sale and to take it to the market. This is part of the reason why supplies at that time of the year tended to be lower. In fact, during August, the grain markets in Oudenaarde started one hour earlier than usual, to allow the farming population to supply it and then return home for a full day on the harvest.[19]

In the North Sea area around the middle of the nineteenth century, grain was usually harvested shortly before it reached complete maturity, somewhere from July to September, depending on the weather, region, and crop. When the farmer believed the time for the harvest had come, the grain was cut, and the culms with the ears hanging from them were left to dry and ripen in the field. Drying took more time for summer grains, due to the weeds which often

[18] Arthur Young, *The Farmer's calendar containing the business necessary to be performed on various kinds of farms during every month of the year* (1804); John Chalmers Morton, *Arthur Young's* Farmer's Calendar *describing the business necessary to be performed on various kinds of farms during every month in the year* (1862); Martin Doyle, *A cyclopaedia of practical husbandry and rural affairs in general* (1839); Alexandre Bixio (ed.), *Maison rustique du XIXe siècle* (1844), pp. 285–344; P. J. Sencie, *Den pagters, landsmans en boeren handboek en almanach, of noodzaekelyk onderwys voor den landbouw, verdeelt in XII hoofdstukken, volgens de XII maenden des jaers* (2 vols, 1785); *Landbouwers almanak voor België: 1850* (1849); Th. F. Uilkens, *De landbouw in zijne graangewassen beschouwd* (1864), pp. 161–235; J. W. H. Cordes, 'De inoogsting en zuivering der voornaamste granen, met betrekking tot den Nederlandschen landbouw', *Vriend van den landman. Tijdschrift ter bevordering van landhuishoudelijke kennis in Nederland*, 19 (1855), pp. 321–46, 385–413. On grain harvesting and storage, see also François Sigaut, 'A method for identifying grain storage techniques and its application for European agricultural history', *Tools & Tillage* 6 (1988), pp. 3–32; id., 'Storage and threshing in preindustrial Europe: additional notes', *Tools & Tillage* 6 (1989), pp. 119–24; Pierre Brunet, 'Les granges de Normandie. Essai d'architecture et d'économie rurale', *Hors-série des Annales de Normandie. Recueil d'études offert en hommage au doyen Michel de Boüard*, 1 (1982), pp. 115–28; Annelien Verhelst, 'Vlaamse dialectbenamingen voor graan- en hooistapels: een dialectgeografische studie' (unpublished master's thesis, Ghent University, 2011).

[19] City archives Oudenaarde, Ancient archive, 463/1521: Decision 23 Floréal XI (Art. 15); *Gazette van Audenaerde*, 13 Aug. 1854, p. 2, cols. 1–2.

grew in between them more abundantly than between the winter grains, and which risked to make it mouldy if not perfectly dry. Often the grain was bound into sheaves, which could be piled together in stooks. Shortly afterwards, when the grain was completely dry, it was ready to be stored for a longer period of time, in barns or in stacks. Which of the latter two methods predominated is difficult to make out; both seem to have been common.

Most contemporaries at the time agreed that grain was better preserved when left in the open air in stacks than when it was stored in barns. In barns, particularly those that were poorly ventilated, the grain ran the risk of getting damp and musky, or of suffering damage from rodents. Still, Sencie, the author of an agricultural calendar for Flanders in the 1780s, believed barns were the best way to store grain, but still reckoned that barns could not do without cats, whose job it was to catch rats and mice.[20] Yet those cats might also give the grain a bad smell. That was not the case when the grain was stored in stacks in the open air. These stacks were composed of piled up sheaves, usually 4 or 5 metres in diameter and 5 or 6 metres high. Yet such stacks were no mere heaps of sheaves, but involved a complicated design, in which the grain could even be preserved for several years. If stacks were well-built, they offered a fairly good protection against rain and permitted the grain to continue drying. According to the *Maison rustique*, grain merchants could recognize grain that had been stored in stacks, and sometimes paid higher prices for it.[21] However, stacks had the disadvantage that once one had been opened, the entire stack had to be disassembled. In addition, they were also liable to damage from strong winds.

With the sheaves of grain stored in barns or in stacks, which was customarily accomplished by the end of September, there was no urgency in getting it threshed.[22] Other tasks, such as preparing the land where the winter crops were to be sown, were more pressing. In contrast, threshing, especially when it was done by hand using the flail, was postponed until the end of autumn, taking place mainly from November to March.[23] By the middle of the nineteenth century, much of the threshing was already done by machines in England, whereas in France and Belgium, manual threshing was still the rule. There, perhaps only the very largest of holdings had threshing machines, powered either by steam or by animals.[24] Threshing grain by hand was one of the most labour-consuming operations in arable farming. In Flanders for example, threshing took up more than half of all the labour required to harvest grain.[25]

[20] Sencie, *Den pagters, landsmans en boeren handboek*, II, p. 8.

[21] Bixio (ed.), *Maison rustique du XIXe siècle*, p. 314.

[22] Sigaut, 'Storage and threshing', p. 120.

[23] E. J. T. Collins, 'The rationality of "surplus" agricultural labour: mechanization in English agriculture in the nineteenth century', *AgHR* 35 (1987), pp. 36–46; Sigaut, 'Method for identifying grain storage techniques', p. 22.

[24] E. J. T. Collins, 'Harvest technology and labour supply in Britain, 1790–1870', *EcHR*, 22 (1969), pp. 453–73; id., 'Rationality of "surplus" agricultural labour', p. 40; Morton, *Arthur Young's* Farmer's Calendar, p. 42; *Landbouwers almanak voor België: 1850*, pp. 12, 51–2; Emile de Laveleye, *Essai sur l'économie rurale de la Belgique* (1862), pp. 83, 218, 54, 73; Farcy, 'Le monde rural face au changement technique', p. 167; Michel Demonet, *Tableau de l'agriculture française au milieu du XIXe siècle: l'enquête de 1852* (1990), pp. 79–80; Bixio (ed.) *Maison rustique du XIXe siècle*, p. 319.

[25] Eric Vanhaute, 'Agrarian labour and food production in a peripheral region. Agricultural dynamics in the Antwerp Campine in the "long nineteenth century"', *Histoire et Mesure*, 12 (1997), pp. 143–64; Martine Goossens and Guy Dejongh, *Agriculture in Figures. Belgian Agricultural and Cadastral Statistics of the period 1801–1825. Publication of Source Material* (Belgisch Centrum voor Landelijke Geschiedenis,

During this winter slack season when there was little other farm work and wages were therefore lower, threshing was carried out in the barns on days when there was no other work with which to occupy the labourers, or when rain prevented them from working outside. Moreover, threshing, especially of wheat, benefitted from the winter cold, since the grains came away from the ears more easily. Besides, the author of a Flemish farmers' calendar for 1850 added that 'there is nothing better to keep yourself warm than the flail'.[26] Also, by this time of year, the grain had already 'sweated', which helped to store it as threshed grain. Storing threshed grain required it to be dryer than when storing it in the ear.[27] In conditions of humid weather, threshed grain could spoil easily, and it had to be kept in granaries where it could dry quickly. For that reason, most cereals were probably only threshed shortly before they were consumed or sold.

Apart from the availability of labour, the timing of threshing was also guided by the demand for its output, which consisted not only of cereals, but also of straw. Consumption of bread grains was probably fairly constant over the year, yet there were still (modest) price fluctuations from week to week. Farmers were recommended to schedule their threshing 'according to the market', i.e. the prevailing price, next to household needs and the availability of labour.[28] Uilkens, a Dutch agronomist, advised against storing grain for longer than one harvest, but did recommend waiting for the best moment within the harvest year. Yet when exactly that moment came, he was unable to tell: it could come immediately after the harvest, or it could be two, four or eight months afterwards.[29]

However, without threshing machines it was difficult to respond quickly to short-term market fluctuations. Agronomists in continental Europe lamented the absence of threshing machines, without which it was often impossible to benefit in time from high prices.[30] In the updated version of 1862 of Arthur Young's calendar, 'the greater quickness of the [threshing] process; and the ability thus at once to supply the market without materially interfering with the ordinary labour of the farm' were mentioned among the main benefits of the threshing machine, by which, according to the same publication, 'the great bulk of corn in this country [was] now threshed'.[31]

In contrast to bread grains, demand for barley fluctuated sharply in the course of the year, because the processes of malting, brewing, and distilling mainly took place between October and May. After the harvest, barley first needed to 'rest' for a while before it germinated.[32] The cooler months were most suitable for the germination process, and malting rarely continued into the warmer summer months. For the production of beer as well, warmth might interfere

Note 25 *continued*
116, 1997), pp. 135–43. For England, see Gregory Clark, 'Yields per acre in English agriculture, 1250–1860: Evidence from labour inputs', *EcHR* 44 (1991), pp. 445–60.

[26] *Landbouwers almanak voor België: 1850*, p. 12.

[27] Sigaut, 'Method for identifying grain storage techniques', p. 7.

[28] Sencie, *Den pagters, landsmans en boeren handboek*, II, pp. 45–6; Cordes, De inoogsting en zuivering der voornaamste granen', p. 385.

[29] Uilkens, *De landbouw in zijne graangewassen beschouwd*, pp. 230–5.

[30] Cordes, 'De inoogsting en zuivering der voornaamste granen', p. 402; Bixio (ed.) *Maison rustique du XIXe siècle*, p. 331; *Landbouwers almanak voor België: 1850*, pp. 51–2.

[31] Morton, *Arthur Young's* Farmer's Calendar, pp. 32, 44.

[32] Cordes, 'De inoogsting en zuivering der voornaamste granen', p. 336.

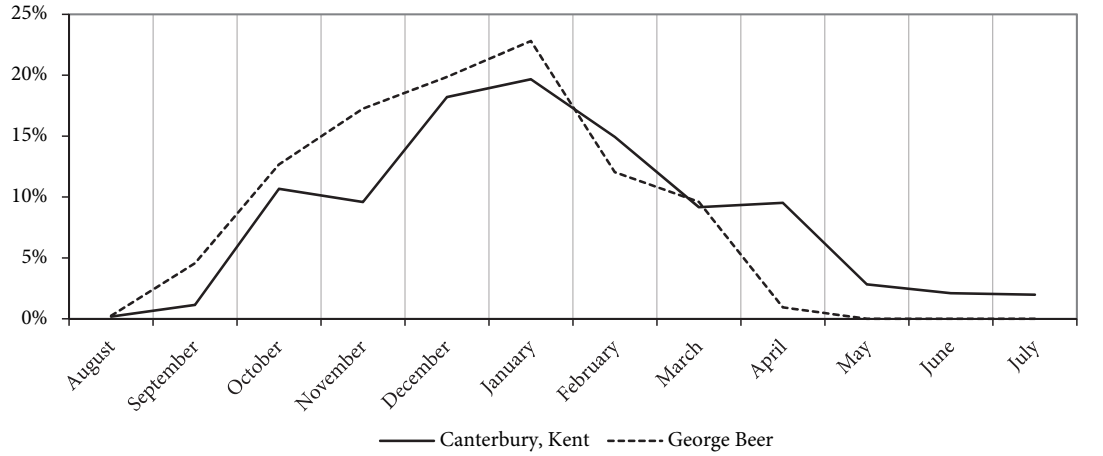


FIGURE 4. Volume of Barley sold in the market of Canterbury and the quantity of barley bought by the George Beer brewery, 1840–41

Note: the percentage is the monthly percentage of the total of the crop passing through the market/bought by Beer. *Source*: based on: the English Corn Returns (see Appendix) and George Beer account book, Kent Archives, U3555/2/GBR/Bf/24.

with fermentation. The malting, brewing, and distilling seasons, like the months for threshing, were a source of employment when there was little other farm work.[33] This also fits with the pronounced seasonal pattern in the sale of barley: this pattern was dominated by the purchases of the processing industry. If we compare the sale of barley at the market of Canterbury in Kent between August 1840 and July 1841 with the purchases of the George Beer brewery, located in Canterbury, during the same period, we find a high degree of overlap between the two (see Figure 4).

Threshing not only produced the grain, but also straw, used as fodder or litter for the animals. Besides, the brewing and distilling industries also produced animal fodder as a by-product. The need for fodder was greatest precisely during those months when threshing, brewing and distilling took place, which were the months when the animals were taken from their pasture to be housed indoors.[34] To feed cattle, straw from freshly threshed grain was preferable; older straw might become stale and disliked by the animals. For that reason, Arthur Young recommended farmers to proportion their number of threshers to the number of lean cattle they held: ideally, the threshing should produce exactly the amount of straw needed for the animals. Threshing should start from the moment the cattle were brought in for the winter, and continue regularly, to produce a regular supply of straw. In addition, Young recommended threshing grain with the worst straw first, and to gradually turn to the better kinds later, to prevent the animals from losing their appetite for it. This meant that wheat had to be threshed

[33] Christine Clark, *The British Malting Industry Since 1830* (1998), p. 4; Peter Mathias, 'Agriculture and the brewing and distilling industries in the eighteenth century', *EcHR* 5 (1952), pp. 249–57.

[34] Ibid.

first, as this cereal had the worst straw, followed by oats, then by barley, to finish with barley and oats which had a lot of clover mown with them.[35] While this schedule partly follows that of the grain markets, there were also alternatives, such as mixing older chaff with pulped root, or giving the cattle both poor and good quality straw, chopped and mixed together so that the animals could not distinguish between the two kinds.[36]

While most of the grain was consumed in one way or another, either by humans or animals, part of it was also required to be sown, for the next year's crop. Not all grain was suitable for sowing: grain for sowing needed to be harvested at full maturity, and farmers were recommended to select the best ears from which to take seeds.[37] According to one French author, farmers' only concern during September and October was sowing for the next harvest. He claimed that during those months, the only threshing that took place was to obtain seed corn. Moreover, farmers customarily did not use their own grain for sowing, but that of other areas, and as a result, he claimed the grain traffic was most extensive in those months.[38] If grain for sowing is included in our market data, the trade in seeds could also account for the seasonal patterns visible in grain markets. By far most grain sold in the markets was probably meant for consumption, though eighteenth-century records for Sint-Niklaas occasionally mention seed grain as well. The sale of minor amounts of seed grain might be part of the explanation why more wheat, rye and, in Flanders, winter barley were sold during autumn, whereas more oats and summer barley were sold during winter and spring.

Once the grain was threshed, winnowed and bagged, ready for the market, it depended on the availability of the means of transport whether it would actually be brought to its destination. According to Young's updated *Calendar*, the main task for the horses during winter was carrying grain to the market.[39] However, the poor state of roads might render market access more difficult, especially in times of thaw or heavy rain. Sencie, in his Flemish calendar of 1785, claimed that the roads were so good in August, so that a transport that otherwise required three carts, could now be achieved with only two. Still, further in his calendar he wrote that October was the best month for transportation, since the state of the roads were still fairly good, and not yet spoiled by heavy rains.[40] The possibility of transporting grain both by water and by road may explain why seasonal patterns were more irregular in the English coastal counties than in the inland counties.

IV

Apart from mere technical constraints, agricultural producers also faced economic and social constraints. These include social property relations, the size of holdings and labour relations, but also the 'cultural' environment such as consumer preferences.

[35] Young, *Farmer's Calendar*, pp. 24–25, 512, 24.

[36] Morton, *Arthur Young's* Farmer's Calendar, pp. 42, 44, 615; *Landbouwers almanak voor België: 1850*, p. 14.

[37] Cordes, 'De inoogsting en zuivering der voornaamste granen', p. 323; *Landbouwers almanak voor België: 1850*, pp. 60–1.

[38] *Feuille d'Annonces [Oudenaarde]*, 23 Nov. 1817, p. 3, cols 1–2, p. 4, cols. 1–2; see also *L'utilité commerciale, industrielle, agricole*, Sept. 1864, pp. 7–8.

[39] Morton, *Arthur Young's* Farmer's Calendar, p. 615.

[40] Sencie, *Den pagters, landsmans en boeren handboek,* II, pp. 19–20, 38.

Often, agricultural producers relied on the revenues from selling their crops to pay for leases, taxes and wages. In the 1862 revision of Arthur Young's *Calendar*, it is mentioned that part of these expenses 'will not need to be paid until after harvest time, when means may be provided for the purchase of livestock, and for the payment of rent, by the sale of grain'.[41] Likewise, the Flemish farmers' calendar of 1850 advised people to verify their financial situation in November, since leases in Flanders often started on Christmas day.[42] Indeed, Flemish lease contracts might expire between Saint-Bavo (1 October) and Candlemas (2 February) or even mid-March, but most of them expired between Saint Andrew's day (30 November) and Christmas day (25 December).[43] In France, leases were due on Martinmas (11 November) and wages on St John's day (24 June). Therefore, a considerable part of a farmer's outgoings were due in the months following the harvest, and this is another explanation for the rise in trade volumes in autumn.

Agricultural producers therefore needed to sell part of their output after harvest in order to satisfy immediate expenses, but may still have been able to choose which of their crops to sell, depending on the variety of their production and regional demand patterns. If the composition of their output as well as demand for farm products was diversified, producers could have been able to give priority to a certain crop in one year, and to another crop the next year, depending on market conditions during the months after the harvest. In other words, in a diversified agricultural economy, varying market conditions from year to year will lead to irregularity in seasonal patterns for specific crops. In contrast, in a highly specialized agricultural economy, producers will have no option but to sell the same crop or set of crops, irrespective of the market conditions during the months after the harvest, creating a highly regular seasonal pattern for that crop.

The Paris basin had such a highly specialized agricultural economy. The large farmers in the Paris basin drew by far most of their incomes from the sale of wheat and oats, and from their sheep. They produced other goods as well, including hemp. They had gardens and supplied towns with poultry and eggs, but these were only of minor importance. They had cattle too, but more for manure than for sale. In general, the diversity of their production was very limited. Rye, barley or buckwheat, cereals which were important in other regions, were almost totally absent on the large farms in the Paris basin. Maslin, a mixture usually consisting for two-thirds of wheat and one-third of rye, was the only major cereal next to wheat and oats. The smaller farmers in this region grew certain other crops, such as onions, beans, peas as well as vines, but the larger farmers were highly specialized in the production of wheat and oats.

In the Paris Basin the highly regular seasonal pattern for wheat can be explained by the fact that farmers had no choice about what to sell because of their very high degree of specialization. In turn, this was the result of the fact that urban consumers in this region refused to eat any bread other than wheat bread. Farming households in England and Flanders were more diversified and could, if they found it to be more profitable, realise their barley, buckwheat, flax, or coleseed first, postponing the sale of their wheat. Likewise, the production of barley,

[41] Morton, *Arthur Young's* Farmer's Calendar, p. 620.

[42] *Landbouwers almanak voor België: 1850*, p. 71.

[43] L. Delaruye and C.-H. Van Boekel, *Het pachtersregt en de land- en hofbouwpryzer: handboek voor het kennen en bewerken van alle landbouw- en hoveniers-schattingen, met toegepaste voorbeelden en uitgebreide berekende pryzen voor alle getyden des jaers* (1855), pp. 55, 79.

oats, buckwheat, potatoes but also other items such as colza in the Calvados, as well as poppy seed (*oeillette*) in the Pas-de-Calais, permitted farmers to choose which crops to sell first.[44] In the Paris basin, in contrast, the producers were, in a sense, 'imprisoned' by the dominance of wheat production (*l'impératif frumentaire*). For them, oats were the only alternative product, but its value was low and the quantities of oats available for sale were rather limited, since they were also required to feed the horses used on-farm, as in England and Flanders.

This brings us to the question of consumer preferences and the marketability of foodstuffs. The rural population was often less picky than the urban population. Urban consumers mostly preferred wheat, and increasingly so in the eighteenth and nineteenth centuries. Agricultural producers usually reserved their wheat for the market, and ate their other cereals. In France, agricultural producers ate more maslin in the Paris basin, buckwheat, rye and oats in the west and maize in the south-west. In Flanders, country people ate more rye, potatoes, and (in parts of Flanders) buckwheat, than the urban population, while in England people ate more barley and oats.[45] We can assume that producers preferred to keep the cereals they ate themselves longer than those they did not eat. For example, they could quickly sell cereals (i.e. wheat) they did not eat themselves, and use their storage space for the cereals which they consumed.

Another factor which needs to be considered is the size of farms and the kind of labour used on those farms: family members, farm servants or casual labourers. Regions dominated by large farms using temporary day labourers for threshing might have preferred to thresh a large part of their harvest immediately after it was taken from the fields, making available large supplies for the markets in the months following the harvest. However, if farms used farm servants employed all year round for threshing, or if farms were smaller and mainly used family labour, they could have threshed their harvest at a slower pace, relegating the activity to moments when they were not occupied with more urgent work. In that case, market supplies will be more evenly spread out over the year. Connected to this issue is the diversity of economic activities in the region. Other economic activities besides agricultural work, such as cottage industries, reduced seasonal unemployment and made it possible to sustain a larger labour force, performing agricultural work during summer and other work during winter.[46] The present state of research does not allow us to make any claims on how this might explain the regional differences in seasonal patterns in the grain trade, but it is a question worth examining in the future.

[44] Gabriel Désert, *Les Paysans du Calvados 1815–1895: Une société rurale au XIXe siècle* (2007), pp. 331–34, 843.

[45] Doyle, *A cyclopaedia of practical husbandry*, pp. 29, 32, 75, 320–21, 411; Mark Overton and Bruce M. S. Campbell, 'Statistics of production and productivity in English agriculture, 1086–1871', in Thoen and van Bavel (eds), *Land productivity and agro-systems*, pp. 189–208; Stephen J. Miller, 'The economy of France in the eighteenth and nineteenth centuries: Market opportunity and labour productivity in Languedoc', *Rural Hist.*, 20 (2009), pp. 1–30; Johan Poukens, '"Tout-à-la-fois cultivateurs et commerçans": smallholders and the Industrious Revolution in eighteenth-century Brabant', *AgHR* 60 (2012), pp. 153–72.

[46] Franklin F. Mendels, 'Seasons and regions in agriculture and industry during the process of industrialization', in Sidney Pollard (ed.), *Region and industrialization. Studies on the role of the region in the economic history of the last two centuries* (1980), pp. 177–95; Nigel Goose, 'Farm service, seasonal unemployment and casual labour in mid nineteenth-century England', *AgHR* 54 (2006), pp. 274–303.

Finally it is necessary to ask, for those regions where the magnitude of seasonal variation was large, who took on the cost of the storage if the farmers did not? An extensive food processing industry, capable of storing large amounts of cereals, seems to be the necessary corollary of a pronounced seasonal cycle in grain markets. Yet around the middle of the nineteenth century, the milling industry in England would still have been dominated by small-scale enterprises, whereas the Paris basin milling industry seems to have been dominated by some very powerful enterprises from an early date. How this industry affected the wheat and flour markets remains a question, and again, this issue merits further research.[47]

V

Everywhere, the grain trade followed a seasonal cycle. Usually, trade was busiest in the months following the harvest. Trade volumes of wheat, rye, and (in Flanders) winter barley were largest in the autumn months, whereas oats and summer barley followed a few months later. Trade was quieter during spring and summer. The *soudure*-months were therefore characterized by a decline in trade volumes, not by a rise. On the one hand, the magnitude of these cycles tended to be larger in the English and smaller in the French areas considered. On the other hand, the regularity of seasonal patterns was often more pronounced in the Paris basin.

Explaining these seasonal patterns and their differences by region is more difficult than describing them. Seasonal patterns in the grain trade, the magnitude and regularity of those patterns need to be explained by locating grain production within a broader regional social agro-system. Everywhere, grain production was an integral part of a complex production system, interacting with and influenced by the regional economic and social environment, consumer preferences, the position of other agricultural products, and by technical and technological features. Therefore, seasonal patterns in the grain trade are the result of a complex set of interrelated factors, making it impossible to pinpoint any specific item as being responsible for a high or low magnitude of seasonal cycles, or the absence or presence of highly regular cycles.

While we found patterns in trade volumes that fit within the concept of the *soudure*, the explanation for these patterns provided by Labrousse is unlikely to conform to historical reality. It is unlikely that the large volumes of grain sold in the months following the harvest, for instance to supply Paris, mainly came from the smaller farmers. On the contrary, the large *fermiers* of the Paris basin probably dominated the grain trade throughout the agricultural year.

Agricultural producers faced many technical constraints which prevented them from marketing their entire harvest at once. One of the main constraints was the enormous amount of labour required for threshing and winnowing grain, unless labour-saving technology such as threshing machines were available. Seasonal patterns in the grain trade will therefore depend on seasonal patterns in the availability of labour, but also in the demand for animal

[47] Steven Laurence Kaplan, *Provisioning Paris: Merchants and millers in the grain and flour trade during the eighteenth century* (1984); Perren, 'Structural Change'; Jean Meuvret, *Le problème des subsistances à l'époque Louis XIV,* II, *La production des céréales et la société rurale* (1987) and III, *Le commerce des grains et la conjoncture* (1988).

fodder (threshing also produces straw), the demand from the processing industry (brewing and malting took place mainly in the colder months), and the conditions for transport (roads were in a worse state during winter).

However, seasonal patterns in the grain trade cannot only be reduced to mere technical matters. Regional economic and social characteristics also exercised their influence. Among these are consumer preferences, which determined the degree and nature of agricultural specialization. English arable farming was focused on both wheat and barley, while Flemish arable farming included different kinds of cereals as well industrial crops such as flax and coleseed. The farmers of the Paris basin, however, were primarily oriented towards the production of wheat to provide for the needs of the capital city. Agricultural producers with a diversified output could choose among different crops to market according to the situation of the time, while the options for highly specialized producers, like those in the Paris basin, were more limited. The latter will lead to a higher regularity in seasonal patterns.

Finally, also the issue of storage needs to be taken into account. Unthreshed grain could be stored at rather moderate costs, since it was possible to store it in the open air in stacks, but preserving threshed grain required granaries. Agricultural producers had to take many factors into account to assess the cost of storage, but probably they chose to sell their threshed grain quickly due to this cost and the associated risk of spoiling the grain. This begs the question of who stored the threshed grain, which brings us to consider the size and characteristics of the food processing industry. At this stage, the question remains puzzling. This article is only one step on a long road to reconsidering the functioning of staple food markets in the nineteenth century. It should be carried forwards by further research to improve our understanding of this crucial economic matter.

Appendix: overview of sources and data used for test of autocorrelation

		1820s	*1830s*	*1840s*
England: coastal counties	Suffolk	1823–25, 27–28 Wheat, Rye, Oats, Barley	1835–40 Wheat, Rye, Oats, Barley	1846–50 Wheat, Rye, Oats, Barley
	Norfolk	1823–25, 27–28 Wheat, Rye, Oats, Barley	1835–40 Wheat, Rye, Oats, Barley	1846–50 Wheat, Rye, Oats, Barley
	Devon	1823–25, 27–28 Wheat, Oats, Barley	1835–40 Wheat, Oats, Barley	1846–50 Wheat, Oats, Barley
	Kent	1823–25, 27–28 Wheat, Oats, Barley	1835–40 Wheat, Oats, Barley	1846–50 Wheat, Oats, Barley
England: inland counties	Cambridgeshire	1823–25, 27–28 Wheat, Rye, Oats, Barley	1835–40 Wheat, Rye, Oats, Barley	1846–50 Wheat, Rye, Oats, Barley
	Berkshire	1829–33 Wheat, Rye, Oats, Barley	1835–40 Wheat, Oats, Barley	1846–50 Wheat, Oats, Barley
	Surrey	1829–33 Wheat, Rye, Oats, Barley	1835–40 Wheat, Oats, Barley	1846–50 Wheat, Oats, Barley
France: Paris basin	Oise	1828–32 Wheat, Rye, Oats, Barley	1832–37 Wheat, Rye, Oats, Barley	1846–50 Wheat, Rye, Oats, Barley
	Seine-et-Oise	–	1835–40 Wheat, Rye, Oats, Barley	1846–50 Wheat, Rye, Oats, Barley
Belgium: Flanders	Sint-Niklaas	1823–25, 27–28 Wheat, Rye, Oats, Barley	1835–40 Wheat, Rye, Oats, Barley	1846–50 Wheat, Rye, Oats, Barley
	Oudenaarde	1823–25, 27–28 Wheat, Rye, Oats	1835–40 Wheat, Rye, Oats	1846–50 Wheat, Rye, Oats
	Kortrijk	1823–25, 27–28 Wheat, Rye, Oats	–	1846–50 Wheat, Rye, Oats

Sources:
England: The Corn Returns Online (http://www.cornreturnsonline.org/).
Belgium: *Mercuriales*, gathered by Isabelle Devos, 'Prijzen van Granen en andere Landbouwprodukten in de Kasselrij Kortrijk (16de -19de eeuw)' (unpublished licentiate thesis, Ghent University, 1990); 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; Wouter Ronsijn, 'De donderdagmarkt van Sint-Niklaas, 1720–1900. Een reconstructie van meer dan anderhalve eeuw prijzen en handelsvolume', *Annalen van de Koninklijke Oudheidkundige Kring van het Land van Waas*, 115 (2012), pp. 111–56.
France: *Mercuriales*, preserved in the Archives Nationales, F/11/1829 to 1840; F11/1948 to 1959; F11/2068 to 2079; Archives départementales de l'Oise Mp 3422–1 and 2; Mp 3423–1 and 2; Archives départementales des Yvelines 11M 7 to 10.

Competing forms of cooperation? Land League, Land War and cooperation in Ireland, 1879 to 1914*

by Eoin McLaughlin

Abstract

Two distinct forms of cooperation emerged in response to structural changes in the agricultural sector of the Irish economy in the late nineteenth century: the Land League and the Irish Agricultural Organisation Society (IAOS). This article argues that the Land League fostered cooperation among tenants and agitated for government intervention to reduce rents and transfer landownership from landlords to tenants, whereas the IAOS encouraged the imitation of continental forms of cooperative agricultural enterprise. This article analyses the relationship between both forms of cooperation and finds that the Land League and subsequent Land War did not hinder the adoption of cooperation enterprise and were instead complementary to cooperative organization. However, the article argues that the IAOS cooperatives were ideologically motivated and misguided and that cooperative enterprises introduced offered no institutional advantages compared to incumbent institutions.

'We were told that Irishmen can conspire but cannot combine'.[1]

Two distinct forms of cooperation emerged in response to structural changes in the agricultural sector of the Irish economy in the late nineteenth century: the Land League, founded in Castlebar, Co. Mayo in 1879, and the cooperatives associated with the Irish Agricultural Organisation Society (IAOS), founded in 1894. These economic and social movements differed in their institutional structures and functions. Moreover, their elites represented opposed views of constitutional politics. The Land League fostered cooperation among tenants and agitated to reduce rents and transfer landownership from landlords to tenants. In contrast, the IAOS

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[1] Horace Punkett, *Ireland in the new century* (popular edition with epilogue, 1905), p. 186.

encouraged the imitation of continental forms of agricultural cooperative enterprise where individual producers cooperated to reduce costs of production and realize economies of scale.

This article posits the argument that the immediate response to structural changes in the agrarian economy was the formation of the Land League, which was intrinsically cooperative. A later response to these structural changes was the formation of cooperative enterprises by the IAOS. Cooperative enterprises associated with the IAOS were imitations of successful cooperative initiatives in Scandinavia and Continental Europe. However, indigenous manifestations of cooperation in Ireland in the guise of the Land League (1879–1882)[2] emerged contemporaneously to cooperative ventures in Scandinavia (e.g., 1880 in Sweden and 1882 in Denmark), and thus preceded attempts to imitate Scandinavian and continental European forms of cooperation in Ireland in the 1890s.

The central question that this article explores is how these different institutional forms of cooperation functioned in Ireland and, in particular, whether they competed with or complemented each other. Potentially there was a capacity for complementarity between both forms of cooperation. On the one hand, land reform, as agitated for by the Land League, could have created greater property rights and given landholders an incentive to participate in cooperative enterprises. Cooperative enterprises could have made small landholdings economically viable by reducing transaction costs and giving individuals access to economies of scale and scope. On the other hand, the pre-existence of alternative institutional forms of cooperation could have undermined the adoption of novel cooperative institutions that espoused alternative functions. For example, it may have created path-dependencies whereby tenant farmers focused on forms of cooperation that lobbied for government intervention and were blinded to other strategies such as developing alternative cooperative functions that emphasized productivity increases.

In a recent study of the determinants of cooperation in Ireland, O'Rourke argued that agrarian outrages in the early 1880s, associated with the Land League and corresponding Land War, were not conducive to the spread of dairy cooperation outside of Ulster in the north of the island. He concluded that the 'suspicion between Catholics and Protestants, and tenants and landlords, spilled over into Nationalist suspicion of the cooperative movement and hindered its spread, despite the efforts of the IAOS to remain apolitical'.[3] Conversely, Horace Plunkett (1854–1932), agricultural reformer and unionist member of parliament (1892–1900) and a divisive political figure,[4] argued, in *Ireland in the new century,* that 'the process of [cooperative] organization was also, to some extent, facilitated by the insight the people have been given by the Land League into the power of combination, and by the education they had received in the conduct of meetings'.[5] In this article, these contrasting views are compared. It is concluded that the Land League and subsequent land war did not hinder the adoption of cooperative enterprises; in fact the Land League can be seen to be complementary to cooperative organization. However, it is also argued that the IAOS was ideologically motivated

[2] R. V. Comerford, 'Land League', in S. J. Connolly (ed.), *The Oxford companion to Irish History* (2007), pp. 00–00.

[3] Kevin H. O'Rourke, 'Culture, conflict and cooperation: Irish dairying before the Great War', in *Economic J.*, 117 (2007), p. 1375.

[4] *ODNB*, 'Plunkett, Sir Horace Curzon (1854–1932)'.

[5] Although, he believed people had been too dependent on a central authority: Plunkett, *Ireland in the new century,* pp. 186–7.

and that the cooperatives it introduced offered no institutional advantages compared to those that already existed as private enterprises.

The article proceeds as follows. Sections I and II outline the broad trends in the Irish agricultural sector from 1850 to 1877. Section III introduces the Land War and Land League and presents the argument that the Land League was a cooperative institution. Section IV discusses agricultural cooperation in Ireland. Section V returns to the question of whether the Land League and the IAOS were competitors or complements.

I

The Great Irish Famine of the 1840s was the pivotal moment in Irish economic and social history.[6] It heralded changes in socio-economic relationships and the structure of the Irish economy. Arguably, some of these changes were visible in the pre-Famine period,[7] but they became more pronounced post-Famine. The Famine resulted in an immediate decrease in the population of Ireland, the emergence of path-dependent emigration patterns and shifts from tillage to pasture. During the 1870s, agricultural conditions in Ireland were gradually improving and landlord-tenant relations were in all likelihood not as strained as traditionally portrayed. Then, a severe recession upset a delicate equilibrium and instigated structural change. Essentially the forms of cooperation under review here can be seen as responses to that structural change.

The following section gives a brief outline of developments in Irish agriculture in the period from 1850 to 1877. During these years, and for the majority of the period covered in this article, Irish land was held by a small number of landlords (there were 32,614 owners of more than one acre in 1875–6) who in turn rented or leased their land to tenant farmers (there were 533,151 occupied landholdings in 1876).[8] Land transfers began *en masse* in 1903 and by 1914 62.6 per cent of farmers were owner-occupiers.[9]

[6] Kevin O'Rourke, 'Did the Great Irish Famine matter?', in *JEcH 51* (1991), pp. 1–22.

[7] Raymond D. Crotty, *Irish agricultural production: its volume and structure* (1966).

[8] *Return of owners of land of one acre and upwards in counties, cities and towns in Ireland* [C. 1492], H.C. 1876, lxxx, 61 and *Agricultural Statistics of Ireland* [C. 1749], H.C. 1877, lxxxv, 529. The existing historiography is somewhat divided on the issue regarding landlord-tenant relations and their implications for the agricultural sector. The traditional view presented a 'heroes and villains' scenario, with tenants portrayed as the protagonists fighting rapacious landlords, e.g. Charles Stewart Parnell, 'The Irish Land Question' in *North American Rev.* 130 (1880), pp. 388–406. (It has been suggested that this article may have been written by Parnell's sister: Paul Bew, *Land and the national question in Ireland, 1858–82* (1978), p. 82.) Subsequently, a series of revisionist interpretations of landlord-tenant relations argued that the relationship between landlords and tenants was not as malevolent as popularly supposed: Crotty, *Irish Agricultural production*; James S. Donnelly Jr, *The land and the people of nineteenth-century Cork: The rural economy and the land question* (1975); Barbara Lewis Solow, *The land question and the Irish economy, 1870–1903* (1971); and W. E. Vaughan, *Landlords and tenants in mid-Victorian Ireland* (1994). This view has in turn has been followed by a counter-revision: Theodore Hoppen, *Ireland since 1800: conflict and conformity* (sec. edn, 1999), Michael Turner, *After the Famine: Irish agriculture, 1850–1914* (1996). More recently, however, a consensus has emerged which discards the notion of predatory landlords: Donnacha Seán Lucey, *Land, popular politics and agrarian violence in Ireland: the case of Kerry, 1872–86* (2011), p. 2.

[9] *Agricultural Statistics of Ireland; with Detailed Report for 1914*, H.C. 1916 [Cd. 8266]

The main demand of the Land League was primarily a reduction in rent and increases in security of tenure (a reduction in evictions), with the transfer of landownership from landlords to tenants a longer-term goal. Thus, it is important to analyse a number of critical issues: tenant security, rent, farm income and its distribution and the overall relationship between farm income and rent. However, landlord-tenant relations do not exist in a vacuum and so it is also important to explore broader issues in the agricultural structure such as the concentration of landownership, distribution of land, land usage and price movements.

A key issue is the security of tenant farmers in the post-Famine period against arbitrary evictions. Arguably, tenant farmers were relatively secure on their land provided they honoured contractual agreements – namely, they paid their rents. During the period 1850–76 evictions and eviction rates per farm were relatively low. There was a trend of decreasing eviction rates from peaks during the Famine period. Evictions and the eviction rate rose during the agricultural depression of 1859–64, but did not reach the heights of those recorded during the Famine. In the period 1860–77 the mean annual eviction rate was 15 per 10,000 occupied landholdings,[10] suggesting that evictions were not widespread. Admittedly, these figures may not give us an exact indication of the number of threats of eviction nor do they take the issue of re-admissions into account.[11]

Given that rent reduction was a central demand of the Land League, it would be informative to have an understanding of rent trends relative to farm income and costs. Unfortunately there is no national aggregate (or disaggregate) rental index for Ireland in the nineteenth century; however, available evidence from estate records suggests that rent levels were low.[12] While there are no indicators of agricultural income either, the information contained in agricultural price levels acts as a proxy indicating the return to agricultural enterprise. The period 1850 to 1877 was a period of rising prices, albeit one interrupted by severe downturn in the period 1859–64.[13] Prices for both tillage products and pastoral goods rose considerably in the period, although the relative price of tillage to pastoral goods continually shifted in favour of pastoral products.[14] Importantly, it appears as though prices rose faster than rents.[15] However, it is unclear what the net income of tenant farmers was in this period. Coincidently, there appears to be a negative correlation between changes in price levels and changes in eviction rates: when prices went up, evictions went down, and vice versa.[16]

[10] The highest number of annual evictions taking place in 1864 with 36 evictions per 10,000 occupied landholdings, the lowest number of annual evictions took place in 1869 with seven evictions per 10,000 occupied landholdings. See *Agricultural Statistics of Ireland* and *Return, by provinces and counties (compiled from returns made to the Inspector General, Royal Irish Constabulary), of cases of evictions which have come to the knowledge of the constabulary in each of the years from 1849 to 1880, inclusive,* H.C. 1881 (185), lxxvii, 725.

[11] The interpretation of the eviction figures has been nuanced by consideration of the issue of re-admissions. See Donnelly, *Cork*, and Vaughan, *Landlords and tenants*.

[12] Solow, *Land question*; Donnelly, *Cork*; and Vaughan, *Landlords and tenants*.

[13] James Donnelly, 'The Irish agricultural depression of 1859–64', *Irish Economic and Social Hist.* 3 (1976), pp. 33–54.

[14] Liam Kennedy and Peter M. Solar, *Irish agriculture: a price history* (2007).

[15] Cormac Ó Gráda, *A new economic history of Ireland* (1994), p. 256.

[16] Eviction Statistics; Kennedy and Solar, *Irish agriculture*.

TABLE 1. Livestock per landholding over one acre in Ireland (32 counties), 1871

	Total	*Mean*	*Standard deviation*
Horses	538,095	1.11	0.58
Cattle	3,976,372	7.77	2.66
Milch cows	1,545,662	2.84	1.40
Sheep	4,233,435	8.28	6.13
Pigs	1,621,423	3.20	1.58
Poultry	11,717,183	22.99	5.20

Source: 1871 Census of Ireland.

It is useful to gain an appreciation of how landownership was distributed in post-Famine Ireland as it gives an indication of the incidence of landlord-tenant interaction. Landownership was concentrated among a small proportion of the population; in 1875–6 the percentage ratio of landowners to landholdings[17] was 6.1 per cent.[18] There was, however, regional variance and in the west the percentage ratio was lower, 2.4 per cent; thus there was a lower proportion of landowners to tenants and this may have had implications for social and economic interactions between landowner and tenant. The overwhelming majority of farmers were tenants and thus paid rent. Urban dwellers were also tenants and rent payers.[19]

In terms of land distribution, the majority of the agricultural community had holdings of under 15 acres (*c*.6 hectares).[20] The land itself was heavily grazed, with all areas of the island participating in a pastoral economy,[21] although some areas with greater intensity than others. A notable feature of the Irish agrarian economy was its early specialization in pastoral products, which can be seen in the livestock figures in Table 1. The agricultural sector of the economy was export orientated and the main export markets were the expanding British cities.

Contemporaries perceived that the north of Ireland – the province of Ulster – was the most progressive agricultural area. They explained this in terms of customary rights, which conceded security to the tenant.[22] A desire to emulate Ulster's success inspired modest land

[17] There are two historical series that represent farms in Ireland – 'landholdings' and 'occupied landholdings'. The landholdings series begins earlier and shows a larger number of landholdings compared to the occupied landholdings series. However, in 1914 it was discovered that the landholdings series was flawed and overestimated the number of farms. In particular, the number of small farms was overestimated and the number of large farms underestimated. The terms 'landholding', 'occupied landholding', and 'farm' have been used interchangeably in this article: any statistical reference using these terms refers to the occupied landholdings series.

[18] *Return of Owners* (1876), 61 and *Agricultural Statistics of Ireland* [C. 1749], H.C. 1877, lxxxv, 529.

[19] The census definition of 'urban' was any town with a population over 1500 at a census date, the remainder of the population being considered rural.

[20] The proportion of farms, of over one acre and under 15 acres, in 1861 and 1871 was 46% and 44%, respectively. *The agricultural statistics of Ireland ... 1861* [3156], H.C. 1863, lxix, 547; *The agricultural statistics of Ireland ... 1871* [C. 762], H.C. 1873, lxix, 375.

[21] In 1871 the percentage ratio of pasture to tillage was 184% across all counties, with a standard deviation of 81%: *The agricultural statistics of Ireland ... 1871* [C. 762], H.C. 1873, lxix, 375.

[22] The north was also the most heavily urbanized and industrialized region of the island – although this was modest by British and European standards – and thus had a greater demand for agricultural output.

reforms that were implemented throughout the island following the 1870 Land Act, which attempted to extend throughout the island the rights associated with the 'Ulster Custom' and provide compensation for improvements and damage.[23] However, recent scholarship has challenged the view of Ulster as unique and instead highlights the complexity of the northern agricultural sector.[24] In addition, scholars have pointed to similar customs found in other parts of the island, which did not resolve landlord-tenant problems.[25] Moreover, contemporary prosperity in the north seems to be related to a flax boom in the 1860s caused by the 'cotton famine' induced by the American Civil War (1861–5).[26] Prices for flax rose in this period, and tonnage output also increased. Importantly, flax was predominantly an Ulster crop; for example, in 1864, 84 per cent of the total flax acreage on the island was found in Ulster.[27]

II

The crisis that affected Ireland in the late 1870s was both ecological and economic in origin. Untimely and poor weather in 1877 and 1878 led to a series of bad harvests.[28] This, combined with the 'grain invasion'[29] – i.e., the opening of New World granaries – led to a decrease in both pastoral (–18.2 per cent) and tillage (–12.5 per cent) prices in the years 1876–79.[30] The impact of both events meant that Irish agricultural producers experienced a reduction in farm income.

The nominal value of agricultural output fell from £48.3 million, approximately valued at €4.2 billion in current monetary value (hereafter current value is given in parentheses) in 1876 to £37.2 million (€3.5 billion) in 1879.[31] There are different interpretations of the magnitude of the impact of events when nominal values are converted to real values. According to Cullen the output of the main agricultural crops, measured in fixed prices, fell from £35 million (€3 billion), in 1876 to £22.7 million (€2.1 billion) in 1879, a 35 per cent decrease.[32] In contrast,

[23] Fair rent (a rent lower than the open market rate); fixity of tenure (a tenant could not be arbitrarily evicted if rents paid – i.e. perpetual lease); free sale (a tenant could sell his interest when a tenancy changed hands). Kennedy and Solar note that: 'These extra-legal rights varied from estate to estate, but often carried the presumption that a sitting tenant could expect renewal of a lease, once it had expired; that rents would be "fair", meaning essentially lower than the competitive or rack-rent; and that on vacating a holding he or she had the right to sell the value of the unexpired lease to the incoming tenant. The last could be valuable, amounting on some farms to ten times or more the annual rent paid to the landlord, suggesting that *actual* rents were well below the *competitive* rent level'. L. Kennedy and P. Solar, 'The rural economy', in Liam Kennedy and Philip Ollerenshaw (eds), *Ulster since 1600: politics, economy and society* (2011), p. 174.

[24] Frank Thompson, *The end of Liberal Ulster: land agitation and land reform, 1868–1886* (2001).

[25] Paul Bew and Frank Wright, 'The agrarian opposition in Ulster politics, 1848–87', in Samuel Clark and James S. Donnelly Jr (eds), *Irish Peasants: Violence and political unrest, 1780–1914* (1983), p. 193; Cormac Ó Gráda, 'Irish agriculture after the Land War' in Stanley Engerman and Jacob Metzer (eds.), *Land rights, ethno-nationality and sovereignty in history* (2004), p. 134.

[26] Philip Ollerenshaw, 'Industry, 1820–1914', in Liam Kennedy and Philip Ollerenshaw (eds), *An economic history of Ulster, 1820–1939* (1985), pp. 76–8.

[27] *Agricultural Statistics of Ireland ... 1864* [3456], H.C. 1865, lv, 125.

[28] Solow, *Land question,* p. 121.

[29] Kevin O'Rourke, 'The European grain invasion, 1870–1913' in *JEcH* 57 (1997), pp. 775–801.

[30] Kennedy and Solar, *Irish agriculture*

[31] Turner, *After the Famine,* p. 108.

[32] L. M. Cullen, *An economic history of Ireland since 1660* (1972), p. 148.

Turner's real volume of agricultural output index shows a decline of 23 per cent over the same period.[33] Despite their divergence, both indices show a changing agricultural structure and a fall in prices; of particular note is the steep decline in pastoral prices, as pastoral goods comprised 75 per cent and 78 per cent of total agricultural output value in 1876 and 1879 respectively in Turner's output estimations.[34] Within the pastoral sector, the largest components were livestock and dairy; beef prices fell by 8 per cent, but more importantly, live cattle prices fell in the region of 14 to 18 per cent and dairy prices fell by approximately 20 per cent.[35]

The economic problems facing Irish agriculture in the late 1870s were common across Europe. There was an increase in grain exports from new world granaries, which affected agricultural producers in Europe. A number of European countries responded by placing tariffs on grain imports, notably France and Germany.[36] Other countries continued free trade policies. Of these, the two most important from a comparative perspective were the UK (Great Britain and Ireland, 1800–1921) and Denmark.[37]

The UK had implemented a free trade policy in agricultural produce following the repeal of the Corn Laws in 1846. The nation had specialized in industrial production in the nineteenth century and was increasingly reliant on foreign imports for its food supplies. The immediate beneficiaries of a free trade policy in the UK were the inhabitants of urban centres who required cheap supplies of food. Ireland, as a constituent member of the UK, also followed this free trade policy. Some voiced objections to free trade in Ireland and called for tariffs,[38] but such requests went unheeded as they went against the economic interests of the UK as a whole.

Denmark also continued a free trade policy in the wake of the grain invasion and implemented productive policies in its agricultural sector.[39] Denmark had previously been a grain exporter to the UK but shifted into other areas of agricultural production. The Danes adopted new technologies, such as the centrifugal separator, and developed new methodologies, including cooperation, in agricultural production.[40] The Danes specialized in cooperative creameries through which they exported high-quality standardized butter and also promoted cooperative pig curing stations and exported bacon of a high quality. Danish cooperative marketing and organization also developed in the 1880s as a response to international competition.[41]

[33] Turner, *After the Famine*, p. 119.

[34] Ibid., p. 108.

[35] Kennedy and Solar, *Irish agriculture*.

[36] Cullen, *Economic history of Ireland*, p. 148.

[37] For wider discussion see Niek Koning, *The failure of agrarian capitalism. Agrarian problems in the UK, Germany, the Netherlands and the USA, 1846–1919* (1994).

[38] For example, there were numerous references to protection of both industry and agriculture in the *Report from the Select Committee on Industries (Ireland); together with the proceedings of the committee, minutes of evidence, and appendix*, H.C. 1884–85, (288), ix, 1.

[39] Although protectionist trade policies were implemented in Denmark prior to this period in relation to cheese, which Henriksen *et al.* argue provided the platform for the Danish shift to dairy farming: I. Henriksen, M. Lampe and P. Sharp, 'The strange birth of liberal Denmark: Danish trade protection and the growth of the dairy industry since the mid-nineteenth century', *EcHR* 65 (2012), pp. 770–88.

[40] I. Henriksen, M. Lampe and P. Sharp, 'The role of technology and institutions for growth: Danish Creameries in the late nineteenth century.' *European Rev. Economic Hist.* 15 (2011), pp. 475–93.

[41] C. R. Fay, *Cooperation at home and abroad* (third edn, 1925), and Johnston Birchall, *The international cooperative movement* (1997).

The significance of both British and Danish actions was that Irish agricultural producers did not have the luxury of agricultural protection, while at the same time they were faced with a more productive competitor in their traditional export markets. It must be stressed that Irish agriculture did receive some non-tariff protection in the form of infectious disease control, something that hindered the importation of livestock from countries outside the UK.[42] Thus, Irish livestock exports to Britain remained relatively constant over the period and had a dominant share of British livestock imports.[43]

The impact of and response to the crisis in the late 1870s was not immediate. There was an increase in the number of people receiving indoor (183,979 to 368,096) and outdoor (66,116 to 181,778) poor relief from 1876 to 1880.[44] Their numbers peaked at 363,844 indoor and 226,005 outdoor in 1881.[45] There was an increase in private charity to alleviate distress. Emigration, which had been low in the mid-1870s, increased dramatically.[46] Emigration continued to remain relatively high until the early-1890s. Evictions also increased in the period 1877 to 1882. The eviction rate rose from 9 per 10,000 farms in 1877 to 18 per 10,000 farms in 1878. This rate steadily increased and peaked at 99 per 10,000 farms in 1882. The increase in the eviction rate was partly due to changes in economic conditions that made it difficult for tenants to meet their obligations; it also reflected the response of landlords to the tenant agitation, which we discuss below.

Conditions in the west of the island were even worse as the population there relied on potatoes, which were adversely affected by weather conditions.[47] The adverse situation was compounded by the fact that the proportion of cultivatable land was lower in the west than elsewhere on the island.[48] Perhaps more important was the loss of income experienced by farming households caused by a decline in the demand for seasonal labour in Britain. Inhabitants from the west of Ireland had migrated on an annual basis to Britain to work as agricultural and factory labourers.[49] There were a greater proportion of marginal farms in the west than in other areas of the island; 82 per cent of farms were under 30 acres (12 ha.). Therefore, any income loss would have had a detrimental effect on the people. Conditions in Mayo led many landlords to offer sizeable rent abatements; however, given the small portion

[42] Contagious Disease (Animals) Act, 1869 (32 & 33 Vict.), c. 70.

[43] R. Perren, 'The North American beef and cattle trade with Great Britain, 1870–1914', *EcHR* 24 (1971), pp. 430–44

[44] Poor relief can be viewed as proto-social welfare. Indoor relief meant that people received aid at institutions, outdoor relief was aid given outside the institution. Indoor relief required the recipient to enter an institution whereas outdoor relief had no such stipulations.

[45] 'Aggregate number relieved, continuously or successively, during the year', *Thom's Directory,* 1888, p. 662.

[46] Increasing from 9.7 emigrants per 1000 population in 1876 to 17.6 emigrants per 1000 population in 1880.

[47] For example, in 1871 the mean percentage of cultivable land under potato was 19% at a national level, but the mean percentage of cultivatable land under potato crop was 27% in Connaught and 33% in Mayo: *Agricultural Statistics of Ireland ... 1871.*

[48] The mean proportion of cultivatable land was 83% across the island, with a standard deviation of 10%. In Connaught the figures were 73% and 11% respectively.

[49] Annual returns of the number of seasonal migrants began post-hoc in 1880 and therefore do not give us a good indication of the relative decline in the number of seasonal migrants. However, the information from the annual returns shows us that almost all of the seasonal migrants came from the west of the island, indicating that a decline in seasonal migration would have the most adverse effect there: Cormac Ó Gráda, 'Seasonal migration and post-Famine adjustment in the west of Ireland', in *Studia Hibernica*, 13 (1973), pp. 48–76.

that rents contributed to total expenditure, these were deemed insufficient in the eyes of the agricultural community.[50]

The response to events in Ireland came in the form of social agitation which resulted in a 'Land War' (discussed below). Subsequent legislation was part of a deliberate government policy to pacify social agitation.

III

The Land War was a period of tenant-landlord conflict in Ireland.[51] It typically refers to the years 1879 to 1882, though it may be said that this was one of a number of distinct phases in a larger land war that included the years 1886–91, 1906–1909, and some intermittent outbreaks of agrarian unrest until 1923.[52] The focus here is on the formal organizational structure of the first and 'main'[53] phase (1879–81) of the Land War, the Land League, and the *modus operandi* adopted in the first and second phase (1879–81 and 1886–91). These periods involved the active cooperation of individual economic agents. The second phase, known as the Plan of Campaign (1886–91),[54] is particularly worthy of note as it coincided with initial efforts to establish continental-style cooperatives in Ireland. Still, the Plan of Campaign was implemented on specific estates in the south and west of the island; therefore, it did not have the same scope as the agitation of 1879–82.

Politically, the period from 1878 is also known as the 'New Departure',[55] when there was an alignment of constitutional nationalism and Fenianism, republican separatism that advocated the use of physical force. Land reform became associated with the national question. These years saw the Land League play a significant role in Irish political history and witnessed the growth in support for the Irish Home Rule party, subsequently named the Irish Parliamentary Party. Charles Stewart Parnell (1846–91), a leading nationalist politician, leader of the Land League and himself a landlord, capitalized on agrarian discontent as well as electoral reforms that increased the franchise. Thus, in much of the existing historiography, land and nationalist politics are intrinsically linked.

(a) Land League

The incidence of crises in the late 1870s differed across the island. The protests spread as other sectors of the economy were adversely affected by bad weather conditions. Economic interests coincided and colluded to make the Land League economically and politically effective.[56] The economic conditions were worse in the western districts.

The first Land League meeting took place in 1879 in County Mayo (in the west of Ireland).

[50] Donald E. Jordan, *Land and popular politics in Ireland: county Mayo from the Plantation to the Land War* (1994), p. 208.

[51] The usage of the term 'war' is hyperbolic as there was no war *per se*, but it has become a convention to describe the conflict between landlords and tenants as a 'land war'.

[52] Comerford, 'Land War'.

[53] The first phase of the land war, from 1879 to 1881, is described as the 'main' phase in Comerford, 'Land League'.

[54] James Loughlin, 'Plan of Campaign', in Connolly (ed.), *Oxford Companion*.

[55] James Loughlin, 'New Departure', in Connolly (ed.), *Oxford Companion*.

[56] Cullen, *Economic History of Ireland*, p. 149.

Fenian activists and local politicians became heavily involved in the agitation: they in turn influenced its direction. The Fenian activists were interested in land agitation as a platform for a nationalist movement.[57] Within five months of the first meeting, a National Land League was established. It remained in existence until it was declared illegal in 1881. A Ladies Land League was established after the Land League was declared illegal, but its activities wound up in 1882.[58]

The Land League was a combination of tenant farmers and urban interest groups. In addition, a range of political figures, from Fenians to constitutionalists, together with the clergy, were broadly sympathetic towards the Land League. The participants had a common goal – to reduce rents.[59] They viewed rents as a cost in agricultural production and believed that rent reductions would reduce their costs, increase the net income of tenant farmers and thus insulate them from falling agricultural prices. Urban interest groups were supportive of this movement as income increases would have enabled tenant farmers to repay debts and maintain consumption patterns. The urban argument was supported by Parnell, who argued that reducing rents and transferring landownership to tenants would increase 'the buying power of the agricultural classes, who form nearly two thirds of the population'.[60] Landlords, as a group, would have been adversely affected if these policies had implemented.

The burden of rent relative to agricultural income or agricultural costs is unclear due to the paucity of evidence. A potential indicator of the rent burden comes late in the period, *c.*1893, from household budgets in the congested districts, relatively poorer areas in the west of Ireland. The burden of higher levels of rent, assuming other items of the household budget remained constant, at 25, 50 and 100 per cent increases over the 1893 level, have been estimated in Table 2 to give an indication of what higher rent levels in previous periods would have been relative to household costs. This crude exercise illustrates that rent relative to household costs varied depending on various factors. The highest proportion of rent to total costs occurred in what was labelled a household in 'ordinary circumstances,' which derived its income solely from agriculture. Still, these proportions varied across households. On the other side, the costs of obtaining rent reductions involved the possibility of eviction, loss of income and possibly payment to the Land League; however, the more people that participated in the action, the lower the costs to the individual. Reduction or elimination of rent would increase the income of tenant farmers, but whether the size of the increase, vis-à-vis the cost of obtaining it, warranted the actions involved in obtaining rent reductions, discussed below, is debatable.

The Land League operated as a decentralized federated body. Michael Davitt (1846–1906), a founding member of the Land League in Mayo and a key figure in Irish nationalist politics, estimated that there were around 2000 branches throughout the island but that only 1000 were in 'continuous active existence'.[61] Davitt also claimed that the Land League had 'half a million members in Ireland, branches in every town and village, and financial resources that reached a sum of £250,000 before the organisation was three years old'.[62] By way of comparison, this

[57] Jordan, *Land and popular politics*, pp. 211–12.

[58] Caitriona Clear, 'Ladies' Land League', in Connolly (ed.), *Oxford Companion*.

[59] It is unclear what the proportion of rents to total costs were. Stylized household budgets from the 1890s suggest that the proportion of rent to household cost varied depending on the location.

[60] Parnell, 'The Irish Land Question', p. 395.

[61] Michael Davitt, *The speech delivered by Michael Davitt in defence of the Land League* (London, 1890, carefully revised edn), pp. 289–90.

[62] Ibid., p. 291.

TABLE 2. Rent as a percentage of estimated expenditure in Congested District Board households, *c.*1893

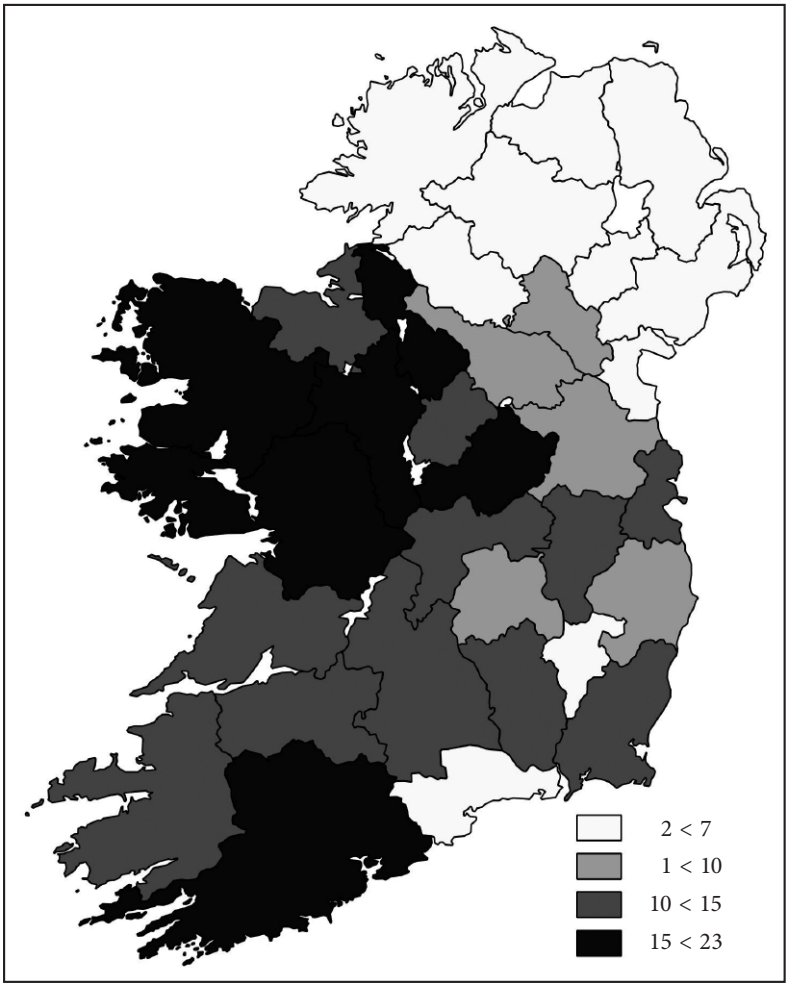
Type of household	*c.1893 rent* I	*1893 rent plus 25%* II	*1893 rent plus 50%* III	*1893 rent plus 100%* IV
1. Good circumstances being derived from agriculture and fishing	10.78	13.12	15.35	19.46
2. Very poor circumstances agriculture and fishing	13.70	16.56	19.23	24.10
3. Family in ordinary circumstances from agriculture, fishing and home industries	6.57	8.08	9.54	12.33
4. Family in ordinary circumstances – agriculture, migratory labour, and home industries	3.45	4.27	5.08	6.66
5. Ordinary circumstances – agriculture and earnings as migratory labourers	13.06	15.35	17.38	21.36
6. poor circumstances – agriculture and earnings as migratory labourers	5.74	6.69	7.53	9.33
7. Ordinary circumstances – agriculture and home industries	6.70	8.24	9.73	12.57
8. Ordinary circumstances – agriculture and home industries	7.46	9.16	10.79	13.89
9. Ordinary circumstances – agriculture and home industries	7.98	9.79	11.52	14.79
10. Ordinary circumstances – agriculture and home industries	8.77	10.73	12.60	16.13
11. Receipts and expenditure of a family in ordinary circumstances, the receipts being derived altogether from agriculture	24.03	28.34	32.18	38.75
12. Poorest possible circumstances – agriculture and labour in the locality	8.73	10.68	12.55	16.06

Note: the Congested Districts Boards inspectors estimated household budgets in the baseline reports, and the household budgets in the appendix in the first report are also estimates.
Source: Appendix in *First annual report of the Congested Districts Board for Ireland*, pp. 32–37. [C. 6908], H.C. 1893–94, lxxi, 525.

constituted more than the total number of cooperatives, the total number of members, and the amount of subscriptions and donations,[63] recorded by the central cooperative agency, the IAOS, in the years 1894 to 1914. Like the IAOS, the League was not financially self-sustaining.[64] Although required to make subscriptions to the League, many members did not pay them,

[63] Individual cooperatives were required to pay subscriptions to the IAOS, but these were not forthcoming. However, individual members did contribute to their local cooperative when purchasing shares.

[64] R. V. Comerford, 'The land war and the politics of distress, 1877–82', in W. E. Vaughan (ed.) *A new history of Ireland,* VI*: Ireland under the Union,* ii*, 1870–1921* (1996), p. 36.



MAP 1. Land League meetings per 10,000 occupied farms, 1880

Source: *Land League meetings and Agrarian Crime (Ireland),* H.C. (5), 1881.

and much of the League's funds were raised instead in the United States by Charles Stewart Parnell.[65] The IAOS also attempted to harness funds through this route but R. A. Anderson's sojourn in the United States only reaped £1,500.[66]

The Land League was not solely a farmers' movement; rather its membership covered a broad spectrum of rural society. In the initial Land War, large and small farmers were equally active, with large farmers over-represented relative to their share of the tenant population; shopkeepers, traders and artisans in towns were also over-represented.[67] What made the League effective was the common goal of all its participants, despite their economic differences.

While a picture of the regional distribution of Land League branches would enhance our understanding, there is no complete published list of them. Nevertheless, the number of Land

[65] Ibid., pp. 36–43.

[66] R. A. Anderson, *With Plunkett in Ireland: the co-op organisers story* (1983), p. 145.

[67] Samuel Clark, *Social origins of the Irish land war* (1979), p. 260.

League meetings provides an indication of Land League activity. Meetings were 'one of the League's principal methods of operation'; moreover, meetings often reflected the establishment of new branches.[68] Therefore the incidence of Land League meetings in 1880, shown in Map 1 relative to occupied landholdings, seems to be an adequate indicator of Land League activity.[69] As can be seen in Map 1 there were distinct regional patterns in Land League activity, with less activity present in the industrial north east and the more agricultural counties in outer Ulster (discussed below).[70]

The *modus operandi* of the Land League was to use combined rent strikes and social ostracism, commonly known as 'boycotts' after a *cause célèbre* involving Captain Boycott, to attain its goal of rent reduction.[71] Enforcement of Land League objectives was achieved through informal methods such as violence, intimidation and boycotting. Michael Davitt stated in his speech in defence of the Land League that contrary to the views of *The Times*,[72] the Land League did not advocate crime. Davitt claimed: 'Nearly all our witnesses have testified – those at least who gave evidence as to speeches – that it invariably happened that the chairman or some speaker at every Land League meeting denounced outrage more or less, and warned the people against committing crime'.[73] However, in the years 1879 and 1880, there was a strong positive correlation between Land League meetings and agrarian crime at the county level (0.75 and 0.73). Agrarian crime was broadly defined and there were a few incidents of murder or manslaughter, although these were a tiny proportion of the total figures.[74] The majority of recorded incidents were reports of threatening letters.[75]

The Land League did not rely solely on negative sanctions to entice member support. There were a number of positive benefits; for example, the Land League provided legal support in the event of eviction and non-monetary support such as clothing, food and seed to members.[76] Given the fact that members did not actively contribute subscriptions and the Land League was financed by donations from abroad, this can be seen as a net gain to members.

The Land League was successful in that it represented the convergence of numerous interest groups in rural society. It was also helped by the fact that Land League agitation coincided with an electoral cycle – a national parliamentary election was held in 1880. The subsequent government response was to introduce a rent control act which reduced rents on average by

[68] Comerford, 'The land war and the politics of distress', p. 44.

[69] *Return showing for each month of the years 1879 and 1880, the number of Land League meetings held and agrarian crimes reported to the Inspector General of the Royal Irish Constabulary in each county throughout Ireland*, H.C. 1881, (5), lxxvii, 793.

[70] The intervals in the maps displayed in the article used nested means to define intervals. For a discussion of the methodology, see Ian N. Gregory and Paul S. Ell, *Historical GIS* (2007), pp. 94–100.

[71] These methods were also used in other Land War phases.

[72] *The Times* of London had given antipathetic coverage to the activities of the Land League.

[73] Davitt, *Speech*, p. 243.

[74] Murder and manslaughter comprised 0.60, 0.50, and 0.79% of agrarian outrages in 1880, 1881 and 1882 respectively: *Return, by provinces, of agrarian offences throughout Ireland reported to the Inspector General of the Royal Irish Constabulary between 1 January 1880 and 31 December 1880*, H.C., 1881 (13); *Return of the number of agrarian offences in each county in Ireland reported to the constabulary office in each month of the year 1881*, H.C. 1882, (8); *Return by provinces, of agrarian offences throughout Ireland reported to the Inspector General of the Royal Irish Constabulary between 1 January 1882 and 31 December 1882*, H.C. 1883, (12).

[75] Threatening letters comprised 52, 49, and 58 per cent of agrarian outrages in 1880, 1881 and 1882 respectively: Ibid.

[76] Clark, *Social origins,* pp. 316–17.

20 per cent, and another act paid off arrears accumulated by tenants in rent strikes.[77] The 1881 Land Act granted the three Fs, fixity of tenure (security from eviction provided rents were paid); free sale (the right to sell interest in a holding); and fair rent. To achieve these, the government established a Land Commission to mediate in landlord-tenant contractual disputes. The act aimed to grant the tenants a 'fair rent', but the policy seems to have been to reduce rents regardless of their level. Subsequent legislation was specifically designed to encourage the greater transfer of ownership from landlords to their tenants. By 1903 the Land Commission had been transformed into an institution that primarily supervised the sale of land.[78]

The *modus operandi* used by the Land League in various phases of the Land War was similar to the cooperative methodology used in Denmark in that economic agents cooperated with one another to attain economic goals and reduce costs and thereby increase income; although the Land League's strategies also included boycotting and elements of traditional agrarian violence. In Denmark cooperative production developed on a large scale. This involved the combination of numerous economic agents to reduce transaction costs in agricultural production. The Irish response also encompassed combination and cooperation of numerous economic agents, but with the intention of reducing rents and enabling tenants to acquire their own landholding. The attraction of the Land League to many in Irish society was that it promised a reduction in rents and aimed to achieve owner occupancy of farms. The supporters of the Land League, it seems, believed that the payment of rent was the root cause of their problems.

Why was the Land League fixated on costs and not on ways of improving productivity? In other words, why was the focus on the distribution of output rather than on increasing output? Land reform in the guise of landownership transfer from landlords to tenants occurred at different times in some continental countries when compared to Ireland; for example, land reform took place much earlier in Denmark.[79] The lack of land reform may explain why cooperation took the forms it did in Ireland. If land reform had taken place earlier in Ireland, this would mean that tenants, as owner-occupiers, would have had no landlords to blame for their plight. Instead they would have had to focus their efforts on dealing with their immediate circumstances as rent would no longer have been a social grievance. Land reform would also have created property rights and given owner-occupiers a vested interest in partaking in productive reforms that would maximize returns from their property.

(b) Agrarian agitation in Ulster

As was shown in Map 1, Ulster appears not to have seen much Land League activity in 1880. O'Rourke used agrarian unrest to argue that Ulster did not have the same Land War experience and that this was an explanatory factor in the success of cooperative dairying in Ulster vis-à-vis the rest of the island. On casual inspection it would seem to reflect Irish religious and political divisions, as the north had a greater proportion of Protestants and was

[77] Land Law (Ireland) Act, 1881 (44 & 45 Vict.), c. 49.

[78] For a discussion see: Nathan Foley-Fisher and Eoin McLaughlin, 'Irish Land Bonds', European Association of Banking and Financial History, discussion paper 14-01 (2014).

[79] O'Rourke, 'Culture, conflict, and cooperation: Irish dairying before the Great War', p. 1376.

Unionist[80] in political outlook. This is supported by some sample correlations that show that Land League meetings were positively correlated with the proportion of Roman Catholics in a county and strongly negatively correlated with the proportion of Protestant confessional groups.[81] Was there no 'land war' and no cooperation, as defined above, in Ulster? This narrative is too simplistic as it does not take into account Land League support in Ulster, the pre-existence of functionally equivalent institutions, or the fact that Ulster tenants were the first to reap the benefits of agrarian agitation.

As Kirkpatrick illustrates, a common but incorrect assumption is that land agitation was foreign to Ulster. The economic challenges of the 1870s also had an effect there.[82] Eviction data shows that there was a sharp rise in the eviction rate from 3 to 25 per 10,000 holdings from 1877 to 1880. This led to a demand for rent reductions; although a number of landlords, including Hugh de Fellenberg Montgomery (a key figure in the constructive unionism discussed below), granted abatements before petitions were made.[83] The north also had its own tradition of tenant associations that agitated for greater tenant rights, and these became the primary instigators for these demands.[84] Although it appears that the Land League had little presence in Ulster, functionally equivalent tenant rights associations 'continued to swell in numbers'.[85] These associations were supportive of Land League goal of rent reductions but they did not share the Land League's associated political affiliation to Fenianism and Home Rule. Still, efforts were made to establish Land League branches in the north; they were established in Tyrone and in southern Ulster, but were confined to counties with higher Catholic populations.[86]

In the north the Protestant Orange Order initially acted in opposition to the Land League and held counter-demonstrations.[87] Orangemen also gave direct assistance to Captain Boycott.[88] With the Orange presence, the Ulster land agitation could easily have descended into a sectarian dispute; instead, broader political aims took hold and created a platform for ecumenical cooperation.[89] Ulster, unlike the rest of the island, was not dominated by the Home Rule party but by the Conservative and Liberal parties, which competed for the upper-hand. Of the two, the Liberals adopted the cause of land reform. The Conservative party was dominant in the towns and boroughs, winning eight and ten seats out of a total of 11 in the 1874 and 1880 general elections. Still, elements in the north cooperated to achieve goals of land reform and

[80] They favoured the continuation of the union between Great Britain and Ireland established in 1800. Irish nationalists opposed this union and wished to attain greater autonomy for Ireland within the union (Home Rule) or outright political independence (Fenians).

[81] Correlation coefficients between Land League meetings per 10,000 head of population and religious confessions in 1880–81 are as follows: Roman Catholics, 0.57; Anglicans, –0.53; Presbyterians, –0.50; Methodists, –0.33; others –0.52.

[82] R. W. Kirkpatrick, 'Origins and development of the land war in mid-Ulster', in F. S. L. Lyons and R. A. J. Hawkins (eds), *Ireland under the Union* (1980), p. 201.

[83] Ibid., p. 216.

[84] Liam Kennedy, 'The rural economy, 1820–1914', in Kennedy and Ollerenshaw (eds), *Economic history of Ulster* p. 41.

[85] Brian M. Walker, 'The Land Question and elections in Ulster, 1868–86' in Clark and Donnelley (eds), *Irish peasants*, p. 242.

[86] Kennedy, 'Rural economy', p. 42; Thompson, *End of Liberal Ulster*, pp. 201–07.

[87] Ibid., p. 225; The Orange Order was predominantly active in the traditional nine counties of Ulster. See data collected by Eric Kaufmann: www.sneps.net/research-interests/orangeism.

[88] Bew and Wright, 'Agrarian opposition', p. 212.

[89] Ibid., p. 213.

rent reduction, which is reflected in the voting patterns of Catholic and Presbyterian voters in the rural (county) constituencies.[90] In addition, there was a significant increase in voter cooperation to support the pro-land reform Liberal candidates. The Liberal share of rural seats in Ulster increased from 17 to 44 per cent between the 1874 and 1880 general elections.[91] The association of the Liberal party with land reform transcended the sectarian arena and enabled pro-land reform Orangemen to align in common interest with Nationalist Land Leaguers. However, the political landscape post-1885 was a different prospect (discussed below) with a stronger division between Nationalist and Unionist political parties evident; especially in Ulster which became a Unionist stronghold.

Tenant farmers in Ulster supported agitation, and Orange tenants, too, supported reform. Thus, despite the perception that Ulster was more progressive and economically viable, Ulster also engaged in land agitation. Yet, Ulster tenant farmers appear to have been free-riding on the lobbying activities of the Land League, for when land settlements were proposed to appease agitation throughout the whole of the island, Ulster farmers were the first to take advantage of their generous terms.[92]

Despite common goals, why was the Land League as an institutional form not as prominent in Ulster? Bew argues that the most attractive feature of the Land League's approach was the 'low risk of martyrdom' and the risk was lower in the south than in the north as the implementation of boycott policies depended on the lack of local support for the landlord. Bew also suggests that landlords in the north were in a stronger position and thus rendered the boycott and similar threats less effective.[93] In addition, Bew finds that the cornerstone of Land League rent reduction was that rents were based on land valuations (and agricultural prices), dating from the 1840s and '50s. These valuations were made at a later date in Ulster and captured inflated flax values. Thus, while reductions of such a magnitude would have been significant in the south, they represented modest demands for Ulster farmers.[94] Furthermore, Bew notes that 'in certain periods of the Land League's activity, supporters of quite divergent strategies and ultimate objectives could coexist and cooperate with each other. Differences between Irish revolutionaries and reformers were often obscured'.[95]

IV

Slight economic recovery in the 1880s brought a respite to Irish farmers, but further ecological and economic shocks (droughts and recession in Britain) combined with continued price depression affected agricultural incomes. This in turn led to a renewal of the land agitation, conventionally known as the Plan of Campaign (1886–91), whereby tenants refused to pay rents until abatements were granted and instead deposited their rents into trust accounts.[96] This activity was primarily concentrated in the west and south of the island. The continued

[90] Walker, 'Land Question and elections', p. 246.

[91] B. M. Walker, *Parliamentary election results in Ireland, 1801–1922* (1978).

[92] Thompson, *End of Liberal Ulster*, p. 251.

[93] This is reflected in the incidence of landlords to farm figures discussed in section 2.1: Bew and Wright, 'Agrarian Opposition', p. 211.

[94] Ibid.

[95] Ibid., p. 212.

[96] Loughlin, 'Plan of Campaign'.

fall in agricultural prices was a significant structural change and led protagonists to look further afield for methods other than rent reduction alone to cope with a dynamic economic environment. From the late 1880s this resulted in attempts to establish agricultural enterprises based on continental cooperative methodologies.

In this discussion it is important to emphasize the fact that two distinct agricultural innovations were being adopted in Ireland. One was technological: the centrifugal separator enabled the production of standardized fresh butter. The other was methodological: the adoption of cooperative methods to overcome information costs, reduce transaction costs and realize economies of scale. While the extant literature on cooperation in Ireland has primarily focused on cooperative creameries, this section highlights how different forms of cooperative enterprise were imitated and how their take-up rates varied.

The post-1885 political landscape in Ireland was essentially divided between the Irish Parliamentary Party and the Conservative Unionist party. The main divisive issue between the two parties was Home Rule, a measure of devolution for Ireland within the United Kingdom.[97] During the period 1886–1914, three home rule bills were introduced in the UK parliament; only the third reached the statute book, but its implementation was postponed due to the outbreak of the First World War.[98]

The Land League and Land War were generally associated with the Irish Parliamentary, or Home Rule, Party. Cooperative enterprises, as represented by the IAOS, were ostensibly apolitical and areligious; in actuality, the IAOS was associated with unionist politics. The IAOS was particularly associated with the policy of 'constructive unionism', the view that economic and social grievances led to support for nationalism and that redressing these grievances would led to a more stable political environment. This policy was sometimes called 'killing Home Rule with kindness', primarily due to the association of Horace Plunkett, a one-time Unionist Member of Parliament, with both the cooperative movement and the Department of Agriculture. However, a superficial distinction of nationalist versus unionist is difficult to uphold when faced with local realities. Plunkett suggested that 75 per cent of cooperative members were in fact nationalists.[99] Kennedy also highlighted the paradox of Irish cooperation, stating that 'members of the nationalist party, with few exceptions, showed persistent hostility toward the cooperative movement, even though most farmer-cooperators were also nationalists'.[100] Thus, although the elites of the cooperative movements may have had divergent political views to those associated with the Land League, the rank-and-file do not appear to have shared these differences. Therefore, the question is whether the link between political unionism and the IAOS and the corresponding link between nationalist politics and anti-cooperative business interests hindered the spread of cooperation in Ireland.

[97] These divisions were also complicated by attitudes towards education and religion.

[98] James Loughlin, 'Home rule', in Connolly, *Oxford Companion*.

[99] Andrew Gailey, *Ireland and the death of kindness: the experience of constructive unionism, 1890–1905* (1987), p. 57.

[100] Liam Kennedy, 'Farmers, traders and agricultural politics in pre-independence Ireland', in Clark and Donnelly (eds), *Irish peasants,* p. 368.

(a) IAOS and agricultural cooperation in Ireland

In the late nineteenth century attempts were made by a small group of idealists to introduce agricultural cooperation into Ireland. Initially attempts were made to establish consumer cooperatives along British lines, but it was discovered that these would not take root in an agrarian society.[101] Plunkett stated that the role of the IAOS was to 'persuade' people to adopt cooperation.[102] (His involvement, an Anglo-Irish landlord and prominent Unionist political figure, has parallels with some continental cooperative experiences, such as Bohemia and Eastern Europe, whereby landlords and political figures were involved in establishing cooperative enterprises.) The IAOS aimed to introduce cooperative creameries on the Danish model, cooperative agricultural banks along German lines and cooperative agricultural stores of the sort found in France. However, as Plunkett himself acknowledged, the IAOS gave greater prioritization to the creameries.

The first successful attempts at were a conscious effort to imitate the Danish cooperative creamery system. However, given the agitation between landlords and tenants in Ireland, Plunkett's efforts were seen by some as promoting a landlord and Unionist agenda. Plunkett recounted the response of a solicitor in the town of Rathkeale, County Limerick, to an effort to establish a cooperative creamery in the area. The solicitor informed Plunkett that Rathkeale was '"a Nationalist town – Nationalist to the backbone – and every pound of butter made in this creamery must be made on Nationalist principles"'.[103]

Plunkett outlined the motivation for the prioritization of creameries:

> New machinery, costly but highly efficient, had enabled the factory product, notably that of Denmark and Sweden, to compete successfully with the home-made article, both in quality and cost of production … To add to the interest of the situation, capitalists had seized the material advantages which the abundant supply of Irish milk afforded, and the green pastures of the "Golden Vein" [sic] were studded with snow white creameries which proclaimed the transfer of this great Irish industry from the tiller of the soil to the man of commerce.[104]

This rationale supposes that cooperative creameries were encouraged not because Ireland had failed to adopt new technology, but because it was believed that private creameries were realizing 'profits altogether out of proportion to [their] share of the capital'.[105]

Horace Plunkett and R. A. Anderson, another key figure in the Irish cooperative movement and Secretary of the IAOS, encouraged dairy farmers to establish cooperative creameries. Their initial focus was primarily on an area in the south west of Ireland known as the Golden Vale, encompassing parts of Counties Cork, Limerick and Tipperary, where there was an established tradition of dairy farming.[106] Horace Plunkett claimed to have held over 50 meetings before the first cooperative creamery was established in Drumcollogher, Co. Limerick, in 1889.[107]

[101] Ibid.

[102] *Report from the Select Committee on Money Lending; together with the proceedings of the committee, minutes of evidence, appendix and index*, H.C. 1898 (260), x, 101, para. 1973, pp 101–2.

[103] Plunkett, *Ireland in the new century*, p. 191.

[104] Ibid., pp. 187–8.

[105] Ibid., p. 188.

[106] James S. Donnelly Jr, 'Cork Market: its role in the nineteenth-century Irish butter trade' in *Studia Hibernica* 11 (1971), pp. 130–63.

[107] Plunkett, *Ireland in the new century*, p. 190.

Coincidentally, these meetings were held in an area of the island where the second phase of the Land War was concentrated.

Initially Plunkett had solicited help from the Cooperative Union, the federated body that represented British consumer cooperatives, for his 'missionary work'.[108] Having realized that consumer cooperatives looking to minimize the price paid by consumers had an antinomic relationship to producer cooperatives, which tried to maximize the price received by producers, Plunkett and his associates decided to establish their own central cooperative organization, the IAOS, in 1894. It is worth stressing that the apex institution representing Irish cooperatives at a national level was not established on a federated basis, as in other countries. In cooperative literature, discussion of the development of central institutions emphasizes individual cooperatives combining on a 'higher level.'[109] In Ireland the order was reversed with a central organization creating local cooperatives, representing a top-down rather than bottom-up approach. The role of the IAOS was outlined by Horace Plunkett as follows: 'In the first instance it was to consist of philanthropic persons, but its constitution provided for the inclusion in its membership of the societies which had already been created and those which it would itself create as time went on'.[110]

The IAOS acted as an apex institution to a loose federation of cooperatives. In the Irish case, the central institution, the IAOS, propagated the idea of cooperation by organising local meetings and enticing people to join.[111] It was a top-down social movement with the IAOS attempting to promote the formation of creameries. In fact, it was not until 1912 that local initiative formed a cooperative enterprise.[112] This experience is in contrast to the Land League, above, where local branches formed first and then affiliated with the central institution. Paul-Dubois, a contemporary French observer writing in 1904, noted the role of the IAOS in its attempts to 'ameliorate the condition of the agricultural population'. He noted how:

> [the IAOS] of itself has created nothing; it merely organises, advises and controls. It sends out organisers, who undertake campaigns in one district after another, and endeavour to establish cooperative associations by explaining their aims, advantages and methods to the peasants.

The subsequent role of the IAOS as the 'parent Society' was to monitor and supervise its creations and also to audit their accounts. In addition, it offered training and instruction to members on best practice in business, accounting lessons and legal training in cooperative law. As Paul-Dubois said, 'it [the IAOS] undertakes their economic education'.[113]

How did these efforts compare to contemporary Danish activities? In 1892, a British Board of Agriculture report remarked that 'almost all Danish agriculturists, whether the landed proprietor with his 300 cows, or the crofter – Huusmand – with his one or two, with like zeal and with equal profit, comparatively speaking, take part in the manufacture of butter'.[114] The board attributed this growth to a 'remarkable extension of the co-operative system'.[115] This

[108] Ibid., p. 185.

[109] Johnston Birchall, *The international cooperative movement* (1997), p. 35.

[110] Plunkett, *Ireland in the new century*, p. 192.

[111] Ibid., p. 194.

[112] IAOS *annual report, 1912*, p. 3.

[113] L. Paul-Dubois, *Contemporary Ireland* (1909) (a translation of *L'Irlande contemporaine*, 1907), pp. 446–7.

[114] Board of Agriculture, *Reports on dairy farming in Denmark, Sweden and Germany* [C. 7019], 1893–94, p. 6 and p. 9.

[115] Ibid., p. 9.

sentiment cannot be applied to Ireland, where there was neither an equivalent distribution of dairy farming nor adoption of cooperation.

Why did the Irish not adopt cooperative methods as enthusiastically as the Danes? O'Rourke has explored this question by analysing a 1906 agricultural return which distinguished between 'proprietary and joint-stock companies' and 'cooperative' creameries. His econometric analysis led him to the conclusion that nationalist politics and conflict undermined the 'propensity to cooperate' outside Ulster.[116] O'Rourke does not explicitly state that Ulster played any special role; rather it was the distribution of agrarian outrages associated with the Land War which were detrimental to the propensity to cooperate and he finds that these 'outrages' were higher outside of Ulster. If these findings are representative, they would suggest that the Land League might have undermined cooperative efforts in Ireland.

Given O'Rourke's conclusions, it is important to assess his findings critically. O'Rourke focused on the 'propensity to cooperate' in the Irish dairy industry, and he analysed the proportion of cooperative creameries to all creameries at a county level in 1906. Map 2 displays the number of creameries per occupied landholding in 1906. The first thing to note is the absence of creameries in nine of the counties running in a band from east to west, which separates the creameries in the south and the north. In 1906, 44 per cent of the creameries were cooperatives. The proportion of cooperative creameries was highest in the north, standing at 85 per cent. However, there was a greater concentration of creameries in the south west and Munster but, of them, only 23 per cent were cooperatives. The county with the highest number of cooperative creameries was Co. Tipperary, in Munster, which had 44 cooperative creameries; however, Tipperary also had a large 'private' creamery sector, and the proportion of cooperatives was low, at only 35 per cent. Four counties were wholly cooperative, Armagh (10 cooperatives), Donegal (15), Monaghan (27) and Wicklow (1), and three of the four were in Ulster. The numbers indicate that they had significantly lower numbers of both creameries and cooperative creameries than the norm. These statistical inconsistencies are highlighted in Table 3.[117] Curiously, the early IAOS cooperative movement had greater support amongst Catholics in Ulster which also seems at odds with the statistical correlates.[118]

Overall it appears as though Munster and Ulster had a similar number of cooperatives, but that Munster had a long-established tradition of dairy production, with networks of farmers, butter merchants and a butter market in Cork.[119] Private creameries using centrifugal separators had been established in Munster before the development of cooperatives.[120] In addition, local farmers had established their own joint-stock companies which 'though not strictly co-operative, are mostly owned and worked by the milk suppliers'.[121] Furthermore, creameries were established by both the Wholesale Cooperative Society and the Scottish

[116] O'Rourke, 'Culture, conflict and cooperation', pp. 1357–79.

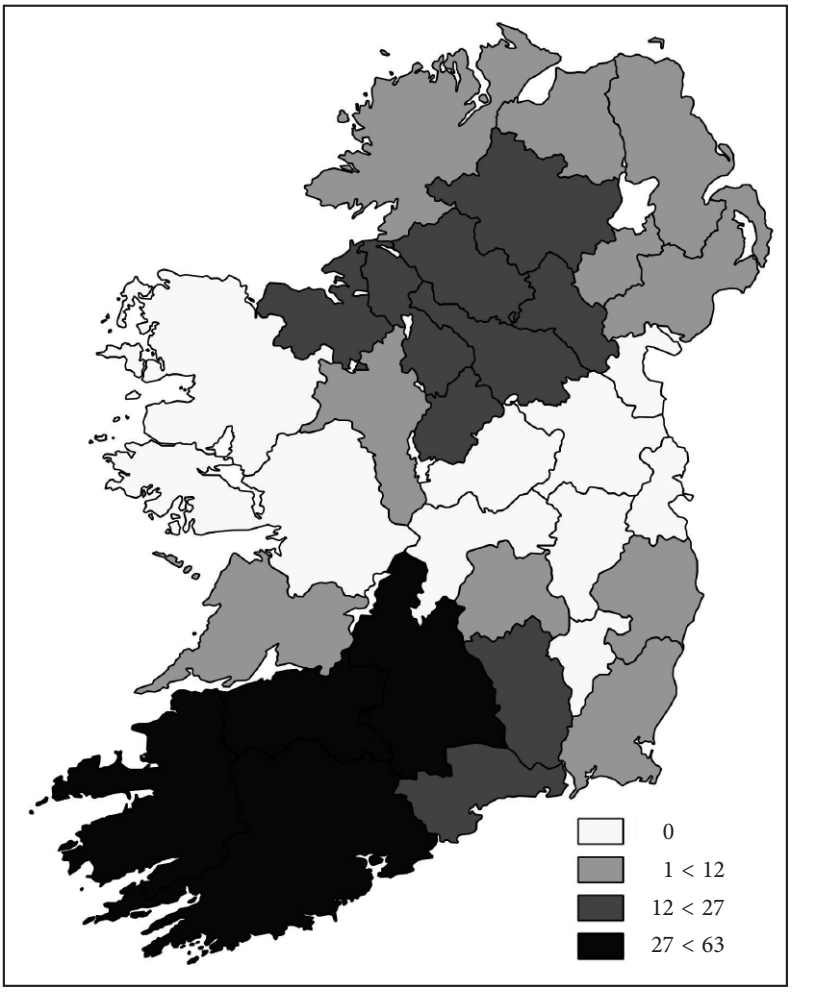
[117] Also see the discussion in Cormac Ó Gráda, 'Irish agriculture after the Land War'.

[118] F. W. Boal and B. S. McAodha, 'The milk industry in Northern Ireland', *Economic Geography* 37 (1961), p. 172.

[119] Cormac Ó Gráda, 'The beginnings of the Irish creamery System, 1880–1914', *EcHR* 30 (1977), p. 285.

[120] Proinnsias Breathnach, 'The diffusion of the cooperative creamery system in Ireland, 1889–1920: a spatial analysis' (NUI Maynooth, PhD thesis, 2006), p. 356.

[121] Ibid.



MAP 2. Proprietary, Joint-Stock and Cooperative creameries per 10,000 farms, 1906

Source: *Agricultural statistics of Ireland, with a detailed report for the year 1906,* H. C. [Cd. 3791], 1908, pp. 128–9.

TABLE 3. Creameries in 1906

	Ireland	*Munster*	*Ulster*	*Connaught*	*Leinster*
Creameries	780	477	190	61	52
Cooperatives	345	112	162	45	26
Private	435	365	28	16	26
% Cooperative	44	23	85	74	50

Source: *Agricultural statistics of Ireland, with a detailed report for the year 1906,* H.C. [Cd. 3791], 1908, pp. 128–9.

Wholesale Society.[122] Thus, without the efforts of Horace Plunkett or the IAOS to stimulate cooperative enterprises it is unclear whether cooperative forms of agricultural enterprises would have developed. Moreover, a number of high profile court cases illustrated an inability of Irish cooperative creameries to enforce binding contracts on their members, contracts which were of immense importance to Danish creameries.[123] These cases suggest therefore that institutionally, cooperative creameries were not superior institutions in the case of Ireland.[124] Thus, after inspection, it appears as though there were not terribly different rates of cooperation between the nationalist south and unionist north. This suggests that analysis of other cooperative enterprises might give greater insight into the development of cooperation in Ireland rather than the obfuscating 'propensity to cooperate' encapsulated in the cooperative share of creameries.

(b) Raiffeisenism in Ireland

The IAOS advocated the application of cooperative methods in a number of different situations. Initially they emphasized cooperative creameries but subsequently they promoted other cooperative enterprises, in particular cooperative banks.[125] Plunkett claimed that he and the other cooperative propagators had been aware of the advantages of cooperative banks 'but only in the last few years have we fully realised that they are even more required and more likely to do more good in Ireland than in any other country'.[126] Figure 1 shows the number of cooperative institutions registered with the IAOS and Map 3 displays their location in 1908, a peak year for the registration of cooperative banks. There were regional variations in the form of cooperative established. In terms of the distribution of cooperative enterprises, Map 4 displays the number of cooperative societies registered with the IAOS by county in 1911 per occupied landholding. There was also regional variance in the rate of cooperation throughout the countryside, but when all forms of cooperation are considered it can be seen that each county had some form of cooperative activity.[127]

In 1903, H. de F. Montgomery, a unionist Ulster landlord involved in the 'constructive Unionist' policy referred to above, went on a 'research trip' to Germany on behalf of the Department of Agriculture and Technical Instruction (DATI).[128] In a subsequent article on cooperation in Germany he noted how the German system of Raiffeisenism offered 'the best

[122] Frank Porter, *Porter's guide to the manufacturers and shippers of Ireland* (Belfast, n.d.)

[123] I. M. Henriksen, M. Hviid, and P. Sharp, 'Law and peace: Contracts and the success of the Danish Dairy Cooperatives', *JEcH* 72 (2012), pp. 197–224.

[124] I. M. Henriksen, E. McLaughlin and P. Sharp, 'Contracts and cooperation: the relative failure of the Irish dairy industry in the late nineteenth century reconsidered' (European Historical Economics Society Working Paper, 71, 2015).

[125] This section draws on E. McLaughlin, 'Microfinance institutions in nineteenth-century Ireland' (PhD thesis, National University of Ireland, 2009) and Christopher L. Colvin and Eoin McLaughlin, 'Raiffeisenism abroad: why did German cooperative banking fail in Ireland but prosper in the Netherlands?', *EcHR* 67 (2014), pp. 492–516.

[126] Plunkett, *Ireland in the new century*, p. 195.

[127] The mean share of creameries of all cooperatives registered with the IAOS in 1911 was 31 per cent; however, there was high variance between counties and the standard deviation was 28 per cent.

[128] He spent a lot of time studying Haas cooperatives rather than Raiffeisen cooperatives, something which Henry Wolff criticized him for doing: *Departmental committee on Agricultural credit in Ireland: Evidence, Appendices, and Index*, q. 7153, p. 206. [Cd. 7376], H.C. 1914, xiii, 431.

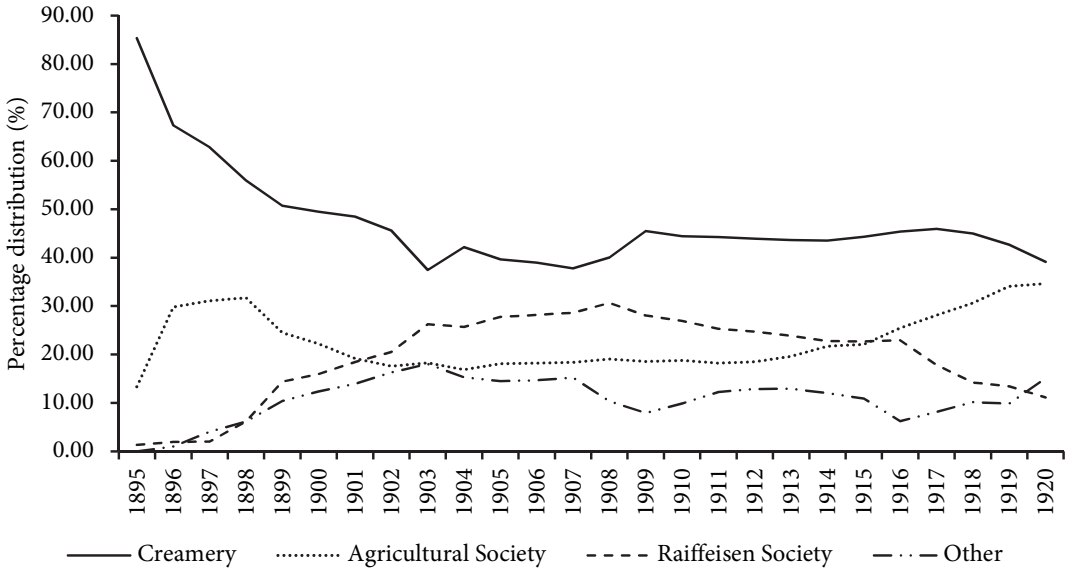


FIGURE 1. Total number and percentage distribution of cooperative societies registered with the Irish Agricultural Organisation Society, 1895–1922

Source: Irish Agricultural Organisation Society annual reports

model for the organisation of agricultural cooperative societies' but that the prioritization of dairying in Ireland had meant that cooperative banks were not integrated with other cooperative businesses in Ireland.[129]

As was seen in Figure 1, significant emphasis was placed on establishing Raiffeisen cooperative banks as part of the cooperative programme in the late 1890s and early 1900s. The initial focus was on poor rural areas in the west of Ireland. The Raiffeisen cooperatives received government support, most noticeably in the form of concessional loans. However, despite this support, Raiffeisen societies had an ephemeral existence in Ireland. Even at their peak in 1908, shown in Map 5, there were a significant number of societies that were inactive and were later struck from the IAOS's register. This led Rev. Cornelius Lucey (1902–82), a notable clerical figure who became Bishop of Cork and held a chair of philosophy and political theory at Maynooth from 1929 to 1950[130] to argue in 1943 that:

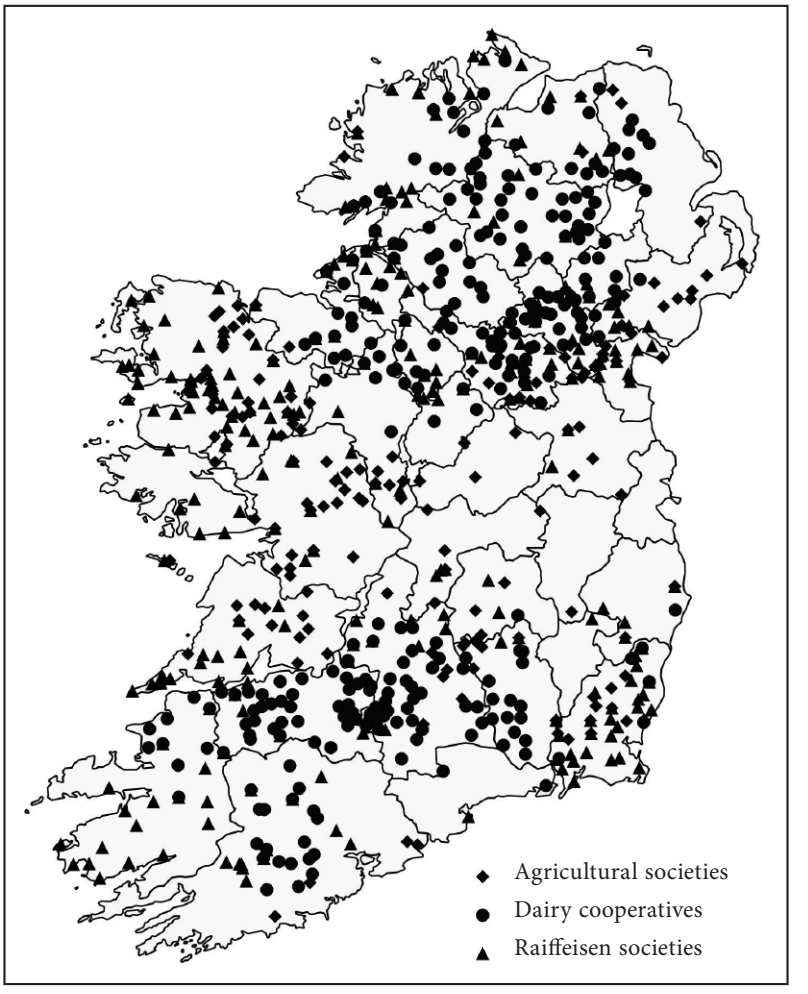
> So far no serious effort has been made to introduce Schulze-Delitzsch or Raiffeisen cooperatives either here or in Great Britain … There is every reason why we in Ireland should think seriously of inaugurating a cooperative credit movement on Raiffeisen or similar lines.[131]

There were in fact a number of Raiffeisen societies still in existence at that date, but their

[129] H. de F. Montgomery, 'Agricultural cooperation in Germany', in *Department of Agriculture and Technical Instruction for Ireland J.* 4 (1903), p. 247.

[130] Diarmaid Ferriter, 'Lucey, Cornelius' in James McGuire, James Quinn (eds), *Dictionary of Irish Biography* (2009).

[131] C. Lucey, 'Cooperative credit societies', in *The Irish Ecclesiastical Record* 62 (1943), pp 78–9 and 79–80.



MAP 3. Cooperatives registered with the IAOS in 1908

Source: Irish Agricultural Organisation Society annual report for 1908.

activities were very limited in scale. Can competition from the Land League explain their failure?

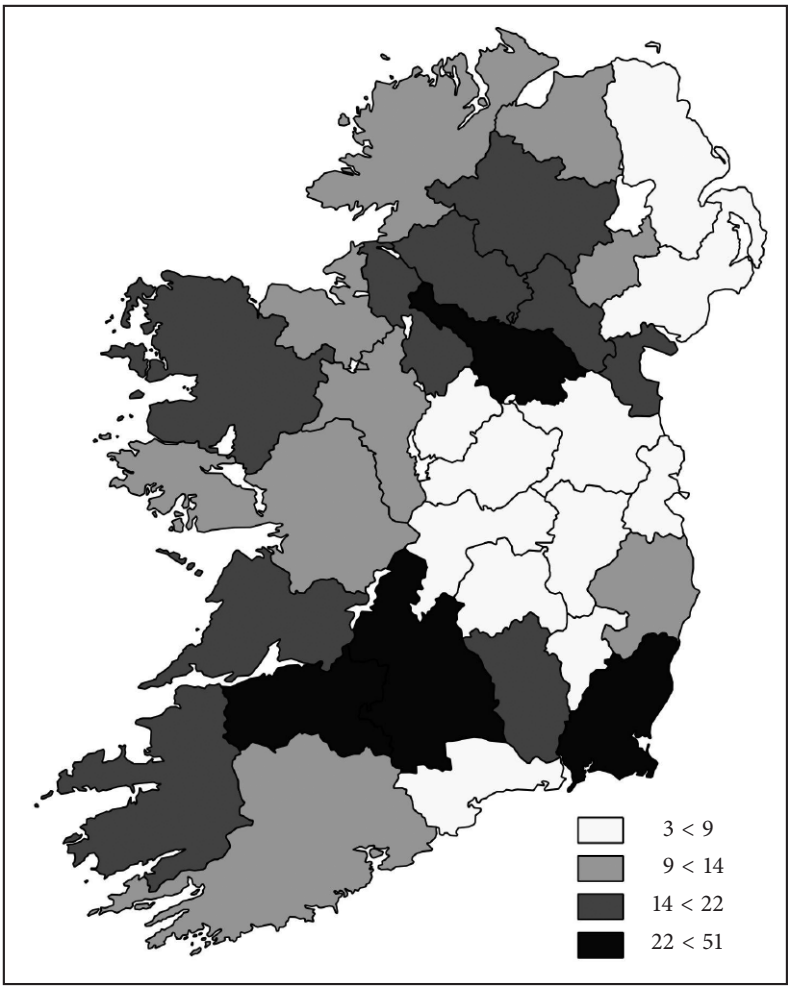
In an early study of cooperative banks in Ireland, Guinnane cited three key reasons for the failure of Raiffeisen cooperative banks in Ireland: competition for savings, an absence of strong auditing federations, and norms of rural behaviour that undermined information advantages.[132] Guinnane concluded that 'if Raiffeisen had been an Irishman, or if the Post Office Savings Banks [POSB] had not been established until the twentieth century, the situation in Ireland might have been different'.[133]

Guinnane's account of the function of the POSB is somewhat mistaken as he states that 'deposits and withdrawals could be made in any amount'.[134] Actually, there were strict annual

[132] Timothy W. Guinnane, 'A failed institutional transplant: Raiffeisen's credit cooperatives in Ireland, 1894–1914' in *Explorations in Economic Hist.* 31 (1994), p. 39.

[133] Ibid., p. 59.

[134] Ibid., p. 52.



MAP 4. Cooperatives registered with the Irish Agricultural Organisation Society per 10,000 occupied holdings, 1911

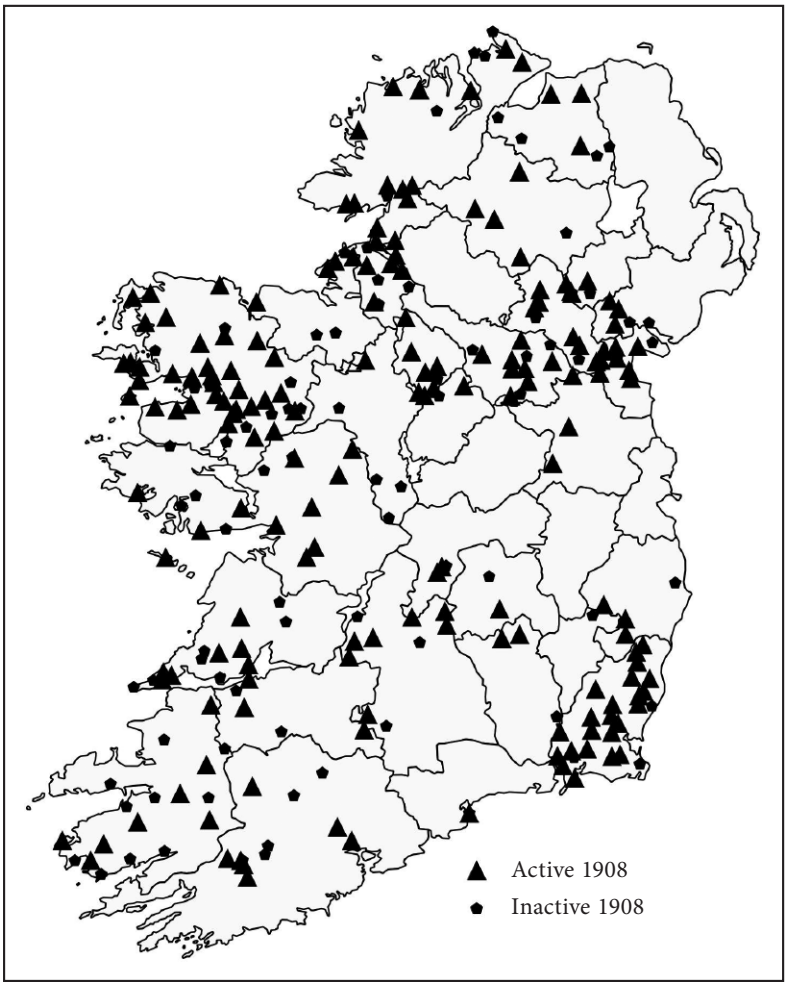
Source: Irish Agricultural Organisation Society annual report for 1911.

limits imposed: £30 per annum between 1863 and 1892, rising to £50 per annum from 1893, and £200 in total.[135] It was not until 1915, as a means to obtain cheaper war finance, that savings limits were eliminated. Joint Stock Banks (JSBs), deposit mobilizing branch banks, were the major incumbents in Irish rural markets and they had no limitations on deposits and withdrawals, accepting deposits from £1 and up.[136] More importantly, the POSB did not issue loans whereas JSBs did. Effectively, Irish JSBs were the functional equivalent of Raiffeisen cooperative banks;[137] whilst German JSBs did not begin branch banking until the early 1900s. Furthermore, an important consideration is also the timing of POSB growth when it

[135] C. Eason, 'The trustee savings banks of Great Britain and Ireland, from 1817 to 1928', in *Statistical and Social Inquiry Society of Ireland*, 104 (1929), p. 4.

[136] *Report from the Select Committee on money lending* (P.P. 1898, X), q. 2024, p. 105; Society of St Vincent De Paul, *Bulletin of the Society*, XII (1867), p. 369. By 1914, the director of the Bank of Ireland, The O'Conor Don, reported that his bank accepted as little as £1 on deposit (D.C. minutes of evidence [P.P. 1914], Q.631).

[137] This is a central argument of Colvin and McLaughlin, 'Raiffeisenism abroad' where more detail may be found.



MAP 5. Raiffeisen societies registered with the Irish Agricultural Organisation Society in 1908

Source: Irish Agricultural Organisation Society annual report for 1911.

superseded TSBs, incumbent savings banks in Ireland that were primarily located in urban areas, as the largest savings bank on the island. This shift occurred during the land war period and was an intentional shift of savings to the more 'private' (i.e. no landlord trustees) POSB which had the added attraction of complete government security.[138]

Guinnane also argued that the Irish Raiffeisen example lacked institutional equivalents to German cooperative apex institutions, audit unions and central clearinghouses (centrals); of these two he deemed that the lack of audit unions was the more detrimental as they provided external management and support.[139] Yet, the Irish case is an example of the political economy of cooperation. The IAOS had threatened to establish its own central clearinghouse in 1902.[140]

[138] Frauds in TSBs in Ireland during the Famine painfully highlighted their lack of government security. See Eoin McLaughlin, ''Profligacy in the encouragement of thrift': Savings banks in Ireland, 1817–1914', *Business Hist.* 56 (2014), pp. 569–91.

[139] This point is elaborated in T. W. Guinnane, 'A "friend and advisor": External auditing and confidence in Germany's credit cooperatives, 1889–1914', *Business Hist. Rev.* 77 (2003), pp. 235–64.

[140] IAOS, *Annual report 1902*, pp 14–15.

It did so in order to force the existing JSBs, which served the function of cooperatives' centrals in the Irish case, to lend to the wider cooperative movement at concessional rates of interest. A favourable agreement was reached in return for cooperative banks channelling all their deposits through JSBs.[141]

Guinnane asserted that one of the reasons why Raiffeisen cooperatives failed in Ireland was because 'norms of Irish society' made it difficult to work a cooperative system.[142] Using a statement from the 1926 banking commission, he suggests that 'rural Irish people did not give "full recognition of the justice of the debt so incurred", and thus resisted efforts to force repayment of loans'.[143] Guinnane's interpretation has implications for the wider history of Irish banking. If Irish people resisted efforts to get them to repay loans, then how could a bank branch network operate in rural Ireland? The truth, it seems, is that people did repay loans, so much so that the only thing in arrears in rural Ireland was rent.[144]

Data suggest that direct competition from other financial institutions was not a critical factor in Raiffeisen survival. This is evident from the fact that Raiffeisen societies were located in remote areas. A highly significant factor was the low level of integration with other cooperative enterprises. Deposit mobilization was also positively related to survival. IAOS annual reports suggest that societies that inadvertently imitated German conditions (cooperative integration and deposit mobilization) survived past the 1920s.[145] From an economic perspective these aspects of Raiffeisen societies increased information on both a potential borrower's income and farming activities. Raiffeisen societies were deliberately discouraged from mobilizing savings and as part of bank agreements they were required to place deposits in JBSs.[146] This practice effectively made Raiffeisen societies redundant as savings institutions. This is a reflection of the top-down structure of the IAOS and the fact that Raiffeisen societies were not instigated by local initiatives. Also, this reflects the failure of the IAOS to give any consideration to the functioning of rural financial markets where branch-banking JSBs were a dominant incumbent and functional substitute for cooperative banks.[147]

In terms of integration, as was shown in Map 3, there was a distribution of cooperative societies throughout the island with different areas having specialization in different cooperative enterprises. Raiffeisen societies were not integrated with the dairy cooperatives. This partially reflected institutional factors. Raiffeisen societies were unlimited liability whereas other cooperative forms were limited liability, and partly functional; other cooperative enterprises were able to provide credit to members.[148] As the IAOS was responsible for establishing cooperatives the lack of cooperative integration can be attributed to IAOS policy. Furthermore, Map 3

[141] IAOS, *Annual report 1904*, p. 27; *Third report of the Royal Commission appointed to inquire into and report upon the operation of the Acts dealing with Congestion in Ireland* (P.P. 1907, XXXV), p. 55.

[142] Guinnane, 'Failed institutional transplant', p. 39.

[143] Ibid., p. 57.

[144] B.P.P. (1898), *Report from the select committee on money lending*, H.C. 10(260), 101, q. 2372, p. 120.

[145] IAOS, *Annual report 1920*.

[146] *Third Report of the Royal Commission appointed to inquire into and report upon the operation of the Acts dealing with Congestion in Ireland*; Evidence and Documents, q. 14138, p. 55 [Cd. 3414], H.C. 1907, xxxv, 337.

[147] The ignorance of the IAOS in relation to JSBs is highlighted in the evidence of IAOS delegates to the Select Committee on Money lending: BPP, *Report from the Select Committee on Money Lending*, H.C. 1898 (260), x, 101, q. 2016, p. 105.

[148] IAOS *Annual Report 1920*, p. 10.

suggests that O'Rourke's findings of correlation between land war outrages and cooperative creameries may not translate automatically to imply a similar relationship between land war outrages and the cooperative movement as a whole.

The IAOS later argued that unlimited liability, a cornerstone of Raiffeisenism, was unsuitable to conditions in rural Ireland.[149] Support for this view can be seen from the variation in land holdings; there was a greater proportion of small, and by definition, poorer farmers relative to larger, and wealthier, farmers. Unlimited liability, which implied that all members were equally liable for debts, deterred wealthier members from joining. Another factor, somewhat related to the previous, was the shortage of skilled management. This problem was compounded by the fact that there were no institutional equivalents of federated institutions such as Audit Unions to provide substitutable managerial experience. These difficulties were not experienced, however, by Dutch counterparts that were able to utilize confessional divisions to overcome socio-economic encumbrances (such as those experienced in Ireland) and successfully introduce German-style Raiffeisen cooperative banks.[150]

The difficulty of attracting managerial talent was not experienced by Land League branches that operated in similar areas of the Irish countryside, either; for example, a Land League branch in Tralee, Co. Kerry had a school teacher as its president.[151] Furthermore, Clark suggests that a broad section of social interests were involved in the Land League and that the League derived leadership from existing farmers' clubs that were involved in 'disputes between landlords and large farmers'.[152] Again, these were features absent in credit cooperatives in Ireland as they were unable to attract such broad support. So why, given that both were voluntary associations,[153] was it that one form of cooperation was able to attract skilled management while the other was not? Kennedy argued that there was a conflict with the Catholic Church's economic interests as the cooperative movement threatened rural traders on whom the church was financially reliant.[154] This influenced priests and teachers who were reliant on clerical patronage, in turn, clerics were unwilling to act against their economic interests and patronage ties by supporting cooperative ventures that threatened the livelihoods of patrons.

Perhaps another key element is the lack of a common mutual goal. In the Land League all participants stood to benefit from participation through the form of reduced rents and possible land transfers at concessional rates; some more than others. Hence, this could help explain why those with management and organizational skills would have joined the Land League – namely large farmers and urban interest groups. In cooperative ventures such as Raiffeisen cooperative societies it is not obvious that the interest of all in rural society would have been

[149] IAOS *Annual Report 1931*, pp. 18–19.

[150] Colvin and McLaughlin, 'Raiffeisenism abroad', pp. 507–12.

[151] William L. Feingold, 'Land League Power: The Tralee Poor-law election of 1881', in Clark and James (eds), *Irish peasants*, p. 293.

[152] Clark, *Social origins*, e.g. Tables 16 and 17, p. 268 and p. 258.

[153] Membership of the Land League can be loosely defined as a voluntary. As the eighth rule of the Land League stated: 'that no person shall be admitted to membership who does not give his adhesion to the principles of the League' which could be interpreted as saying membership was open to all who adhered to the principles of the League. See Appendix F in Davitt, *Speech*, pp. 399–400.

[154] Liam Kennedy, 'The early response of the Irish Catholic clergy to the cooperative movement', in *Irish Historical Stud.* 21 (1977–8), pp. 55–74.

homogenous. Larger farmers, a minority group, would have been burdened with the risk of failure if they were members of an unlimited liability cooperative bank. The interests of rural townsmen would have been directly impinged upon and thus could have affected those they patronized, such as clergy. This may explain the lack of skilled management. As Ireland did not develop audit unions or teaching mechanisms, it would have been difficult to find management substitutes.

Also, given the ephemeral nature of both the Land League and Raiffeisen cooperatives, perhaps members viewed each as a temporary expedient to attain instantaneous rewards rather than as permanent institutions. The Land League aimed to deliver reduced rents; when legislation was introduced that delivered this result, participants abandoned land agitation. In the case of Raiffeisen cooperatives they were used as a means to funnel cheap credit from government agencies and JSBs to members. When the sources of cheap credit were curtailed, active membership ceased.

In sum, the story of Raiffeisen societies in Ireland does not suggest that the Land League undermined cooperative banks. However, it highlights flaws in the top-down policies of the IAOS and friction within rural society. This, in turn with the evidence presented regarding cooperative creameries, does not suggest that the cooperative movement was undermined by the Land League but rather the IAOS attempted to imitate institutions that had no conferred institutional advantages compared to indigenous institutions (private creameries and JSBs). In this light, the fact that continental European cooperation struggled to gain a foothold in Ireland is not one of politics but one of economics.

V

This article has explored different forms of cooperation in late nineteenth-century Ireland. It argues that the Irish response to adverse exogenous shocks in the late 1870s was to adopt cooperative institutions. This reaction paralleled contemporaneous developments in Scandinavia. However, the cooperative action in Ireland was aimed at reducing one of the costs of farming – rent – whereas the Scandinavian and continental European forms of cooperation succeeded in reducing the information and transaction costs associated with agricultural production.

The 'Land War' inspired a social and economic mobilization similar to that required for a cooperative movement, but it was directed towards land reform, or rather rent reductions and land purchase. Horace Plunkett, the founder of the cooperative movement in Ireland, understood the relation between the Land League and cooperation in Ireland. He also believed that increased international competition necessitated the introduction of other forms of cooperation.[155] Plunkett and others had hoped to build cooperative structures on the Land League tradition, but their efforts were stifled. Plunkett was initially hampered by his political affiliation, Unionism, as the Land League movement became associated with nationalist politics. In retrospect, were these different cooperative institutions competitors or complementors?

Land agitation in Ireland provided a template and infrastructure for cooperation. The agitators in the 1870s and '80s would have had experience with a cooperative environment.

[155] Trevor West, *Horace Plunkett; cooperation and politics* (1986), p. 21.

This experience could have been transferable to other cooperative ventures, provided that the goals of the venture were mutually acceptable. In the case of the Land War all social groups, excluding landlords, shared the goal of rent reduction. By contrast, cooperation in agricultural ventures such as agricultural stores and Raiffeisen cooperatives impinged on the interests of urban interest groups and patronage ties in rural society. This can explain how Land League branches had greater access to large farmers and urban interest groups. Thus, they were able to utilize their management skills, whereas cooperatives, such as Raiffeisen and agricultural stores, found it difficult to access skilled management. Effectively, interest groups prominent in the Land League were either apathetic or overtly hostile towards IAOS ventures. The Land League coalition of the late 1870s collapsed once its primary goals had been obtained. However, other factions wanted greater reforms, such as land redistribution, but such movements failed to galvanize interest groups as effectively as the common goal to reduce rents and achieve ownership transfers.

Of the cooperative enterprises introduced by the IAOS, dairy cooperatives were the most successful (relatively speaking) in the late nineteenth and early twentieth centuries. However, cooperative methods did not completely dominate dairy production until later in the twentieth century, after the state became involved. State policy aimed to deliberately 'make the manufacturing of butter entirely co-operative and place the ownership of the premises and direction of the industry in the hands of the farmers who supplied the raw material'.[156] This led to the cooperative rationalization of the dairy industry under the auspices of the Dairy Disposal Company. In a recent study of creameries in Ireland, O'Rourke argues that areas of the country with a greater proportion of owner-occupiers of land in 1906 were the ones with the highest number of creameries;[157] coincidentally, the majority of those outside the dairy heartlands in the south west were cooperative. This is, in effect, a legacy of the Land League and 'Land War', as the Land War provided the impetus for landownership transfers – especially in free-rider areas in the north.

The pertinent question then, is why Irish cooperation took a reactive stance in 1879? Perhaps tradition played a role as violence was a common response used to support traditional rights and address social grievances.[158] Also, a key part of this story is the fact that land reform took place much later in Ireland. Therefore farmers were fixated on the issue of rents, feeling aggrieved at having to pay rents during severe economic downturns, rather than concerned by aspects of agricultural production. The IAOS believed that its role was to imitate continental cooperative practices but these were ideologically motivated and misguided. This implied cooperatives competed with established incumbents but without the perceived institutional advantages of the new entrants. The experience of the IAOS cooperatives illustrates the limitations of misguided cooperation but it does not suggest competition between the IAOS or the Land League. Rather, the evidence from the Land League illustrates that Irish society was willing to cooperate if an adequate incentive structure was in place. Perhaps an IAOS policy of implementing reforms in agricultural education and practice or focused reforms to

[156] John O'Donovan, *The economic history of livestock in Ireland* (1940), p. 339.

[157] Kevin H. O'Rourke, 'Property rights, politics and innovation: creamery diffusion in pre-1914 Ireland', in *European Rev. Economic Hist.* 11 (2007), pp. 395–417.

[158] Clark, *Social origins*, p. 69.

the dominant livestock sector, such as improvements in breeding stock, may have been more fruitful endeavours; in fact, key figures in the IAOS such as Plunkett were involved in the foundation of the DATI.

Another important question is how important was path-dependence? There was a tradition of violent reactions to threats to traditional privileges, such as landlord-granted rent reductions and tolerance of arrears. This may have influenced the pattern of reaction to the crisis in the late 1870s where such privileges were seen as rights by tenants.[159] Possibly a more important factor was the tradition of state involvement in the Irish economy. As a result many looked to the state to provide solutions rather than taking proactive steps themselves. The state had previously intervened in the area of Irish land legislation and had passed an act in 1870 which aimed to formalize informal customary rights, thus creating expectations of state intervention. The Land League was effectively a cooperative lobby group that aimed to force the government to intervene in landlord-tenant relations on the behalf of tenants. The complaint of the cooperation propagators was that Irish society was more reliant on state aid than on self-help. George Russell, a key figure in the Irish cooperative movement, wrote that: 'If self-help had been fostered as industriously as state aid we might have arrived at something'.[160] Ironically, the cooperatives that imitated Continental forms of cooperation were also reliant on state aid. When the IAOS was established, despite overtures of cooperation and self-help, it was heavily reliant on financial subsidies from the state.[161]

Finally, how does the Irish experience fit into the wider European experience? The common theme throughout Europe is that of institutional importation. Cooperative methodologies and ideals diffused beyond borders, with different areas developing cooperative methodologies at different stages, often at the behest of local elites. The Irish story is strikingly similar to events in Catalunya, as outlined by Jordi Planas. The catalyst for cooperative ventures in Catalunya was an exogenous shock in the form of the phylloxera plague that devastated the grape stock in the late nineteenth century. Changes in the economic structure influenced further cooperative ventures. Social divisions were also present with landowners and larger farmers more supportive of cooperative ventures that reflected their economic interests, as was the case in Ireland.[162] The Netherlands successfully adopted Raiffeisen cooperative banks, which were integrated with other forms of cooperative enterprises.[163] Also Estonia established cooperative banks that were integrated with other cooperative ventures, namely cooperative creameries.[164] The Irish model of dairy cooperation was based on the Danish model where cooperative banks were not prevalent,[165] but Irish cooperative creameries were unable to enforce binding contracts along Danish lines.

[159] Ibid., p. 179.

[160] A. E. (pseud. George W. Russell), *Co-operation and nationality guide for rural reference from this to the next generation* (1912), p. 29.

[161] Kennedy, 'Farmers, traders and agricultural politics in pre-independence Ireland', p. 350.

[162] Jordi Planas, 'Rural cooperatives and empowerment of peasantry in agrarian collective action at the beginning of the twentieth century', paper read at Rural History 2010 Conference.

[163] Christopher L. Colvin, 'Religion, competition and liability: Dutch cooperative banking in crisis, 1919–1927' (PhD Dissertation, LSE, 2011).

[164] Johan Eellend, 'The Butter Republic': Cooperatives and corporative structures in Estonia, 1890–1934', paper read at Rural History 2010 Conference.

[165] Timothy W. Guinnane and Ingrid Henriksen, 'Why were credit cooperatives unimportant in Denmark?', in *Scandinavian Economic Hist. Rev.* 46 (1998), pp. 32–54.

Political affiliations and social relations that were important factors in cooperative ventures in other countries were present in Ireland; however, these facets of the cooperation were initially more evident in the Land League than in the IAOS cooperatives. For example, in Bohemia and Eastern Europe, local political elites were present in traditional forms of cooperative ventures.[166] In Ireland local political elites were more pronounced in the Land League than in IAOS cooperatives. It was not until the 1900s that the cooperatives began to take on political affiliations. For example, nationalist diary cooperatives were a response to private creameries that 'symbolis[ed] colonial trading links as well as English (Protestant) ownership of the means of production' in County Tipperary;[167] whereas the Land League adopted political affiliation from the outset. This culminated in reprisal attacks on cooperative creameries by British auxiliary forces during the Irish War of Independence (1919–21).[168] Overall though, Irish developments in cooperation may be seen to parallel events further afield.

[166] Catherine Albrecht, 'Rural banks and credit cooperatives in Bohemia, 1860–1914'; András Vári, 'Co-ops, peasants, and networks in segmented rural societies of Austria, Hungary, and Transylvania from the 1880s to 1918', both papers read at Rural History 2010 Conference.

[167] W. Jenkins, 'Capitalists and co-operators: agricultural transformation, contested space, and identity politics in South Tipperary, Ireland, 1890–1914', in *J. Historical Geography*, 30 (2004), p. 103.

[168] Patrick Bolger, *The Irish co-operative movement: its history and development* (1977), p. 212.

Casual workers, collective action and anarcho-syndicalism in southern Spain: Jerez de la Frontera, 1882 to 1933*

by Enrique Montañes and James Simpson

Abstract

During the first third of the twentieth century rural anarchism found its deepest roots in southern Spain. A small number of convinced revolutionaries had significant success in organizing large numbers of landless harvest workers by following a strategy of direct action to resolve local problems. It competed successfully with other trade unions for members, not just because it was usually the first to organize in the villages, but also because the socialists largely ignored farm workers until after the First World War, and Catholic syndicates could only access a limited constituency because of widespread anticlericalism. However weaknesses emerged during the Second Republic (1931–6) as the anarchist movement had to choose whether or not to support the new government, which was favourably inclined towards workers. At the same time it lost ground to the rival socialist union, which was more successful in operating at a national scale.

Opposition by farm workers to the introduction of harvest machinery is found in most countries, especially during the process of structural change when farming declines in importance relative to other economic sectors.[1] Although farm wages increase with industrialization and the growth of off-farm migration, the rises are usually less than those achieved by workers in other sectors but sufficiently great to encourage farmers to seek cost reductions. What was unusual in southern Spain in the half century prior to the Civil War (1936–9) was not that workers challenged these attempts by employers to limit wage increases and reduce work opportunities, but rather that they choose to do so by joining anarchist trade unions or syndicates. A handful of highly politicized leaders who wished to overthrow the state by revolutionary means provided leadership to large numbers of field workers whose demands

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[1] The classic account is perhaps Eric Hobsbawm and George Rudé, *Captain Swing* (1969).

were generally limited to achieving higher wages and better work conditions. This paper argues that anarchist syndicates provided a relatively efficient organizational structure so long as conflicts remained local and trade union activities were restricted by law, but were less successful when they had to organize workers over large distances in a democracy.

Rural anarchism in Europe had its deepest roots in southern Spain and a rich literature exists, which attempts to explain the revolutionary thinking of its leaders and account for the movement's strength in what was one of western Europe's more backward regions.[2] However, just as it is difficult to classify the beliefs of the leading anarchists other than their rejection of a strong centralized state, so too is it hard to explain the mass appeal of anarcho-syndicalism to the region's workers. For example, theories which link anarchism to poverty caused by economic backwardness break down because of the movement's strength in Barcelona, the country's leading industrial centre, while rural anarchism was strongest after 1910 in a region where agricultural change was rapid and living standards were improving.[3] Secretive revolutionary syndicates in the late nineteenth century were perhaps the only possible form of effective organization in societies where workers' rights were oppressed and political representation restricted, but the presence of anarchist thinkers and outrages were also common in other European countries at this time. What makes Spanish anarchism different was the creation of a mass movement that represented a significant part of the working classes, especially between 1917–21 and 1931–37.[4] This paper suggests three alternative arguments for the strength of rural anarchism. First, the anarchist strategy of direct action involving the whole village community and responding to local problems was especially effective in organizing workers given the irrelevance of the Spanish state to villagers until the Second Republic.[5] Second, anarcho-syndicalism could compete successfully with other trade unions for members, not just because it was usually the first to organize in the villages, but also because the Socialists largely ignored farm workers until the First World War, while the Catholic syndicates had only a limited constituency because of widespread anticlericalism in Andalucia.[6] Finally, anarchism was strongest in regions such as Jerez where large numbers of day labourers worked on big estates on the rich, fertile plain (Campiña), a region where the farm ladder was weak if not absent, helping to create a relatively heterogeneous working class with common interests (see Map 1).

Jerez de la Frontera is located in the southern province of Cadiz and enjoyed a reputation for

[2] See for example Juan Díaz del Moral, *Historia de las agitaciones campesinas andaluzas* (1928, repr. 1973); Gerald Brenan, *The Spanish Labyrinth* (fourth edn, 1962); Eric Hobsbawm, *Primitive rebels: Studies in archaic forms of social movements in the nineteenth and twentieth century* (1959); and José Álvarez Junco, *La ideología política del anarquismo español* (1976).

[3] For anarcho-syndicalism in Catalonia, see especially A. Smith, *Anarchism, revolution and reaction. Catalan labour and the crisis of the Spanish state, 1898–1923* (2007) and A. Balcells, *Trabajo industrial y organización obrera en la Cataluña contemporánea (1900–1936)* (1974).

[4] Julián Casanova, 'Introducción', in *Tierra y Libertad*, ed. Julián Casanova (2010), p. 8. The movement was banned in the 1920s.

[5] Álvarez Junco, *La ideología política*, pp. 28–9. The state was considered an outside entity that extracted taxes, conscripted soldiers, and enforced law and order, but contributed nothing positive to the lives of the vast majority of the pueblo.

[6] Francisco Acosta Ramírez, Salvador Cruz Artacho, and Manuel González de Molina Navarro, *Socialismo y democracia en el campo (1880–1930). Los origenes de la FNTT* (2009), p. 135.



MAP 1. Cadiz Province

having both a dynamic agriculture and exceptional levels of rural conflict.[7] The fact that Jerez is the centre of the sherry industry resulted in close commercial ties with the British market, allowing farmers to became quickly familiar with new methods and technologies developed in the First Industrial Nation. The revolutionary nature of the city's workforce was apparent well before the First Republic (1873–74). Over the next half-century Jerez experienced the Black Hand (Mano Negra) movement of 1882; a 'peasant assault' on the city in 1892; and extensive conflicts in the years between 1910 and 1923 and again in the early 1930s.

The article has three sections. The first looks at the nature of the Jerez economy and discusses the organizational problems facing cereal workers on the large estates. The article then examines how over time the anarchist syndicates overcame state repression and were able to introduce collective bargaining, especially during the 1910s. Advances were limited, however, as not only did the syndicate find it difficult to consolidate agreements from one year to the next, but farmers increasingly enjoyed the possibilities of mechanization. Finally, the third section shows how the Spanish Republic changed the institutional structure which determined collective bargaining and exposed the limits to the anarchist strategy during the 1932 and 1933 strikes.

[7] For the link between a dynamic local agriculture and conflict, see especially Díaz del Moral, *Historia de las agitaciones*.

TABLE 1. Farm population in Jerez, *c.*1900

	Number	*% of total*
Large property owners	213	1.5
Medium property owners	629	4.5
Small property owners	1064	7.7
Day workers (vines)	5000	36.0
Day workers (cereals)	1300	9.0
Day workers (general)	5592	40.0

Source: Montañés, *Transformación agrícola*, pp. 50–1. Large owners are those with a taxable income in excess of 5882 pesetas, and medium owners above 588 pesetas.

I

The historical literature has often associated the concentration of landownership and *latifundios*, especially in cereal farming, with rural unrest in Andalucía during the first third of the twentieth century.[8] In the western provinces of this region, comprising Cadiz, Cordoba, Huelva and Seville, an estimated 57 per cent of all property was found in estates of over 250 hectares and was owned by just 1.8 per cent of landowners. Even if some land was only marginal for cultivation, these estates contributed 37 per cent of all taxable income.[9] In Jerez de la Frontera, which represented a fifth of the area and almost 30 per cent of the taxable income of the province of Cadiz, around 74 per cent of all its land was found in large estates of over 250 hectares.[10] Over half the total farm incomes in 1900 were earned by 842 large and medium property owners, while the other 94 per cent of the farm population, made up of 1064 small property owners and 11,892 landless casual workers or *jornaleros*, accounted for the rest (Tables 1 and 2). One estimate for Andalucia in the early 1930s suggests that *jornaleros* were only employed for between 180 and 250 days a year, and most worked part time in other activities such as construction, transport or mining to cover their most basic needs.[11] Yet high levels of land inequality and rural poverty were hardly unique to Andalucía, and Díaz del Moral, in his classic study published in 1928, noted that 'if hunger produced unrest … then … Cordoba would have been in perpetual rebellion during many centuries'.[12]

[8] The literature is vast, and includes Antonio Miguel Bernal, *Economía e historia de los latifundios* (1988); Pascual Carrión, *Los latifundios de España* (1932, repr. 1975); Edward Malefakis, *Agrarian reform and the peasant revolution in Spain: origins of the Civil War* (1970); Juan Martínez Alier, *Labourers and landowners in southern Spain* (1971); Rafa Mata Olmo, *Pequeña y gran propiedad agraria en la depresión del Guadalquivir* (1987); Jacques Maurice, *El anarquismo andaluz. Campesinos y sindicalistas, 1868–1936* (1990). The distribution of property and presence of the family farm differed significantly between eastern and western Andalucía, as well as between the hillsides and rich alluvial plain of the Campiña. The *latifundios* often belonged to absentee owners, who rented them out as large farms.

[9] Carrión, *Los latifundios*, cuadros 7 and 8. The cadastre underestimates inequality as shown in Malefakis, *Agrarian reform*, pp. 403–4.

[10] Carrión, *Los latifundios*, cuadros 31 and 32.

[11] Ibid., p. 342.

[12] Díaz del Moral, *Historia de las agitaciones*, p. 63. In a similar vein Scott has written that 'if anger born of exploitation were sufficient to spark a rebellion, most of

TABLE 2. Estimated distribution of farm income in Jerez, *c.*1900

	Number of individuals	*% of total*	*Estimated income (ptas)*	*% of total*
Small owners	1064	7.7	182,153	1.8
Day workers	11,892	86.2	4,846,359	48.2
Medium-sized owners	629	4.6	1,337,834	13.3
Large owners	213	1.5	3,679,188	36.6

Source: Montañés, *Transformación agrícola*, pp. 50–1.

In fact rural unrest in western Andalucía was greatest in the half century prior to the Civil War, a period when employment opportunities in farming grew at roughly the same pace as the active labour force and real wages increased.[13] *Jornaleros* in towns such as Jerez were poor, but explanations for the high levels of rural unrest during the first third of the century need to be sought elsewhere.

Jerez, with 135,000 hectares, was one of Spain's largest municipalities, and its population fluctuated around 63–65,000 during the first two decades of the twentieth century, with 50,000 living in the city itself. By 1930 the population had increased to 72,000, and it reached 81,000 by 1935.[14] Despite the size, the city's economy was essentially rural, involving farming and the processing and marketing of farm products. In the mid-nineteenth century viticulture production was at the heart of the town's economy, employing large quantities of skilled labour in the vineyards, wineries, and barrel-making industry, and its sherry accounted for a fifth of all Spanish exports. However, from the 1870s British demand collapsed, and phylloxera devastated the vineyards a couple of decades later. In Jerez the area of vines fell from about 7500 hectares in 1893 to 2800 by 1925, while wine production contributed less than ten per cent of agricultural output in the entire province by 1931 (Table 3).[15] Although the early anarcho-syndicalism movement in Jerez developed against a background of falling wages and labour de-skilling in viticulture and wine-making from the 1870s, this cannot account for the strength of the movement after 1900, as the sector had already adjusted to the new market conditions. Nor can it explain the presence of anarchism in other villages in western Andalucía, where the vine was rarely cultivated.[16]

Note 12 *continued*
the Third World (and not only the Third World) would be in flames'. James C. Scott, *The moral economy of the peasant. Rebellion and subsistence in southeast Asia* (1976), p. 4.

[13] James Simpson, 'Technical change, labor absorption and living standards in rural Andalucía, 1886–1936', *Agricultural Hist.* 66 (1992). See also Díaz del Moral, *Historia de las agritaciones,* p. 20, who argues that workers' living standards were improving from the turn of the century.

[14] Antonio Parejo, *Historia económica de Andalucía contemporánea* (2009), p. 228.

[15] Leandro Prados de la Escosura, *Comercio exterior y crecimiento en España, 1826–1913* (1982), p. 41, Enrique Montañés, *Transformación agrícola y conflictividad campesina en Jerez de la Frontera, 1880–1923* (1997), pp. 80–3 and 124, and James Simpson, *Creating wine: the emergence of a world industry, 1840–1914* (2011), ch. 8.

[16] For the link between viticulture and anarchism in the nineteenth century, see especially Temma Kaplan, *Anarchists of Andalusia, 1868–1903* (1977), José Álvarez Junco, 'Sobre el anarquismo y el movimiento

TABLE 3. The nature of production in Cadiz, 1909/13 and 1931*

	1909/13 in millions of pesetas	*1931 in millions of pesetas*
Cereals and legumes	43.7	46.6
Livestock	33.8	26.6
Wine (must)	7.9	8.4
Olive oil	4.8	5.0
Other crops	23.9	23.4
Total	114.1	110.0
Output per hectare	1433 pesetas	1445 pesetas
Output per male worker	301 pesetas	326 pesetas

Note: 1909/13 given in 1931 prices.
Source: James Simpson, 'Spanish Agricultural Production and Productivity 1890–1936', in *The economic development of Spain since 1870*, ed. Pablo Martín-Aceña and James Simpson (1995), pp. 208–9 and 211–12.

Instead, early twentieth-century rural anarchism was strongly linked to cereal farming, especially in the Campiña. Favourable prices and technological innovation saw the area of cereals and legumes in Cadiz increase from 118,758 to 152,423 hectares between 1886–90 and 1930–35, while the fallow in the rotation declined from 191,046 to 90,957 hectares.[17] The *cortijo* was a large farm and, because many were found at a considerable distance from the town, they provided accommodation for a small number of permanent workers who looked after the animals.[18] Labour and capital requirements in traditional cereal production were small, and for much of the agricultural year provided Jerez's workers with little employment. However for a few weeks during the cereal harvest labour demand became significantly greater than supply, and years of large harvests and high prices provided ideal conditions for organized labour to bargain for better work conditions. Failure to collect the harvest had major consequences. It might deprive workers of two or three weeks of well-paid work, but it left farmers with virtually no income for that year.

Workers' syndicates, even at favourable times, faced major difficulties in organizing a highly heterogeneous workforce. Although the harvest required large amounts of physical labour, few skills were needed and the high wages attracted not just local *jornaleros*, but also small farmers

Note 16 *continued*
obrero andaluz', *Estudios de Historia Social*, 10–11 (1977), pp. 275–97, and Antonio López Estudillo, 'Conflictividad social agraria y crisis finisecular. Republicanismo y anarquismo en Andalucía (1868–1900)' (Ph.D thesis, Universitat Autónoma de Barcelona, 1993).

[17] Grupo de Estudios de Historia Rural, 'Evolución de la superficie cultivada de cereales y leguminosas en España, 1886–1935', *Agricultura y Sociedad* 29 (1983), pp. 309. The area sown was actually higher in 1903–12 (168,202 ha.) and 1922 (173,493 ha.).

[18] Unusually for southern Spain, the Atlantic rains also allowed Cadiz to be an important livestock-raising centre. Cadiz was the 34th province in Spain in terms of the agricultural area, but 10th for the number of horses, 13th for cattle, 15th for swine, and 18th for goats. Spain, Ministerio de Agricultura, *Tres estudios económicos. Año 1933* (1934).

and others who were normally employed in the industrial or service sectors.[19] In Jerez, as in the rest of Andalucia, harvest workers can be divided into three distinct groups, each seeking different incentives. First, the permanent workers who lived on the *cortijos* enjoyed annual contracts and small perks from the farmers who tried to secure their loyalty.[20] A second, and much larger group, consisted of the underemployed *jornaleros*, small farmers and artisans living in Jerez itself who attempted to maximize their *total* earnings by demanding to be paid day wages rather than piece rates.[21] Finally, the high harvest wages attracted migrant labour from neighbouring villages in the Sierra de Cadiz (Villamartín, Prado del Rey, etc.), as well as from as far away as Portugal.[22] These migrants preferred to maximize their *daily* earnings by using piece rates, and farmers often contracted a gang to harvest a specific field at a fixed price.[23]

Only the second group of workers, those who lived in Jerez itself, could realistically organize to improve work conditions. As with all forms of collective action, attempts to create a syndicate to negotiate better work conditions faced the free-rider problem, as the benefits of a successful strike would be enjoyed by all workers regardless of whether they had actively supported it or not.[24] However an individual's decision to participate depended not only on the possible benefits they believed they could capture without contributing effort, but also crucially on how this decision would affect their standing in the community. Historians and anthropologists have argued that in the face of household resources being severely constrained and out-migration limited, village solidarity was exceptionally high. According to Magagna, for example:

> southern villages and agro-towns can be accurately described as economies of shared poverty in which local communities practiced an enforced distribution of risks and benefits according to a finely graded hierarchy of locally defined rights and responsibilities.[25]

[19] In Spain in 1914, for example, harvest work paid 10 per cent more than the maximum wage for unskilled construction workers (and 40 per cent more than the minimum wage). Spain, Instituto Geográfico y Estadístico, *Anuario Estadístico de España 1915* (1916), pp. 242–5. In France, as late as the mid-nineteenth century between 500,000 and 800,000 industrial workers participated in the harvest in France. Gilles Postel-Vinay, 'The dis-integration of traditional labour markets in France: from agriculture *and* industry to agriculture *or* industry', in George Grantham and Mary MacKinnon (eds), *Labour Market Evolution* (1994), p. 75.

[20] The limited evidence suggests that the permanent workers' wages were low, but that they benefited from fringe benefits and paternalism. Francisco Fuentes Cumplido, *Memoria ... el problema agrario en el Mediodía de España* (1904), pp. 46–8, Jerome Mintz, *The anarchists of Casas Viejas* (1982), p. 56 and Juan Carmona and James Simpson, *El laberinto de la agricultura española. Instituciones, contractos y organización entre 1850 y 1936* (2003), pp. 99–101.

[21] Most workers lived in the town because there was no permanent work to be found in the countryside. The 'labour exchange' was the town square, where employers and employees would meet to agree temporary contracts. Workers in Jerez in 1882 complained to the mayor when vineyard owners tried to recruit outside the Plaza de Escribanos between 7 and 10 each morning. *Los Vinos y Aceites*, 15 Apr. 1882, p. 82.

[22] Antonio Florencio Puntas and Antonio López Martínez, 'El trabajo asalariado en la agricultura de la Baja Andalucía, Siglos XVIII–XIX', *Historia Agraria* 21 (2000), pp. 99–126.

[23] For the 'norms' established by workers in neighbouring Cordoba, see Martínez Alier, *Labourers and landowners*.

[24] Mancur Olson, *The logic of collective action* (1965) and Gordon Tullock, 'The paradox of revolution', *Public Choice* 11 (Fall 1971).

[25] Victor V. Magagna, *Communities of grain. Rural rebellion in comparative perspective* (1991), p. 173.

Solidarity was accompanied by discipline, and from the 1910s the anarcho-syndicates demanded that workers and employers *boicot* those who failed to respect a strike.[26] Furthermore, not only has the 'moral economy' approach for peasant communities been criticized, most notably by Popkin, but those anthropologists who have argued that social cohesion was unusually strong *within* villages in southern Spain, have also noted the high degree of competition that existed *between* villages.[27]

Labour market segmentation, together with the fact that workers were employed on farms dispersed over a very large area, created significant difficulties for syndicates to monitor strikes, while migrant workers from neighbouring villages provided employers with large reserves of potential strike breakers. Employers also found it easy to victimize strikers, and those who were blacklisted by them often found few alternative employment opportunities, especially in Andalucía's smaller towns.[28] Labour leaders therefore demanded that only card-carrying local members be hired, and that the syndicate itself should choose the order in which workers were employed. By controlling the market in this way the syndicate hoped to offer material incentives in the form of guaranteed employment to its members and 'punish' those who remained outside it. Employers always rejected these demands, especially any interference to their *autonomía*, or their choice of workers.[29] However a large number of non-union workers were also opposed to a closed shop. It was at this point that the central state, represented by the provincial governor, became crucial. In theory it could intervene during a strike and make both sides accept arbitration; it could remain neutral, allowing market forces and the local power struggle in the countryside to determine the outcome; or it could back either the employers (for example by declaring a strike illegal), or the syndicate (by failing to guarantee the freedom to work during a strike). The state was therefore not neutral, and in Spain during the 1930s both employers and the moderate Socialist syndicate attempted to capture it. The anarchists, by contrast, choose to ignore it.

II

In Jerez, the liberal and republican ambitions of large sections of the urban population were frustrated by the failure of the First Republic and the return of the monarchy and repression after 1874. For much of the period between 1874 and 1914, and even on occasions between 1914 and 1936, organized labour was either banned or faced severe restrictions. It was against

[26] Díaz del Moral, *Historia de las agritaciones*, pp. 337–8. The Regional Congress of the anarcho-syndicalist orientated *Sociedad de Obreros Agrícolas* in 1914 demanded that strike-breakers be treated with disrespect and denied work in their own towns. Archivo Municipal de Jerez de la Frontera (hereafter AMJF), legajo 558.

[27] Samuel Popkin, *The rational peasant. The political economy of rural society in Vietnam* (1979) and Julian Pitt-Rivers, *The People of the Sierra* (1954: 1971), pp. 8–9. These points are dealt with in greater detail in James Simpson and Juan Carmona, *The agrarian origins of the Spanish Civil War* (in preparation).

[28] The diversity of Jerez's economy reduced somewhat this threat, which perhaps is one reason why conflicts were so bitter. However, Sebastián Oliva, a leading anarcho-syndicalist leader in the period 1914–23, could only find 'work' as the doorman to the syndicate's headquarters in the early 1930s, earning five pesetas a day. AMJF, Protocolo 553, 1 June.

[29] George Collier, *Socialists of rural Andalusia* (1987), p. 5.

this background that radical elements that operated clandestinely questioned the efficiency of strikes, and preferred instead acts of violence and propaganda by deed.[30] Violence in turn provided an excuse for the authorities to crack down on labour organizations. The terrible harvests of 1881 and 1882 led to widespread hunger and a significant increase in petty theft, as well as the appearance of secret organizations, and in particular the Mano Negra, which was linked to the murder of several workers and small property owners in the Jerez region. When the newly formed Spanish Workers' Federation (Federación de Trabajadores de la Región Española or FTRE) and the recreated local Union of Farm Workers (Unión de Trabajadores del Campo or UTC) tried to organize a strike against piecework on the eve of the excellent cereal harvest in 1883, the authorities used the Mano Negra as an excuse to carry out a 'preventive repression' and arrested large numbers of workers, while sending soldiers to collect the harvest.[31] Again in January 1892 the authorities responded to a workers 'invasion' of Jerez demanding employment as an excuse to weaken their syndicates through widespread arrests, torture and harassment.[32]

Important lessons were learnt by both sides. After a couple of decades of limited success with clandestine activity and 'propaganda by deed', the more moderate anarcho-syndicalists saw that strikes could not be won in the face of opposition by the local authorities, a fact made more likely when violence was used. In addition, successful strikes needed the large-scale participation of workers, forcing syndicates to accept all workers regardless of their political persuasions. The fact that employers were obliged to pay for the use of the military to collect the 1883 harvest also encouraged them to be more flexible.[33] The 1902 strike shows how far things had changed, when just 87 anarcho-syndicalists organized 3000 harvest workers, and for the first time were able to negotiate higher wages and forced employers to end the custom of giving food as part of the wage.[34] Crucially not only was the national government willing to accept the 'legitimate aspirations' of workers to organize when public order was guaranteed, but Jerez's mayor was disposed to mediate, and the anarchist syndicalist leaders to negotiate an agreement.[35] However the success of the 1902 strike was followed by failure the next year, and in neighbouring Alcalá del Valle there was a violent confrontation between workers and the *Guardia Civil* (rural police). Torture was again used by the authorities to make workers reveal their leaders, but this was now criticized, not just in the anarchist newspaper *Tierra y Libertad*, but also in the mainstream national press.[36] While there was little strike activity during the next decade, landowners realized that they could no longer rely on police repression as an effective tool against organized labour.

[30] Álvarez Junco, *La ideología política*, p. 492.

[31] Maurice, *El anarquismo andaluz*, pp. 115–22 and Montañés, *Transformación agrícola*, pp. 192–205.

[32] Between 400 and 600 workers armed with sticks, knives and pistols entered Jerez and were easily controlled by the authorities, although three people were killed. The use of torture was widely used to identify the supposed leaders, and four workers were garrotted. Maurice, *El anarquismo andaluz*, pp. 123–7.

[33] Clara E. Lida, 'Del reparto agrario a la huelga anarquista de 1883', in *El movimiento obrero en la historia de Cádiz* (1988).

[34] Montañés, *Transformación agrícola*, pp. 213–4. The strike was also supported by other workers in Jerez.

[35] See for example *El Guadalete*, 24 June 1902.

[36] Alcalá del Valle is a mountain village about 110 kilometres from Jerez. J. Connelly Ullman, *La Semana Trágica* (1972), pp. 242–52 and Maurice, *El anarquismo andaluz*, pp. 127–8.

TABLE 4. Wages and Strikes in Jerez de la Frontera (1911–1936)

Year	*Day wage*	*Wheat price*	*Cost of living*	*Strike called?*	*Agreement reached?*	*Provincial governors imposes conditions*	*Duration in days*
1911	100	100	100	Yes	Yes		13
1912	100	110	103	No	Yes		–
1913	100	140	105	Yes	Yes		13
1914	111	132	107	Yes	Yes		29
1915		150	117	No	Yes		–
1916		164	129	Yes	Yes		6
1917		181	143	Yes	No		15
1918	146	215	175	Yes	Yes		15
1919	161	225	187	Yes	No		30
1920	189	283	205	Yes	No		28
1921		229	182	No (?)	No		–
1922	171	193	178	No (?)	No		–
1923		188	175	Yes	No		30
1931	221	205	184	No	Yes and rejected		–
1932	243	216	180	Yes	Yes and rejected	Yes	15
1933	243	204	175	Yes	No	Yes	8
1934	243	222	187	No	No	Yes	–
1935	219	215	189	No	No	Yes	–
1936	219	199	198	Yes	No – Civil War		–

Sources: Wages refer to threshing with machinery, a task central to workers' demands. For 1931–36: AMJF, Protocolo 553; *Boletín Oficial de la Provincia de Cádiz* (BOPCA), 3 June 1932; 14 June 1933; 16 Apr. 1934; 10 June 1935; 9 July 1936. Wheat prices are only available for Valladolid, in the *Anuario Estadístico de España*. Deflactor, Prados de la Escosura, *El Progreso Económico de España*, pp. 364 and 365. Information on strikes for the period 1911–23, is found in Montañés, *Transformación agrícola*, and for the period 1931–36, *Boletín del Ministerio de Trabajo*, various years.

The decade of the 1910s marked the peak of anarcho-syndicalist success in Jerez. A handful of militants succeeded in forcing the employers to the negotiating table and winning higher wages, secured limits to the use of harvest machinery, especially threshing machines, and obtained the consolidation of a system of collective bargaining for work conditions throughout the year.[37] Strikes were needed in six of the eight years between 1911 and 1918, and only in 1912 and 1915 was an agreement reached without one (Table 4). Crucial to these successes were the favourable harvest conditions and high wheat prices. When these conditions changed after 1921, employers became less willing to concede the demands put to them.

[37] Collective bargaining was first used in 1902, but then abandoned until 1911.

The process began each year with demands drawn up by the anarcho-syndicalist leadership and approved by Jerez's Farm Workers Association (Asociación de Obreros Campesinos de Jerez or AOCJF), which enjoyed a permanent membership of just 200 in 1911 and 400 in 1914, compared with the two or three thousand harvest workers found in Jerez.[38] The AOCJF, with its aversion to bureaucracy, used open assemblies and rotated its officeholders, and was little different to other anarcho-syndicates in Andalucía at this time. Only Jerez's farm workers were members, but the syndicate established close links with other urban workers, appealing to class solidarity and arguing that higher harvest wages increased the demand for their goods.[39] As the anarchist syndicates charged only a minimal subscription and had no strike funds, they were reliant on the contributions from others.[40] This at times created an outside discipline on their activities, as other local non-farm workers withdrew their support in the autumn of 1911 or summer of 1917 when they believed that the demands made by the AOCJF were unrealistic. Farm workers then drifted back to work and the strikes ended with violent conflicts between workers.[41]

If farmers rejected the AOCJF's demands, the syndicate proceeded to call a strike. Both parties realized that the strike's success or failure depended to a large extent on whether migrant workers could be used and the response of local government officials. The AOCJF was a leading participant in the National Federation of Farm Workers (Federación Nacional de Obreros Agricultores or FNOA), which represented the agricultural workers in the national anarchist federation, the Confederación Nacional de Trabajo or CNT. The Jerez syndicate used the regional congresses of the FNOA and the newspaper *La Voz del Campesino* to try and persuade other village organizations to respect the strikes in Jerez, and not send migrant workers.[42] By contrast farmers looked to the police to protect harvesters who wanted to work, which led in 1914 to more than a hundred people being briefly detained, sufficient to seriously weaken the strike.[43] However, the police were under the control of the local authorities, and if these believed that the employers were being too inflexible, then the simple threat of their removal was often enough to obtain an agreement.[44] In the face of frequent strikes, and under pressure from the local authorities who acted as mediators, employers were now forced to accept collective bargaining. Unlike many towns in Andalucía, a significant number of the large landowners lived locally and 14 employers, who between them farmed about a fifth of the Jerez's land, agreed in 1914 to negotiate with the workers' associations on behalf of the sector.[45]

The anarcho-syndicalists' successes in Jerez between 1911 and 1918 were due in part to a leadership that aimed to reach a negotiated settlement with employers, even though this caused

[38] AMJF, legajo 557 and *El Guadalete*, 11 June 1914. These figures are only approximate, as in 1914 some 800 people voted, but the official membership was only 200.

[39] *Fuerza Obrera*, 26 June 1913, supplement.

[40] In 1914, for example, 2758 pesetas was raised, of which 43% came from workers' associations in Jerez, and the rest from outside. Approximately 88% was spent on food and other necessities for the workers. *El Guadalete*, 14 July 1914.

[41] In 1911 the mayor requested that the security forces remain to avoid violence between groups of workers. AMJF, legajo 557. See Montañés, *Transformación agrícola,* p. 227.

[42] AMJF, legajo, 558. These included Arcos, Medina, Villamartin, Espera, and Bornos, all found in the sierra, and a major source of migrant labour for Jerez. The first congress of the FNOA was in 1913.

[43] *El Guadalete*, 2 July 1914 and *Diario de Cádiz*, 3 July 1914.

[44] For the pressure of the Provincial Governor on the employers, see *El Pueblo*, 3 July 1918.

[45] AMJF, legajo 3262.

internal conflicts when they achieved less than the rank and file wanted.[46] However the higher nominal wages gained were insufficient to improve real living standards significantly because of inflation. This moderate stance ended in 1919, when the anarcho-syndicalists demanded a 30 per cent wage increase, together with the abolition of piecework, a shortening of the work day, and a guaranteed minimum of 2.2 days' work per hectare to collect the harvest. In the face of this growing radicalism, the local authorities now sided with the employers, some of the syndicate's leaders were arrested, and workers were brought in from outside the town to break the strike.[47] This change in direction can be linked to the growing radicalization of the anarcho-syndicalists nationally. In 1918 the FNOA was dissolved, and the CNT reorganized so that the old national producers' organizations disappeared and instead a single village or town syndicate created to represent all those who worked in agriculture and the food industries (Sindicato Unico de la Alimentación). This had the advantage that minor issues affecting small groups of workers could be ignored, while the syndicate was able to call on considerably greater numbers when required, thereby increasing its negotiating power. However the leadership now also emphasized publicly, for the first time, the close links between the political movement and the syndicate, despite the majority of workers being more concerned with resolving the day-to-day problems of earning a living than belonging to a revolutionary organization, even in Jerez, one of the leading anarchist strongholds.[48] Furthermore it led to antagonism with workers outside the anarcho-syndicates. In Jerez, vine workers had traditionally belonged to an independent syndicate (Sociedad de Viticultores) and many now refused to join the anarchist Sindicato Único. The Sindicato Único demanded that the González Byass winery employ its workers only and, when it refused, called an industry-wide boycott of the firm in May 1920. Other wineries responded with a lockout which lasted two weeks, coinciding with the harvest strike of that year, and making thousands of workers unemployed. Not only did the anarcho-syndicalists fail in their objectives, but they lost considerable support from other workers.[49] Further setbacks occurred with the suspension of constitutional guarantees and the closure of its offices in Jerez between January 1921 and February 1923. In 1923 the leadership again called a harvest strike, despite scarcely 130 people being present for the vote. Falling wheat prices and rejection of the authorities to mediate resulted in a bitter strike ending after a month with few gains.

The limited success of the anarcho-syndicalists after 1919 highlights two major organizational deficiencies. First, even when the syndicate was able to successfully monitor and discipline the local workforce, it found it much harder with migrant workers. Attempts to create regional organizations which might have helped overcome these difficulties failed because they required a professional bureaucracy, something which was unacceptable to the anarchists. A second problem was the fact that strikes were often only won with the intervention of the elected mayor or provincial governor (a political appointment from Madrid), who mediated between the syndicate and employers. This created a dilemma for the more radical anarcho-syndicalists as they rejected these authorities. With the dictatorship of Primo de Rivera between 1923 and

[46] This was the case in 1917, the only year that the strike ended without an agreement.

[47] Montañés, *Transformación agrícola*, pp. 243–5.

[48] The combination of a leadership providing strategy and the syndicate implementing decisions ('el uno es el cerebro que piensa y formula y el otro el brazo que ejecuta'), AMJF Protocolo Municipal, 480, 1920.

[49] Montañés, *Transformación agrícola*, pp. 252–5.

1930, the anarchist CNT, unlike the Socialist national federation, the UGT, was banned and it only became legal again in 1931.

The events of the period 1911–23 forced employers to negotiate with the anarcho-syndicalists, but the higher harvest wages also encouraged them to consider mechanization to reduce labour costs. Jerez's estates were worked as rational business enterprises, and by the turn of the twentieth century this implied that technological change was biased towards labour saving machinery. Mechanization needed no state involvement and the potential savings were relatively easy for farmers to calculate, while large tenant farmers could take their machinery with them when their leases ended. Mechanization started in the nineteenth century, and the diffusion of steam threshing machines was initially more important than reapers, despite their considerably greater capital costs. By the First World War reapers and threshing machines had been substituted for some of the Portuguese harvesting gangs, and had begun to threaten national workers in Jerez.[50] Mechanization reduced labour requirements to collect and thresh a hectare of wheat by 40 per cent, but for male workers it was 70 per cent.[51] During the 1920s there was also a growth in the number of tractors, which had the major advantage in that they could plough in summer without waiting for the autumn rains. The first farm machine census was published in 1932, and shows 137 tractors, 571 reapers (and reaper-binders), as well as 18 combine harvesters in Cadiz.[52] These figures are probably an underestimate, and they increased during the 1930s leading one historian to suggest that there were sufficient machines available to mechanize most tasks in cereal cultivation on Jerez's latifundios.[53] Mechanization also changed the nature of employment opportunities, and the right wing Unión de Derechas Independientes in 1932 claimed that there were 300 farm mechanics 'of different categories', and five large workshops in Jerez, 'which existed to repair farm equipment'.[54] By contrast, landowners were reluctant to lobby the state to invest in research and development because 'scientific agriculture' was often associated with irrigation, which was usually considered incompatible with large estates and required landlords to pay higher taxes for the huge infrastructure costs.[55] For workers' organizations, restricting the use of machinery, and hence preserving work opportunities, became as important as achieving wage increases.

[50] Antonio Cabral Chamorro, *Renovación tecnológica y mecanización de la agricultura en Cádiz (1850–1932)* (2000), pp. 63–4 and 73. The reaper substituted energy (mules and horses) for labour. While energy was cheap and labour expensive in the United States at this time, the situation was reversed in Spain. James Simpson, 'La elección técnica en el cultivo triguero y atraso de la agricultura española a finales del siglo xix', *Revista de Historia Económica* 5 (1987), pp. 289–90.

[51] José María Sumpsi, 'Estudio de la transformación del cultivo al tercio al de año y vez en la campiña de Andalucía', *Agricultura y Sociedad* 6 (1978), pp. 58–9.

[52] Spain. Ministerio de Agricultura, *Anuario estadístico de las producciones agrícolas. Año 1932* (1933), pp. 320 and 322.

[53] Chamorro, *Renovación tecnológica*, pp. 76, 80 and 91, gives 200 threshing machines in Cadiz in 1942 (of which 81 were in Jerez); 42 combine harvests in Cadiz (of which 31 were in Jerez); and by the end of the 1930s, 286 tractors in Cadiz (and 190 in Jerez).

[54] Diego Caro Cancela, *Violencia política y luchas sociales: La Segunda República en Jerez de la Frontera* (2001), p. 194.

[55] Attempts to create local societies to encourage better cultivation, such as the *Sociedad Fomento Agrícola de Jerez* and the *Sociedad de Reforma Agrícola Andaluza* went bankrupt in 1866 for the lack of financial support by their members. López Estudillo, 'Crisis finisecular, transformaciones agrarias y atraso económico. Andalucía 1870–1930', p.148 and Chamorro, *Renovación tecnológica*, pp. 49–85. Short leases also discouraged tenants from investing to improve soil fertility.

III

The declaration of the Second Republic in April 1931 changed radically the institutional structure in the Spanish countryside, with the balance of power switching from farmers to workers. In anticipation of a future land reform to benefit *jornaleros*, the Socialist Minister of Labour quickly passed decrees which had a wide-reaching impact on labour markets in the countryside.[56] Farmers were required to cultivate their land with the same intensity as in previous years (crucial to stop them responding to higher wage costs by cutting back on labour inputs or instigating a lock-out). They were also required to employ local unemployed workers before migrants, even if these came from the next village, and wages, along with other important decisions such as the deployment of harvest machinery, were to be determined by local *jurados mixtos* (arbitration boards). The boards had equal representation of employers and workers, and a government-appointed chairman with the deciding vote. These laws changed 'the costs and benefits of participating in unions and gave unions a greater ability to punish neutrals and strike-breakers during strikes'.[57] Therefore despite the deep economic recession and growing unemployment at a time when cost-effective harvest machinery was available, the number of rural strikes in 1932–3 in Spain as a proportion of those employed in agriculture increased six-fold compared to the previous peak in 1918–20.[58]

The anarchists continued to work outside the state and their decision not to participate in either national or local elections now placed them at a considerable disadvantage, as they were unable to reward their followers to the same extent as the socialist farm workers syndicate, the Federación Nacional de Trabajadores de la Tierra (FNTT). Therefore, while the FNTT saw its national membership grow rapidly from 27,340 to 392,953 between 1930 and 1932, and in the province of Cadiz from just one local organization with 50 members in 1930, to 15 centres and 5169 members in 1932, the anarchist CNT in Andalucía saw its 350,000 members in December 1931, of which about half were agricultural workers, drop to 243,000 by March 1933.[59]

In Jerez, with the end of Primo de Rivera's dictatorship, the anarcho-syndicalists created the Farm Workers' Association (Asociación General de Trabajadores Agrícolas or AGTAJF). The CNT organizational structure now grouped workers by profession, so the *jornaleros* involved in the cereal harvest were found in a different syndicate to vine tenders or market gardeners.[60] Otherwise the syndicate continued as before: minimal bureaucracy; no professional leaders; a leadership whose political ideas differed to those of the rank and file; and policy determined locally by members voting in open meetings.[61]

[56] The land reform legislation was finally passed in Sept. 1932, but its results were limited. See especially Malefakis, *Agrarian reform* and Ricardo Robledo Hernández, 'La Segunda Republica (1931–1939): de la Ley Agraria a la Guerra Civil', in *Historia del Ministerio de Agricultura, 1900–2008*, ed. Ricardo Robledo Hernández (2011).

[57] Jordi Domenech, 'Rural labour markets and rural conflict in Spain before the Civil War (1931–36)', *EcHR* 66 (2013), p. 90.

[58] Ibid., p. 89.

[59] Diego Caro Cancela, *La Segunda República en Cádiz* (1987), p. 145 and Maurice, *El anarquismo andaluz*, p. 28. Membership figures however are only very approximate.

[60] Ibid., pp. 280–1. The AGTAJF, despite criticism from the CNT, argued for the need to organize casual workers and small farmers in separate groups.

[61] The anarcho-syndicalists, for example, supported a land reform to that gave no compensation to owners,

TABLE 5. Wheat production and labour syndicates in Cadiz, 1932

District	*Area of wheat (% provincial total)*	*Casual labourers*	*CNT membership*	*FNTT membership*
Jerez	21	5338	3000	
Arcos	10	4025	3200	
Sierra	15	6336	1400	
Cádiz				5169

Sources: Area of wheat: Memoria Resumen del Catastro Agronómico de Cádiz, in Archivo Histórico Provincial de Cádiz, Hacienda, legajo 507; casual workers, estimated from the active labour force in agriculture (minus the number of landowners) from the *Censo de Población*, 1930. CNT membership: Federación de Trabajadores Agrícolas de la Comarca de Cádiz, *Memoria del Primer Congreso Comarcal Celebrado por la Federación De Trabajadores Agrícolas de la Comarca de Cádiz, en los días 17 y 18 de enero de 1932, en Jerez de la Frontera* (1932), pp. 6–8; FNTT membership: Caro Cancela, Diego. *La Segunda República en Cádiz* (1987), p. 145.

The AGTAJF established links with other farm and craft syndicates through their membership of the CNT, but the relationship was often weak. The AGTAJF also attempted to organize harvest workers at the provincial level, but while anarcho- syndicates represented most workers in the towns of Jerez and Arcos, it was the Socialist FNTT that had the greatest support among the relatively poor small farmers in the Sierra villages, many of whom were also dependent on harvest earnings in the *Campiña* (Table 5).[62] Furthermore the local anarcho-syndical groups resisted any move that led to a loss of autonomy, even though labour markets were now operating over a much wider geographical area, and organizations such as the Socialist FNTT, employers' associations, and political parties, were effective at the national level. This organizational weakness is reflected in the fate of *La Voz del Campesino*, the anarchist newspaper which appeared at best only erratically, and finally had to close because of financial problems in January 1933.[63]

The AGTAJF leadership was initially in the hands of moderate veterans, but the agreement they signed with the employers for the 1931 harvest was rejected by the rank and file because it failed to give the syndicate control over which workers were to be hired, allowed piecework for some tasks, and failed to limit the use of harvest machinery.[64] The same fate met the agreement signed the following year under the auspices of the civil governor.[65] The militants succeeded in removing the moderate leadership and organized harvest strikes not just to demand higher wages and limit the use of farm machinery, but also for the political purpose of challenging the Socialist-created *jurados mixtos*, as well as attempting to erode the stability of the new regime and open a new revolutionary period.[66] Although the 1932 and 1933 strikes were well supported

Note 61 *continued*
and land was to be given to the syndicate or collectives without state interference. See minutes from meetings held in April and May 1931. AMJF, Protocolo 553.

[62] It was intended to be the embryo of a national federation.

[63] For the financial difficulties, see *La Voz del Campesino*, 7 Jan. 1933, p. 1.

[64] The employers were represented by the *Asociación Gremial Agraria* and *Unión Agraria*. AMJF, Protocolo 553.

[65] This included salary increases and a reduction in piecework, but the employers demanded norms on work effort and the free use of machinery.

[66] Maurice, *El Anarquismo Andaluz*, pp. 280–1.

in Jerez, they failed to halt the harvest as the government declared them both illegal and the security forces guaranteed the rights of migrant labour to complete its collection.

It is the organizational weakness of Jerez's syndicate (AGTAJF), contrasted with the considerable negotiating skills of Cadiz's provincial governors in playing one group of workers off against another, which helps to explain the failure of the 1932 and 1933 strikes.[67] Despite being government appointees, the governors preferred not to impose the *jurados mixtos* that the Socialists were promoting from the Ministry of Labour because these were rejected outright by the anarcho-syndicalists in Cadiz. In the summer of 1932 the governor initially obtained an agreement between workers and farmers in the Sierra that included wage increases, a reduction in piecework, minimal work standards and, for the first time, limits to the use of harvest machinery to mitigate the exceptionally high local unemployment caused by the restrictions on the movement of labour.[68] By avoiding conflicts in the Sierra and elsewhere in the province, the Republican authorities effectively isolated Jerez's strikers. Once the provincial governor declared the strike illegal, Jerez's farmers were free to hire causal workers from other localities, a task now made easier by motor vehicles which allowed strike breakers to be brought from much greater distances. Clashes broke out between different groups of workers, and the security forces made arrests. Despite a number of serious incidents and damage to farm equipment, the AGTAJF had to recommend a return to work without obtaining its objectives, and accept the conditions imposed by the provincial governor, which were based on the original agreement between employers and syndicate leaders that had been rejected by the workers.[69]

In the autumn of 1932, the governor initiated negotiations for winter employment between employers' organizations and workers in three different regions of the province. An agreement was reached first in the Campo de Gibraltar and adjoining localities, followed by the Sierra, and finally in Jerez for the Campiña.[70] These agreements helped institutionalize a process of local collective bargaining for the sector which was independent of the *jurados mixtos*.

In Cadiz, the 1933 harvest strike was limited to Jerez because the governor again brokered agreements between labourers and farmers in the rest of the province. In the Campo de Gibraltar the 1932 settlement was repeated, but with restrictions on the use of harvesters and combines, and in the Sierra the governor also imposed conditions that included restrictions on the use of harvest machinery, despite the strong opposition of farmers.[71] Once again, by avoiding conflicts in these regions, the governor managed to isolate Jerez's strikers, some of

[67] The Provincial Governor in 1932 was Joaquín García Labella, a member of *Acción Republicana*, whose leader was Manuel Azaña. In 1933 the Governor was Ernesto Vega, who belonged to the *Partido Republicano Radical Socialista* of Marcelino Domingo.

[68] The agreement prohibited the lending or renting of machinery, and required that a minimum of one third of the harvest be collected by hand on farms of more than 50 fanegas (equivalent to 32 ha). For details, see *BOPCA,* no. 131 (5 June 1932), p. 1. Labour was permitted to move freely between the villages of the Sierra, but restricted by the *Ley de Terminos Municipales*, from working in Jerez.

[69] *BOPCA,* no. 159 (7 July 1932), p. 1.

[70] *BOPCA,* no. 240 (8 Oct. 1932), pp. 1–2. The agreement in Jerez was signed by the AGTA. *BOPCA,* no. 267 (10 Nov. 1932). Small wage increases were obtained, as well as the abolition of piecework, an eight-hour day, and the preference for hiring local workers before migrants.

[71] In the Campo de Gibraltar, only 45% of the area sown could be collected by machinery, a greater restriction than that set in the Sierra the previous year because of the greater unemployment caused by the meagre harvest. *BOPCA* no. 124 (30 May 1933) and no. 146 (24 June 1933).

whom resorted to acts of sabotage as in the previous year.[72] Workers were again forced to accept conditions imposed by the governor, although these contemplated for the first time restrictions on the use of agricultural machinery when the harvest was poor, and employment opportunities limited.[73]

The difficulties of collective action were not just caused by the anarcho-syndicalist's organizational model, but derived ultimately from the nature of rural society itself. Day labourers and smallholders could share objectives such as higher harvest wages or job creation schemes on large farms, but some also aspired to improve their status by leasing small plots from landowners. However the anarchists opposed the temporary settlements of the landless on large farms and rejected the Republican land reform because they believed the creation of small family farms was an obstacle to modernization, and that settlers would eventually become indebted as they had in earlier state-sponsored projects. This opposition to the family farm and land reform lost the anarchists support among many sectors of rural society, as can also be seen by the significant electoral support that right-wing parties enjoyed in both the 1933 and 1936 elections. In Cadiz, a province where 71 per cent of the active population was unskilled workers, the right still managed to obtain 40 per cent of the votes in the 1936 election.[74] Cliental relations and patronage in rural society remained very strong, even in this democratic society.

To measure the relative success of the Anarchist and Socialist syndicates is difficult. Ideally changes in both day wages *and* the amount of farm work available to labourers in towns such as Jerez controlled by the anarcho-syndicalists need to be compared with towns where the workers were organized by the Socialist FNTT. However, only day wage rates are available. These are of poor quality and are often those agreed during collective bargaining, and not necessarily those that were actually paid. As most strikes took place during the cereal harvest, Jordi Domenech has recently tried to determine how successful they were by measuring the gap between winter and summer wages, and has argued that the relatively small gap between the two in a province such as Cadiz suggests union weakness.[75] However, guarantees of employment were just as important as higher wages, and syndicates attempted to fix wages and negotiate the amount of work during winter months, so that a small spread between the two rates cannot be interpreted as failure.

Yet harvest wages in Jerez do not appear to have increased as quickly as elsewhere. Over the period between 1914 and 1933, harvest wages in Jerez increased almost a fifth less than the average unskilled wage in Spain, while the 'maximum' farm wages in Cadiz in 1931 were only about four-fifths the average in Andalucía.[76] These figures are only very approximate, but they suggest that Jerez's anarcho-syndicalists were probably less successful than the Socialist FNTT by the time of the Second Republic, although the greater level of farm mechanization found in Jerez probably made their task greater than elsewhere.

[72] During and immediately after 1933, the press reported numerous acts of sabotage: 14 barns burned, 5 combine-harvesters, 8 reapers and 11 reaper-binders destroyed or made unusable in Villamartin, and irrigation gates destroyed on the Majarromaque cortijo that led to the loss of 250 *aranzadas* (equivalent to 110 ha) of corn, and numerous attacks on workers and mechanics. *Diario de Cádiz*, 18 June 1933.

[73] *BOPCA*, no. 137 (14 July 1933), pp. 1–3.

[74] Caro Cancela, *La Segunda República en Cádiz*, pp. 191–6.

[75] Domenech, 'Rural labour markets'.

[76] *Anuario estadístico de España*, various years.

IV

Spanish historians have noted how rural protests in Andalucía occurred in 'waves' from the late nineteenth century to the Civil War. The timing of these conflicts – 1882–3, 1902–5, 1918–20, 1931–33, and 1936 – are usually linked to periods of liberalization in government policy towards organized labour, and they end with state repression.[77] However this interpretation ignores other important changes that took place, both in the objectives and nature of collective action, and the response of the state. During the 1910s the anarcho-syndicates were able to operate effectively because their organizational structure was flexible and essentially local, making it relatively easy for them to respond to villagers' needs, which were often parochial and difficult to generalize. Yet from the 1920s it was the Socialists who found it easier to respond to the steep learning curve of transforming small village conflicts into a mass struggle to improve living standards. The Socialists pursued a policy of institutionalizing collective action and controlling local government, rather than support isolated strikes that were concerned with purely village problems. The political branch, the PSOE, was instrumental in introducing major new labour institutions in the countryside in 1931 and 1932, allowing its farmworkers' federated syndicate (FNTT) to rapidly increase its membership. These institutions were rejected by the anarchist CNT, and their syndicates often found themselves as much in conflict with the FNTT as with the employers.

The strike failures in Jerez during the 1932 and 1933 harvests illustrate not just the organizational weaknesses of the anarchist syndicates but also, to the radical leaderships' despair, the growing role of the provincial governor and the state in resolving labour conflicts. By contrast, the success of the Socialist FNTT was dependent on its position as the official client, and when the PSOE lost political power in 1933, the new centre-right government was quick to end cooperation, and the *jurados mixtos* began to favour the farmer. As an increasing number of socialists viewed the agrarian problem in terms of class conflict, the response of these 'frustrated corporatists' was now to move to the left, and look to the syndicate rather than the party to carry out radical political change.[78] As with the anarcho-syndicalists, the government responded with repression.

In the long run, attempts by the *jornaleros* in southern Spain to create class-based syndicates to achieve permanent improvements in living standards had only limited success. However, this was also true of collective action everywhere among casual farm workers, whether they were organized locally by independent syndicates, or by moderate bureaucratic socialist organizations. The long-term solution in most countries was some form of corporatism, which involved the substitution of political bargaining for market-determined wage settlements, such as the FNTT had attempted in the 1930s.[79] At the extreme was Britain, where the vast majority of workers felt comfortably integrated in a democratic system, and where the exceptional experience of wartime economy produced in 1917 'what 50 years of trade union agitation had

[77] These dates for Andalucía differ slightly to those discussed in this paper for Jerez.

[78] Santos Juliá, 'Corporativistas obreros y reformadores políticos: crisis y escisión del PSOE en la Segunda República', *Studia histórica. Historia contemporánea* 1: 4 (1987), pp. 41–52.

[79] George M. Luebbert, *Liberalism, Fascism, or Social Democracy* (1991), p. 2.

failed to', namely a guaranteed national minimum wage and a fixed working week for farm workers.[80] In Italy, and later in Spain, a different form of corporatism emerged with Fascism, which organized the farm sector vertically and gave limited guarantees to farm labour. By contrast, class-based syndicates, such as the anarchist CNT and, after 1934, the Socialist FNTT, were even more unlikely to obtain a sector-wide agreement with employers and government in a democratic society, especially when market forces and the availability relatively cheap harvesting and threshing equipment were working against them.

[80] Alun Howkins, *Poor labouring men. Rural radicalism in Norfolk, 1870–1923* (1985), p. 121 and more recently Alun Howkins and Nicola Verdon, 'The state and the farm worker: the evolution of the minimum wage in agriculture in England and Wales, 1909–24', *AgHR* 57 (2009), pp. 257–74. The board had representatives of workers and farmers, as well as appointed members from government. Although it was abolished in 1921, it was restored by the Agricultural Wages Act (1924) and enabled workers to obtain minimum work conditions in what was a highly volatile industry.

Patterns and causes of the growth of European agricultural production, 1950 to 2005*

by Miguel Martín-Retortillo and Vicente Pinilla

Abstract

The objective of this article is to determine the principal causes of the rapid agricultural growth on the European continent between 1950 and 2005. To this end it is essential to calculate the relative contributions made to the growth of agricultural output by the increase in inputs or in total factor productivity (TFP). Our results identify three different models to explain the growth of European agricultural output. That of the Western European countries was principally based on a rapid growth of TFP. The opposing model is that of the Central and Eastern European countries, where heavy capital investment was crucial and the contribution of TFP was slight. Finally, the Mediterranean and Nordic countries are located in an intermediate position, with a contribution of capital higher than in the Western European countries but clearly lower than in the planned economies.

In recent decades changes in the agricultural sector have permitted a rapid increase in production, replacing the productive factors most commonly used in traditional agriculture (land and labour) by capital; the sector has, in addition, made increasing use of new technologies. This intensive process of agricultural transformation in the developed countries (and also that experienced later by developing countries) has been the subject of close attention by researchers. Many authors, such as Federico (2005 and 2011), Hayami and Ruttan (1985), Mundlak (2000), Gardner and Rausser (2001 and 2002), Evenson and Pinghali (2007 and 2009) and Grigg (1982 and 1992) have contributed to an improved understanding of the modernization of agriculture, from both theoretical and empirical viewpoints.[1] The analysis

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[1] G. Federico, *Feeding the world: an economic history of agriculture, 1800–2000* (2005), and id., *Breve historia económica de la agricultura* [*A short economic history of agriculture*] (2011); Y. Hayami and V. Ruttan, *Agricultural development: an international perspective* (1985); Y. Mundlak, *Agriculture and economic growth: theory and measurement* (2000); B. L. Gardner and G. C. Rausser (eds), *Handbook of agricultural economics* (4 vols, 2001 and 2002); R. Evenson and P. Pinghali (eds), *Handbook of agricultural economics* (2 vols, 2007 and 2009); D. Grigg, *The dynamics of agricultural change: the historical experience* (1982) and id., *The transformation of agriculture in the west* (1992).

of European agriculture in the decades prior to 1945 or the years immediately following has generated significant interest on the part of researchers, who have contributed both national case studies and comparative studies of various European countries.[2]

In the opinion of the present authors, the literature still lacks studies which concentrate, from a long-term perspective, on the transformations which have taken place since the Second World War on the European continent, and which include both the Western countries and those which belonged for many years to the Communist bloc.

Against this background, our objective is to determine the principal causes of agricultural growth, that is to say the relative contribution of inputs and total factor productivity (TFP) on the European continent between the Second World War and the beginning of the twenty-first century. Our effort is part of an attempt, for a significant part of European economic history, to extend the analysis of the evolution of the different national cases by using comparative perspectives that include a considerable number of countries.[3] Several previous studies of agricultural economics have estimated and analysed the growth of TFP in European agriculture for shorter time periods but there has been no previous attempt to achieve the overview presented here.[4]

We wish to verify whether Europe fulfils the hypothesis of Federico, namely that agricultural growth in this period has been intensive.[5] That is to say, it has been based above all on the increase in TFP, as against the model of extensive growth, based on the increase in inputs, which was characteristic of the nineteenth century. We intend to go further and attempt to see whether there was a single pattern of agricultural growth for the European continent or whether different models can be discerned.

To achieve these objectives, we need to calculate the relative contributions made to the growth of agricultural output between 1950 and 2005 by the increase in inputs and by total factor productivity. This requires the previous reconstruction for this time horizon of the

[2] P. L. Yates, *Food, land and manpower in western Europe* (1960); F. Dovring, *Land and labour in Europe in the twentieth century: a comparative survey of recent agrarian history* (1965); M. Tracy, *Government and agriculture in western Europe, 1880–1988* (1989); J. L. Van Zanden, 'The first green revolution: the growth of production and productivity in European agriculture, 1870–1914', *EcHR* 44 (1991), pp. 215–39; P. K. O'Brien and L. Prados De La Escosura, 'Agricultural productivity and European industrialization, 1890–1980', *EcHR* 45 (1992), pp. 514–36; P. Lains and V. Pinilla, *Agriculture and economic development in Europe since 1870* (2009); M. Olsson and P. Svensson (eds), *Growth and stagnation in European historical agriculture* (2011).

[3] S. Broadberry and K. O'Rourke (eds), *Cambridge economic history of modern Europe* (2 vols, 2010) offers a full and recent synthesis of the economic history of the continent since 1700.

[4] L. F. Wong and V. Ruttan, 'A comparative analysis of agricultural productivity trends in centrally planned economies', in K. R. Gray (eds), *Soviet agriculture: comparative perspectives* (1990); C. Thirtle and P. Bottomley, 'Total factor productivity in UK agriculture, 1967–90', *J. Agricultural Economics* 43 (1992) pp. 381–400; K. O. Fuglie, 'Is a slowdown in agricultural productivity growth contributing to the rise in commodity prices?', *Agricultural Economics* 39 (2008), pp. 431–41; V. E. Ball, J. P. Butault, C. San Juan and R. Mora, 'Productivity and international competitiveness of agriculture in the European Union and the United States', *Agricultural Economics* 41 (2010), pp. 611–27; K. O. Fuglie, 'Total Factor Productivity in the global agricultural economy: Evidence from FAO data', in J. M. Alston, B. Babcock and P. G. Pardey (eds), *The shifting patterns of agricultural production and productivity worldwide* (Ames, Iowa: Midwest Agribusiness Trade and Research Information Center, 2010), pp. 63–95; K. O. Fuglie, 'Productivity growth and technology capital in the global agricultural economy', in K. O. Fuglie, S. L. Wang and V. E. Ball (eds), *Productivity growth in agriculture: An international perspective* (2012).

[5] Federico, *Feeding the world*.

series of variables necessary: inputs (labour, land and capital) and output. Part of these data can be obtained directly from the FAOSTAT databases.[6] In some cases it has been necessary to undertake additional estimations and calculations. These estimates have been especially important for the 1950s, for countries with centrally planned economies and for Germany until its unification process. The procedure we have used to estimate TFP is that termed the Solow residual, and in particular the methodology of 'growth accounting', which in turn takes into account the possibility that the relative intensity of factor use varies over the study period.

The European continent has certain characteristics which justify our selection and underline its interest. Some of the countries which comprise it were pioneers in the industrial revolution, and thus by 1950 had travelled a long way along the path of economic development. Others, by contrast, had been left behind. In addition, the institutional divergence caused by the division of the continent into two political and economic blocs from 1945 onwards permits us to contrast the importance of institutional factors in the processes of economic growth.

The period on which we shall concentrate, that subsequent to the Second World War, is of great importance. In the agricultural sector, we see the adoption on a substantial scale of agricultural machinery, chemical fertilizers, pesticides and herbicides, the development of intensive livestock breeding, improved breeds of animals, better access to agricultural credit, the genetic selection of seeds and the expansion of irrigated farming.[7] Furthermore, from the institutional point of view this is a historic period in which the continent was reconstructed following World War II. The European Economic Community – the future European Union – was created and subsequently expanded. Finally, various Central and Eastern European countries remained under a Communist regime for over 40 years in this period, their transition towards a market economy taking place only subsequently.

To achieve our objectives, the article adopts the following structure. First, we analyse the evolution of agricultural production. Next, we examine the patterns and intensity of the use of productive factors. Subsequently, we analyse the causes of the growth of output: technical progress and the increase in TFP.

I

Here we clarify the different trends in agricultural production among the European countries. Table 1 shows that European agricultural production increased sharply from 1950 until the mid-1980s, from when stagnated. The evolution of production can be analysed in greater

[6] The data for agricultural production in FAOSTAT was in constant prices. FAOSTAT, *FAO Database*. faostat.fao.org. (2009), Accessed June 2009 and April 2010. One recent article 'find(s) essentially no disagreement between the FAO yield data and the many micro estimates of grain yields'. D. Gollin, D. Lagakos and M. E. Waugh, 'Agricultural productivity differences across countries', *American Economic Rev.* 104 (2004), p. 169.

[7] Grigg, *Transformation*; B. Gardner, *European agriculture: policies, production and trade* (1996); R. E. Evenson and D. Gollin, 'Assessing the impact of the Green Revolution, 1960 to 2000', *Science* 300 (2003), pp. 758–62; Federico, *Feeding the world*; M. Mazoyer and L. Roudart, *A history of world agriculture: from the Neolithic age to the current crisis* (2006); T. Josling, 'Western Europe', in K. Anderson (ed.), *Distortions to agricultural incentives: a global perspective, 1955–2007* (2009).

TABLE 1. Net production (millions of $US) (1999–2001 prices)

	Pre-war	*1950*	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe	30,763	32,945	47,292	56,190	67,629	73,194	73,329	71,238
Mediterranean Europe	23,225	22,797	31,912	38,515	46,586	51,011	54,755	54,144
Nordic Europe	3,604	4,015	4,465	4,478	5,192	4,717	4,848	4,903
Central and Eastern Europe	n.a.	20,059	28,074	36,220	43,109	39,311	36,118	38,031
GFR/Germany	8,846	8,050	13,764	15,540	18,350	24,906	26,342	25,443
GDR	n.a.	3,971	4,206	5,787	6,777	–	–	–
France	14,038	14,272	22,538	26,754	30,588	31,894	33,071	32,425
United Kingdom	5,929	7,213	9,211	10,957	13,411	14,348	13,425	13,075
Italy	12,086	12,610	16,976	19,972	23,782	23,881	23,981	23,663
Spain	7,253	6,214	9,296	12,069	15,128	18,080	21,241	21,482
Poland	n.a.	7,053	9,956	11,934	12,755	13,136	12,386	13,138
European market economies	66,438	67,807	97,433	114,723	137,758	153,828	159,273	155,728
Europe	n.a.	94,412	129,713	156,730	187,643	193,139	195,392	193,760

Note: The data presented, except the pre-war level, are triennial averages centered on the benchmark year. The data for 1950 are the average between 1950 and 1951 for the GDR, Central and Eastern Europe, Poland and Europe. The GFR/Germany row displays data from the Federal Republic of Germany until 1992; from that year on the data are for the reunified Germany. See the Appendix for the composition of the groups and the definition of the pre-war level.
Source: Authors' compilation, using data from *FAO production yearbook*, 1948–1976, *FAO production yearbook*, 1977–1986; *FAO production yearbook,* 1987–2004; FAOSTAT, *FAO Database*.faostat.fao.org. (2009), Accessed June 2009 and April 2010. For details, see the Appendix.

detail. Post-war recovery was rapid despite the serious distortions and destruction caused by the war.[8] By 1950 the pre-war level of production had not only been regained but exceeded. In general, the greater the involvement of a country in the conflict, the smaller was the increase in its production. Two cases are notable for their slow recovery. The first is that of the German Federal Republic, which by 1950 had not yet recovered its pre-war level. This contrasts with the UK and Switzerland, less affected by the war, in which production was 22 and 9 per cent higher respectively, comparing the pre-war level to 1950. The second is Spain, which did not participate directly in the conflict and had ended its civil war in 1939; it was gravely affected by the subsequent policies of the Franco dictatorship and the international isolation of the country.[9]

Following the recovery immediately after the War, a further sharp increase in production took place in the 1950s. In the market economies the annual growth of production was

[8] G. Federico, '*Natura non fecit saltus*: The 1930s as the discontinuity in the history of European agriculture', in P. Brassley, Y. Segers and L. Van Molle (eds), *War, agriculture and food: rural Europe from the 1930s to the 1950s* (2012), pp. 15–32.

[9] E. Clar and V. Pinilla, 'Agriculture and economic development in Spain, 1870–1973', in P. Lains and V. Pinilla (eds), *Agriculture and economic development*, pp. 311–32.

3.07 per cent between 1950 and 1962. In those years there was great institutional preoccupation with resolving the food shortages of the war and subsequent years.[10] The agricultural sector was also considered to have a strategic role to play in the economy. In addition, the sector continued to employ a great number of workers in those years.[11] Encouragement was given to improve access to agricultural credit and favour in this way the capitalization of the sector.[12] For example, France, although it was not an isolated case, dedicated part of its resources from the Marshall Plan to distributing fertilizers and mechanical equipment.[13]

In general, the Western European countries implemented policies of support for their agricultural sectors; these increased state intervention in the sector and stimulated production. In imitation of the state intervention in agriculture initiated in the United States during the Great Depression, and continuing the policies of the control of production and consumption developed during World War Two, the Western European countries maintained controlled markets in the agricultural sector.[14] Agricultural policy explicitly sought self-sufficiency in food and an increase in agricultural productivity in the European countries.[15] In this context, the European Economic Community was formed in 1957 and the Common Agricultural Policy (henceforth CAP) in 1962. This meant no radical break with the previous policies of the member states, but instead a homogenization and convergence among them. The objectives for the agricultural sector contained in the Treaty of Rome were the increase of productivity, the guarantee of reasonable prices for consumers, the achievement of an equitable standard of living for farmers, market stability and guaranteed supply. The development of this treaty, through the CAP, left its mark on the agricultural sector for decades, especially until 1992 and the MacSharry reform.

During the first decades of its existence the CAP fixed high prices for a substantial part of agricultural production, normally taking as reference the highest price for each product from among the founding countries. This policy of high prices, generally much higher than those in the international market, stimulated an increase in production. The natural result of this policy was also that agriculture in the European Economic Community needed strong commercial protection.[16]

The result of guaranteed high prices, strong protection and the close and deep integration of markets among the member states was a considerable increase in production and productivity,

[10] S. Glynn and A. Booth, *Modern Britain: an economic and social history* (1996) and J. P. Dormois, *The French economy in the twentieth century* (2004).

[11] B. Andreosso-O'Callaghan, *The economics of European agriculture* (2003).

[12] B. J. Nordstrom, *Scandinavia since 1500* (2000).

[13] Dormois, *French economy*; Josling, 'Western Europe'; Nordstrom, *Scandinavia*; K. J. V. Jespersen, *A history of Denmark* (2004) and V. Zamagni, *The economic history of Italy, 1860–1990* (1993); J. Bieleman, *Five centuries of farming: A short history of Dutch agriculture, 1500–2000* (2010).

[14] Federico, '*Natura non fecit saltus*'.

[15] J. R. Lampe, *The Bulgarian economy in the twentieth century* (1986); Z. Landau and J. Tomaszewski, *The Polish economy in the 20th century* (1985); R. Fennell, *The Common Agricultural Policy: Continuity and change* (1997); J. L. García Delgado and M. J. García Grande, 'Nacimiento y desarrollo de una idea: de la Conferencia de Stressa en 1958 a la Reforma MacSharry en 1992', in J. L. García Delgado and M. J. García Grande (eds), *Política agrariacomún: balance y perspectivas* [*Common Agricultural Policy: Review and perspectives*] (2005); L. Neal, *The economics of Europe and the European Union* (2007).

[16] Tracy, *Government*; Gardner, *European agriculture*; Andreosso-O'Callaghan, *Economics*; Neal, *Economics of Europe*.

the relatively quick achievement of self-sufficiency in food and a sudden change in the European position in international markets for agricultural products.[17] Technological innovation made it easier for these policies to stimulate a strong increase in production. Agricultural trade among the member countries increased considerably, while there was a significant fall in their participation in international markets as importers.[18]

Furthermore, certain countries displayed spectacular growth in that decade. Thus, in the United Kingdom, in the period between the Second World War and the mid-1960s, there took place the greatest growth in agricultural output since the 1870s.[19] Another notable case is that of the Federal Republic of Germany, whose production rose by almost 4 per cent annually; the 1950s and 1960s have been described as an 'economic miracle'.[20]

In the countries of the Communist bloc the change in agricultural structures was total, as the consequence of the imposition of the Soviet model. Planning also boosted production, specifically at an annual growth rate of 2.84 per cent in the 1950s.[21] Despite this impulse, there was a continuance of the distortions that began with the institutional changes following the war, due to the processes of collectivization and price and salary regulation.[22]

The growth of production continued in the 1960s and 1970s. In the market economies there was some slowing down of the sharp increase in output of the previous decade, which nevertheless grew by 1.65 per cent annually between 1962 and 1972 and by 1.85 per cent in the following decade. The country with the fastest growth was Spain, expanding by 2.46 per cent per annum between 1962 and 1982. This may be explained by the opening of the Spanish economy by the Stabilization and Liberalization Plan in 1959, which produced generalized economic growth and the rapid adoption of Western technology.[23] Another notable case is that of the countries of the Communist bloc, with a rapid annual growth of 2.16 per cent in the 1960s and 1970s, although with many differences among them.[24] There were frequent

[17] In some products, this self-sufficiency was achieved as early as the end of the 1950s in some countries forming the European Economic Community, but in the 1960s and 1970s in the remainder. Tracy, *Government*; Fennell, *Common Agricultural Policy.* For the change in the European position in world agricultural markets, see G. Aparicio, V. Pinilla and R. Serrano, 'Europe and the international agricultural and food trade, 1870–2000', in Lains and Pinilla (eds), *Agriculture and Economic Development in Europe,* pp. 52–75.

[18] V. Pinilla and R. Serrano, 'Agricultural and food trade in the European Community since 1963', in K. K. Patel (ed.), *Fertile ground for Europe? The history of European integration and the Common Agricultural Policy since 1945* (2009) pp. 273–300; R. Serrano and V. Pinilla, 'Agricultural and food trade in European Union countries, 1963–2000: a gravity equation approach', *Economies et Sociétés, Série Histoire économique quantitative,* AF 43 (2011), pp. 191–219.

[19] P. Brassley, 'Output and technical change in twentieth-century British agriculture', *AgHR* 48 (2000) pp. 60–84.

[20] G. A. Wilson and O. J. Wilson, *German agriculture in transition: society, policies and environment in a changing Europe* (2001).

[21] The GDR was an exception to this growth, as its annual increase amounted to only 0.48 per cent.

[22] I. T. Berend and G. Ránki, *The Hungarian economy in the twentieth century* (1985); Landau and Tomaszewski, *Polish economy*; Lampe, *Bulgarian*; F. L. Pryor, *The red and the green: the rise and fall of collectivized agriculture in Marxist regimes* (1992); K. Anderson and J. Swinnen, 'Eastern Europe and Central Asia', in K. Anderson (ed.), *Distortions to agricultural incentives: a global perspective, 1955–2007* (2009).

[23] E. Reig and A. Picazo, *La agricultura española: crecimiento y productividad* [*Spanish agriculture: growth and productivity*] (2002); L. Prados, J. R. Roses and I. Sanz-Villarroya, 'Economic reforms and growth in Franco's Spain', *Revista de Historia Económica / J. of Iberian and Latin American Economic Hist.*, 1 (2011), pp. 45–90.

[24] P. Gregory and R. Stuart, *Russian and Soviet economic performance and structure* (2001).

increases in livestock products and a change from traditional cultivated products towards fruit and vegetables and vines.[25]

The 1980s mark a point of inflection, as the growth in output slowed down; in the continent as a whole this increased at an annual rate of only 0.29 per cent. This result is strongly biased by the problems of agriculture in the countries of the Communist bloc, since in market economy countries growth continued, although at a slower pace than in previous decades. In the countries belonging to the Communist bloc the transition crisis affected their economies as a whole, while agriculture gradually accumulated problems.[26] Throughout this decade their agricultural output fell at an annual rate of 0.92 per cent.

Problems arose due to the gap caused by the high prices paid to producers and the low prices demanded by consumers; this gap was covered by direct subsidies. In all these countries the growth in livestock produced distortions, because heavy subsidies were required, as were massive imports of cereal to meet the needs of livestock feeding.[27] Trade protection in these countries came to mean equivalent welfare losses of between 50 and 75 per cent of the benefits of direct subsidies to consumers.[28] In the German Democratic Republic large collective farms were heavily indebted, due to their inefficiency.[29]

The evolution of agricultural output during the 1990s was very different in the countries of the market economy and in the Communist bloc, the latter in the midst of dissolution and transition towards a market economy. On the one hand, the free market countries continued to display very slow growth during most of the decade. An essential change took place in 1992 with the MacSharry reform of the CAP. This meant a shift from a pricing policy to one of direct income support. A number of Mediterranean products, such as olives and vines, were excluded from this reform.[30] It was also at the beginning of the 1990s that the inclusion of agriculture in the Uruguay Round of the General Agreement on Tariffs and Trade (henceforth GATT) meant the start of a liberalization process in international markets, which affected the European position.[31] This trend was reinforced with the further reform in 2003 of the CAP and the increasing concern for the environment.[32]

[25] Landau and Tomaszewski, *Polish economy*; Berend and Ránki, *Hungarian economy*; Lampe, *Bulgarian*.

[26] An example of these tensions occurred in the Soviet Union, which was in great need of imported cereals. Due to oil and gas exports there was no problem in financing cereal imports until the mid-1980s, when the prices of energy products fell, harming the financing of these massive imports. K. R. Gray, 'Introduction', in K. R. Gray (ed.), *Soviet Agriculture: comparative perspectives* (1990), pp. 3–22; Anderson and Swinnen, 'Eastern Europe'.

[27] Thanks to this boost to the output of livestock activities, per capita consumption of these products increased (and doubled in the USSR between 1950 and 1980), outstripping that of the OECD countries, despite the standard of living being lower. Anderson and Swinnen, 'Eastern Europe'; D. Diamond, L. Bettis, R. Ramsson, 'Agricultural production', in A. Bergson and H. S. Levine (eds), *The Soviet economy: towards the year 2000* (1983).

[28] Gray, 'Introduction'; Anderson and Swinnen, 'Eastern Europe'.

[29] B. Forstner and F. Isermeyer, 'Transformation of agriculture in East Germany', in S. Tangermann (ed.), *Agriculture in Germany* (2000), pp. 61–90.

[30] M. J. García Grande, 'El último decenio: aplicación y consecuencias de la reforma de la PAC', in García Delgado and García Grande, *Política agraria común* (2005); Neal, *Economics of Europe*.

[31] European agricultural protection was a constant theme within the GATT and WTO rounds, from Kennedy to Doha. M. Spoerer, '"Fortress Europe" in long-term perspective: agricultural protection in the European Community, 1957–2003', *J. of European Integration Hist.*, 16 (2010), pp. 143–62.

[32] Animal and plant health, the creation of a network

Elsewhere, the countries of the Communist bloc embarked upon their transition to a market economy at the beginning of the 1990s. This transition involved serious problems for their economies and, therefore, for their agriculture.[33] It was a moment at which the ex-Communist countries had to undertake important institutional reforms, such as price and trade liberalization, reforms of the land market and the restructuring of farms, which coincided with extreme meteorological conditions in some years.[34] There are differences between countries in the way in which reforms were implemented, and their effects upon production. These differences can be illustrated by the Hungarian and Romanian cases. In the former, agricultural output, labour, fertilizers and machinery decreased sharply, while in the latter there were increases in crop output, agricultural labour and the use of machinery.[35]

From 2000 on, and for the first time since the problematic years of the war, European production fell at an annual growth of 0.17 per cent. Evolution in the first quinquennium of the twentieth-first century has not been exactly the same in all regions. The best results have taken place in the ex-Communist countries, whose production increased by an annual rate of 1.04 per cent, recovering part of what had been lost in preceding decades. This was due to the progressive overcoming of the institutional problems derived from the transition which they underwent in the 1990s, and also to the implementation of policies aimed at incorporation into the European Union.

II

The different trends in the use of inputs are essential to understand the sharp increase in production, as has been seen previously. Throughout the nineteenth century, and also in some countries in the earliest decades of the twentieth century, an increase in the use of traditional inputs – land and labour – had been the principal motor of the growth of agricultural production.[36] However, after 1950 this tendency changed radically in Europe. Thus, there was a fall in absolute terms in the use of the productive factors which predominated in traditional agriculture as opposed to capital, the importance of which increased considerably. This

Note 32 *continued*
of nature protection, green services provided by agriculture, EU structural and agricultural policies are some questions developed recently in the 1990s and, above all, in the 2000s. A. Oskam, G. Meester and H. Silvis (eds), *EU Policy for agriculture, food and rural areas* (2010).

[33] The problems of the transition from one economic system to another were, among others, the loss of the traditional international markets of COMECON, the monopoly of distributors (which contributed to increasing the difference between prices received by the producer and retail prices), the decrease in disposable income and the reduction of subsidies to the sector, the increase in productive factor prices at worldwide level, a greater uncertainty provoked by the restructuring of the land market, a lack of experience in private management or a shortage of credit. A. Trzeciak-Duval, 'A decade of transition in central and eastern European agriculture', *European Rev. of Agricultural Economics* 26, 3 (1999), pp. 283–304.

[34] K. Macours and J. Swinnen, 'Causes of output decline in economic transition: the case of central and eastern European agriculture'. *J. Comparative Economics*, 28 (2000), pp. 172–206; K. Macours and J. Swinnen, 'Patterns of agrarian transition', *Economic Development and Cultural Change* 50 (2002) pp. 365–94; K. Anderson and J. Swinnen, 'Introduction and Summary', in K. Anderson and J. Swinnen (eds), *Distortions to agricultural incentives in Europe's transition economies* (2008).

[35] Macours and Swinnen, 'Causes'.

[36] Federico, *Feeding the world*, p. 221.

TABLE 2. Arable land and permanent crops (thousands of hectares)

	1950	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe	37,134	37,239	33,726	33,263	33,017	32,611	32,847
Mediterranean Europe	43,470	43,140	40,433	39,953	38,492	35,704	33,725
Nordic Europe	7,046	6,976	6,357	6,123	5,956	5,791	5,786
Central and Eastern Europe	49,680	50,978	49,801	48,528	47,104	45,181	42,294
GFR/Germany	8,552	8,466	7,591	7,465	11,809	12,026	12,089
GDR	5,106	5,055	4,842	5,006	–	–	–
France	21,187	21,322	18,674	18,989	19,297	19,561	19,608
United Kingdom	7,428	7,348	7,203	6,979	6,468	5,866	5,928
Italy	16,612	15,531	12,316	12,369	11,620	11,281	10,261
Spain	19,835	20,800	21,110	20,494	19,898	18,225	17,793
Poland	16,223	16,072	15,177	14,826	14,694	14,218	12,741
Europe	150,987	151,854	142,750	140,337	136,378	131,313	126,741

Note: Triennial average data based on the benchmark year, except 1950. This table does not include grasslands because of the difficulties in obtaining the data for grasslands for the whole sample in the 1950s.
Source: As Table 1. For details, see the Appendix.

capitalization took place principally as a consequence of an increase in agricultural machinery and chemical fertilizers.

The first input to be analysed is land (Table 2). Since 1960 the area employed as arable land in European agriculture has fallen from almost 152 million hectares to 127 million hectares. This reduction may be due to various factors. On the one hand, the abandonment of farms produced by the structural change in the economy throughout the entire period was significant. Furthermore, the increase in the average size of farms and in the productivity of land more easily permitted the achievement of economies of scale and the maintenance (or even an increase in production) with a lower quantity of land. On the other hand, there was an increase in the importance of livestock products in total production in the initial decades of the second half of the twentieth century, while the increase in intensive livestock breeding permitted the separation of a part of production from the land factor, especially in countries with less favourable environmental conditions, such as aridity, which traditionally had caused limitations when producing biomass for livestock feed.[37] Furthermore, in many parts of Europe, the reduction in the cultivated land area was closely linked to the massive rural exodus

[37] M. González de Molina, 'Condicionantes ambientales del crecimiento agrario español (siglos XIX y XX)', in J. Pujol, M. González de Molina, L. Fernández Prieto (eds), *El pozo de todos los males: sobre el atraso en la agricultura española contemporánea* [*The well of all evils: on the backwardness in contemporary Spanish agriculture*], (2001). Spain was an exception until the 1980s, since it increased its cultivated land area. This was linked to the great increase in its livestock. E. Clar, 'Was Spain different? Agricultural change in Spain in a southern European perspective, 1961 to 1985', *AgHR* 61 (2013), pp. 330–60.

which took place and which involved the abandonment of many farms, especially those least economically viable.[38] This was especially the case in mountainous zones, where the reduction in the cultivated land area was especially notable.[39]

The cultivated land area increased very slightly, at an annual rate of 0.08 per cent, between 1950 and 1962. In fact, this increase only took place in the Central and Eastern European countries. In that decade these countries completed their processes of agricultural reform, and therefore the consolidation of farms.[40] From then on, the decrease in the number of cultivated hectares was both generalized and constant throughout the last four decades of the twentieth century.

In some cases, such as France, the fall was occasionally more abrupt. An example is the 1960s, when the arable land under cultivation fell by exactly 1.3 per cent annually. This was due to voluntary policies for the consolidation of farms and the payment of supplementary retirement pensions to older farmers.[41] Following this considerable decrease, a slight increase took place until 2005, although it had had not by this time recovered to the level of the early 1960s.

In contrast to land, capital had a different trajectory in this period of analysis. In the developed countries, the greater use of capital in agriculture has been highlighted as one of its most important features of the twentieth century.[42] In the more arid European zones or those with greatest difficulty in making sufficient water available for the cultivation of certain crops, an extraordinary effort was made in this period to increase the irrigated land area or to improve the quality of irrigation. Between 1950 and 2005 the area equipped for irrigation grew in Europe by 1.45 per cent annually (Table 3), although the distribution of this increase was enormously unequal throughout the continent. In some countries of the Central and Eastern European countries, governments made a huge effort to increase irrigated land.[43] Countries such as Romania, Greece and France increased their irrigated land area at an annual growth rate of 5.1 per cent, 3.3 per cent and 3.1 per cent respectively, over the whole period from 1950 to 2005. Also notable are the cases of Spain and Italy, which, although having lower rates of growth, in 1961 possessed 10 per cent and 17.9 per cent of the total European land area equipped for irrigation, as a consequence of the policies of the first half of the twentieth century. For these Mediterranean countries, the increase in irrigated land, faster in Spain that at any previous time, was crucial for the growth of their agricultural production.[44]

Livestock forms a very important part of the capital employed in agriculture, because it produces consumer goods such as meat, milk, eggs or wool, and it has been employed as the

[38] F. Collantes and V. Pinilla, *Peaceful surrender: the depopulation of rural Spain in the twentieth century* (2011).

[39] F. Collantes, 'Farewell to the peasant republic: marginal rural communities and European industrialisation, 1815–1990', *AgHR* 54 (2006), pp. 257–73.

[40] Berend and Ránki, *Hungarian economy*; Landau and Tomaszewski, *Polish economy*; Lampe, *Bulgarian*; Pryor, *Red and the green*.

[41] F. Bouchet, D. Orden, G. W. Norton, 'Sources of growth in French agriculture', *American J. of Agricultural Economics* 71 (1989), pp. 280–93. A similar case occurred in Finland during the 1970s and 1980s, especially with dairy farmers reducing their herds between 1965 and 1989 by two thirds. F. Singleton, *A short history of Finland* (1989).

[42] Federico, *Feeding the world.*

[43] Lampe, *Bulgarian*.

[44] R. Duarte, V. Pinilla and A. Serrano, 'The water footprint of the Spanish agricultural sector: 1860–2010', *Ecological Economics* 108 (2014), pp. 200–7.

TABLE 3. Hectares of land equipped for irrigation (thousands)

	1950	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe.	952	1,009	1,548	2,564	3,373	3,957	3,904
Mediterranean Europe	5,858	6,779	7,762	8,389	9,223	9,674	10,001
Nordic Europe	40	43	101	213	290	363	371
Central and Eastern Europe	1,487	1,796	3,344	4,822	5,481	4,763	4,405
GFR/Germany	270	270	292	316	483	485	485
GDR	124	124	137	165	–	–	–
France	504	532	906	1,460	2,256	2,651	2,675
UK	93	106	86	150	132	243	212
Italy	3,400	3,400	3,400	3,435	3,718	3,844	3,969
Spain	1,341	2,025	2,690	3,105	3,415	3,719	3,834
Poland	200	200	345	340	261	89	118
Europe	8,731	10,021	13,184	16,470	18,849	19,243	19,166

Note: Triennial average data based on the benchmark year, except 1950.
Source: As Table 1. For details, see the Appendix.

motor of agricultural production. Thus, Table 4, which displays the evolution of the number of livestock units, is the result of two opposing trends. On the one hand there is a decrease throughout the second half of the twentieth century in the number of working animals. On the other, the increasing importance of livestock for the production of meat or milk, especially in countries in which it had been relatively unimportant, as a consequence of their inadequate environmental/ecological conditions. The result was that until the early 1980s there was a notable increase in livestock numbers in Europe, visible in all its regions with the exception of the Nordic countries.

Consequently, in Europe in general, livestock tended to gain importance in agricultural production as a whole until the early 1980s. This improvement in its participation was much more important in those regions where the initial share was smaller, such as the Mediterranean countries or those of Central and Eastern Europe.

From the beginning of the 1980s an appreciable reduction in livestock numbers took place. Some livestock production was affected in Western Europe by serious problems of oversupply and the change of philosophy in the CAP, with a greater environmental/ecological concern for the control of intensive livestock breeding.[45] The introduction of milk quotas in 1984 also played an important role in this reduction.

The principal exception to the general pattern of livestock decrease in the market economies was the continued increase after 1980 of livestock numbers in the area least specialized in this activity, the Mediterranean countries. Thus, in Spain, livestock breeding continued to

[45] Gardner, *European agriculture*; Andreosso O'Callaghan, *Economics*; García Grande, 'CAP'; Anderson and Swinnen, 'Eastern Europe'.

TABLE 4. Livestock units (thousands of units)

	1950	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe	47,383	58,456	63,247	66,921	67,767	67,141	63,142
Mediterranean Europe	23,383	26,350	25,605	27,102	28,181	28,949	29,229
Nordic Europe	6,638	6,226	5,208	5,325	4,683	4,444	4,263
Central and Eastern Europe	37,190	43,004	46,311	50,329	40,356	28,977	27,933
GFR/Germany	13,067	15,347	16,520	17,863	21,550	18,930	17,664
GDR	4,658	6,362	6,976	7,913	–	–	–
France	18,019	22,462	23,319	25,115	23,327	23,727	22,319
United Kingdom	11,654	15,024	16,913	15,757	17,002	16,219	15,123
Italy	11,235	11,502	11,480	11,629	11,229	9,960	9,568
Spain	7,888	9,164	8,778	9,828	11,855	13,826	14,560
Poland	10,495	13,954	16,391	15,712	12,479	9,562	9,883
Europe	131,584	155,744	163,866	175,453	162,536	148,442	142,230

Note: Triennial average data based on the benchmark year, except 1950. Livestock units are the number of animals aggregated with the weightings of Hayami and Ruttan (1985). Consult the Appendix to see which animal species have been taken into account in the calculation of the variable.
Source: As Table 1. For details, see the Appendix.

increase until it almost doubled its units, principally due to the enormous growth of intensive livestock breeding processes.[46] This resulted in part from the possibilities offered by such processes; they permitted the overcoming of environmental obstacles traditionally faced by livestock.[47]

On the other hand, it is necessary to underline the significant reduction of livestock numbers – by almost 50 per cent in a decade – experienced by the countries of Central and Eastern Europe from the mid-1980s on. The differences which existed in this system between the low prices paid by the consumer and the high prices paid to the producers, which were covered by direct subsidies, brought about a livestock boom, which was unsustainable once the discipline of the market was imposed.

Lastly, within the capital utilized, there was a considerable increase in the purchase of inputs from other sectors of the economy. From an agriculture that basically used agricultural inputs, there was a change to another in which purchases from other sectors of the economy were dominant. Principally, these were the purchase of machinery, fertilizers, pesticides, seeds, fuel or services from other non-agricultural companies.

[46] R. Domínguez, 'Las transformaciones del sector ganadero en España (1940–1985)', *Ager, Revista de Estudios sobre Despoblación y Desarrollo Rural / Ager, J. of Depopulation and Rural Development Studies*, 1 (2001), pp. 47–83.

[47] V. Pinilla and E. Clar, 'The modernization of agriculture under tough environmental constraints: one hundred years of Aragonese agricultural production, 1885–1985', in M. Olsson and P. Svensson (eds), *Growth and stagnation in European historical agriculture* (2011), pp. 37–70.

TABLE 5. Kilograms of chemical fertilizers consumed per hectare

	1950	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe	83	164	299	333	287	253	234
Mediterranean Europe	20	45	86	109	118	127	113
Nordic Europe	67	103	199	202	144	133	138
Central and Eastern Europe	8	49	154	213	67	77	118
GFR/Germany	161	295	427	425	240	233	211
GDR	159	202	340	305	–	–	–
France	49	124	287	298	254	223	186
United Kingdom	111	195	257	356	322	320	282
Italy	29	56	119	165	167	145	123
Spain	11	36	68	70	88	122	107
Poland	11	58	204	224	82	110	186
Europe	46	97	192	226	153	151	156

Note: Triennial average data based on the benchmark year, except 1950.
Source: As Table 1. For details, see the Appendix.

Table 5 shows the evolution of the consumption of chemical fertilizers per hectare. From 1950 until the 1980s there was a very sharp increase in the use of fertilizers in European agriculture. Although growth was generalized, the Western and Nordic countries already had by 1950 much higher levels than the Mediterranean and Central and Eastern countries, as the former had already introduced this innovation to a greater extent prior to the Second World War.[48] Thus, the greatest increase in the consumption of fertilizers per hectare occurred in the countries of Central and Eastern Europe (10.8 per cent annually), which in 1950 had had the lowest level in the entire continent, while in the Western countries the figure was 4.4 per cent.

By contrast, from the mid-1980s until the beginning of the twenty-first century the level of chemical fertilizers used per hectare fell throughout the continent. The Western, Mediterranean and Nordic countries reduced their consumption, due to environmental/ecological problems caused by the excessive use of these inputs.[49] Furthermore, in the 1990s directives reflecting the increasing concern for the environment, such as the Nitrate Directive in 1991, came into effect.[50] On the other hand, the Central and Eastern European countries also drastically reduced their consumption of off-farm inputs, because of the liberalization of the factor markets, causing nominal input prices to increase by more than nominal output prices, and because of the problems which they suffered in general during their transition to market economies.[51]

[48] The United Kingdom was already consuming almost 1.5 million tons of artificial fertilizers by the second half of the 1930s, while by 1950–1 use had increased to over four million tons. Brassley, 'Output'.

[49] Gardner, *European agriculture*.

[50] F. Brouwer and H. Silvis, 'Rural areas and the environment', in Oskam *et al.*, *EU Policy*.

[51] Anderson and Swinnen, 'Eastern Europe'; Forstner and Isermeyer, 'Transformation'; Trzeciak-Duval, 'Decade of transition'.

TABLE 6. Tractors per hundred workers

	1950	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe	4.97	23.79	50.21	78.90	97.36	114.61	125.89
Mediterranean Europe	0.51	3.19	11.53	26.38	48.35	73.24	92.59
Nordic Europe	4.58	25.33	49.59	78.76	101.49	119.13	137.80
Central and Eastern Europe	0.27	1.36	3.56	10.92	18.80	26.23	32.04
GFR/Germany	2.72	28.87	71.64	98.25	94.97	97.56	115.26
GDR	0.69[a]	7.12	13.74	16.40	–	–	–
France	2.19	19.49	46.68	80.11	111.52	143.99	163.09
United Kingdom	26.16	50.02	63.80	74.40	82.47	94.77	99.94
Italy	0.66	5.17	18.54	42.96	77.78	132.00	181.58
Spain	0.33	2.02	8.76	23.12	43.91	68.16	82.38
Poland	0.23	1.21	4.34	13.58	24.96	34.71	42.20
Europe	1.44	7.34	15.89	29.43	43.63	56.84	68.42

Notes: Triennial average data based on the benchmark year, except 1950.
[a] The datum for tractors is an average between 1949 and 1952.
Source: As Table 1. For details, see the Appendix.

With regard to the use of machinery, well represented by the number of tractors in service per agricultural worker, Table 6 shows an enormous growth throughout the second half of the twentieth century (a 7.3 per cent annual increase between 1950 and 2005). In the 1950s the growth in the number of tractors per worker was spectacular (14.6 per cent annually between 1950 and 1962).[52] In the 1960s and 1970s the number of tractors per agricultural worker also increased, although at a slower pace than in the preceding decade. In the following decades their use increased still further, despite the rate of growth falling once more. The probable reasons explaining this progressively lower growth are the increase in the power of tractors over time and a gradual optimization of agricultural machinery, due to the increase in farm size.[53]

The Western and Nordic countries were the first to introduce this innovation, because the development of their economies preceded that of the Mediterranean, Central and Eastern European countries. By 1950 they already had, as with fertilizers, a far higher level than in the remaining countries. In the United Kingdom the level was already extremely high in 1950 and the adoption of this input having taken place during the 1940s, when the number of tractors quintupled.[54] The security provided by high prices, due to trade protection and subsidies from

[52] For example, in the Spanish case the number of tractors increased by 16.3 per cent annually between 1950 and 1962, a considerable increase and above average annual European growth, despite the administrative barriers which existed. E. Clar, 'Contra la virtud de pedir … Barreras administrativas a la difusión de tractores en España: 1950–1960', *Investigaciones en Historia Económica* 5 (2009), pp. 97–132.

[53] A growing complexity in the types of agricultural machinery could have influenced this lower growth. We have only taken into account tractors, because of the problems in obtaining data for other agricultural machinery.

[54] Brassley, 'Output'.

national policies prior to the subsequent CAP allowed investment in machinery to be high.[55] The development of a rural credit market, principally in market economies, also played a fundamental role in the growing purchase of agricultural machinery.[56]

During their Communist stage, the countries of Central and Eastern Europe implemented a policy of the massive capitalization of agriculture, especially of collectivized farms, permitting them to increase the number of tractors per worker at the same rate as other countries with market economies.[57] Following the transition, this proportion fell slightly (moving from 20.06 in 1990 to 18.07 in 1992), but rapidly increased once more, due also to the decrease in the number of workers (Table 6).

It is important, lastly, to underline the weight of biological innovations in this process of technological change. The increase in crop yields due to the process of the genetic selection and hybridization of seeds is fundamental to understanding the sharp increase in agricultural production and productivity.[58]

Agricultural labour is the last principal input analysed in this section. In the second half of the twentieth century European agriculture used a progressively smaller labour force. As Table 7 shows, this fall was very intensive, from over 66 million workers to fewer than 15 million between 1950 and 2005. All European regions were severely affected by the rural exodus. Although their rates were different, the decrease in the labour force in agriculture in the entire period does not offer great contrasts. In Western Europe and the Nordic countries, the reduction of labour employed in agriculture was 81 per cent between 1950 and 2005. In Mediterranean countries it was 78 per cent and in the countries of Central and Eastern Europe 75 per cent. In this decline, two periods stand out: the first between 1950 and the mid-1980s and the second from the mid-1980s until today. In the first period, the average annual decrease was lower (–2.5 per cent), but in absolute terms almost 37 million people on the continent ceased working in agricultural activities. In turn, from 1982 until 2005 this annual decrease was somewhat greater (–3.3 per cent). This accelerated fall in the active population in agriculture in the second period is probably due principally to the continuation of the process of rural exodus in the Mediterranean, Central and Eastern countries of Europe. Furthermore, the Central and Eastern countries, in particular Poland, the Czech Republic, Slovakia and Hungary experienced considerable exits of workers between 1989 and 1995.[59]

The exit of workers from European rural zones was directly determined by the need for

[55] S. Houpt, P. Lains and L. Schön, 'Sectorial developments, 1950–2000', in Broadberry and O'Rourke (eds), *Cambridge economic history of modern Europe*, II, pp. 333–59.

[56] Josling, 'Western Europe'.

[57] Diamond *et al.*,'Agricultural production'; Berend and Ránki, *Hungarian economy*; Landau and Tomaszewski, *Polish economy*; Lampe, *Bulgarian*; Gregory and Stuart, *Russian*.

[58] The improvement of yields in, for example, wheat or maize, was substantial from the 1950s onwards. A. L. Olmstead and P. W. Rhode, *Creating abundance: biological innovation and American agricultural development* (2008); J. Pujol, 'Wheat varieties and technological change in Europe, 19th and 20th centuries', *Historia Agraria*, 54, (2011), pp. 71–103.

[59] The *länder* corresponding to the former German Democratic Republic lost many workers following the transition, since this sector had previously had an excessive labour supply. The exception to these countries was Romania, which experienced an annual increase in its agricultural labour force of 2.4% between 1989 and 1995. U. Huber, 'Agriculture in Germany – production and structure', in S. Tangermann (ed.), *Agriculture in Germany* (2000), pp. 17–37; Macours and Swinnen, 'Causes'.

TABLE 7. Active population in agriculture (thousands)

	1950	*1962*	*1972*	*1982*	*1992*	*2000*	*2005*
Western Europe	11,179	7,532	5,228	3,889	3,047	2,402	2,109
Mediterranean Europe	16,391	13,691	9,734	7,454	5,345	4,071	3,548
Nordic Europe	1,904	1,229	895	705	515	398	343
Central and Eastern Europe	30,134	27,262	22,239	15,958	11,790	8,877	7,397
GFR/Germany	5,114	3,466	1,965	1,497	1,446	1,014	820
GDR	2,112	1,411	1,064	916	–	–	–
France	6,335	4,139	2,792	1,863	1,244	880	723
United Kingdom	1,242	935	728	702	607	528	500
Italy	8,588	5,937	3,779	2,652	1,870	1,255	1,029
Spain	4,853	4,616	3,505	2,471	1,746	1,326	1,193
Poland	7,090	6,923	6,508	5,245	4,684	3,766	3,351
Europe	66,834	54,592	41,125	30,418	22,143	16,762	14,218

Notes: Triennial average data based on the benchmark year, except 1950.
Source: As Table 1. For details, see the Appendix.

labour in other sectors. For the less developed countries the national pull effect was complemented by the expansion of labour demand in other, more developed parts of Europe, which favoured rural emigration abroad. In fact, the powerful pull effect (derived from the high general economic growth of this period) was combined to a similarly powerful push effect (derived from labour-saving innovation in agriculture). The result was an unprecedented rise in the productivity of those farmers and labourers remaining in the agricultural sector.[60]

The most advanced countries in Western Europe had already experienced, prior to the Second World War, a very significant transfer of workers from rural to urban zones. Following the end of the conflict, the intense economic growth which took place proved capable of absorbing new and significant contingents of rural labour, especially in the 1950s and 1960s.[61] The greater attraction of the urban environment for young generations in these advanced countries contributed to increasing yet further the exit of youths from the rural environment.[62]

The lower level of economic development in the Mediterranean, Central and Eastern European countries meant a less important rural exodus prior to 1945. Nevertheless, especially in the initial decades of the twentieth century, internal migrations were quite intense in countries

[60] M. Martín-Retortillo and V. Pinilla, 'On the causes if economic growth in Europe: Why did agricultural labour productivity not converge between 1950 and 2005?', *Cliometrica* (forthcoming); Collantes and Pinilla, *Peaceful Surrender*, pp. 159–62.

[61] B. A. Holderness, 'Apropos the Third Agricultural Revolution: How productive was British agriculture in the Long Boom, 1954–1973?', in P. Mathias and J. A. Davis (eds), *Agriculture and industrialization from the eighteenth century to the present day* (1996).

[62] Josling, 'Western Europe'.

such as Spain or Italy.[63] Immediately after 1945 the exit of agricultural workers from them was still of little importance, with the exception of Italy, but from 1960 onwards accelerated sharply. In the countries of the Communist bloc, certain policies delayed the replacement of workers by machinery and introduced migratory controls to restrict the mobility of labour power.[64]

III

In this section, our objective is to unravel the growth of European agricultural output. We have seen so far how European agricultural production increased spectacularly from the early 1950s until the mid-1980s. These four decades of expansion of agricultural output were followed by decades in which the most common experience was stagnation. We now wish to analyse what has been most decisive in the long-term growth of agricultural production.

In the previous section we were able to establish clearly that in the long term the use of traditional agricultural inputs, land and labour, has decreased notably. This fall in the use of both inputs, linked to the increase in production, has meant a sharp rise in both land and labour productivity.[65] Consequently, the increase in production can only be explained by a greater use of capital or by efficiency gains in the use of inputs. Disentangling which of these factors has been more important requires the estimation of first, how total factor productivity has varied, and, second, of the rate at which the use of capital in European agriculture has increased.

We shall calculate TFP in accordance with its primary definition, that is to say, as the Solow residual.[66] This definition stems from the methodology of growth accounting.[67] We measure TFP indirectly as a residual component of the growth in output which cannot be explained by the growth of production inputs. This difference is calculated by subtracting from the annual growth rate of production between two years the rate of a combination of inputs. This combination comprises land, measured in hectares of arable land (A); labour, represented by the active population in the agricultural sector (L); and physical capital (K), measured as an average among the rates of growth of the number of tractors, tonnes of consumption of fertilizers, hectares of area equipped for irrigation and number of livestock (Table 3, 4, 5 and 6).[68]

[63] J. Silvestre, 'Internal migrations in Spain, 1877–1930', *European Rev. of Economic Hist.*, 9 (2005), pp. 233–65.

[64] Landau and Tomaszewski, *Polish economy*.

[65] L. F. Wong and V. Ruttan, 'A comparative analysis of agricultural productivity trends in centrally planned economies', in K. R. Gray (ed.) *Soviet agriculture: comparative perspectives* (1990), pp. 23–47; Martín-Retortillo and Pinilla, 'On the causes'.

[66] R. Solow, 'Technical change and the aggregate production function', *Rev. Economics and Statistics* 39 (1957), pp. 312–20.

[67] Crafts states that the methodology of 'growth accounting' is the most appropriate to quantify the impact of a new technology on productivity. N. Crafts, 'The contribution of new technology to economic growth: lessons from economic history', *Revista de Historia Económica / J. of Iberian and Latin American Economic Hist.*, 28 (2010), pp. 409–40.

[68] Fertilizers are considered working capital, because they are included 'in the amount of outlays for productive expenditures'. Federico, *Feeding*, p. 52. This combination is based on that used by Federico for his calculation of TFP. Furthermore, we have replaced the geometric average by the arithmetical average to calculate capital growth rates, due to growth rates being negative for some periods or inputs. It should be observed that our estimation of capital growth, since it does not use other forms of capital, such as seeds, fuel and purchases of inputs from other sectors, involves assuming

This combination of inputs, according to the determinist methodologies of growth accounting, uses as weightings the fraction of the output employed to remunerate each productive factor.[69] Based on Dias Avila and Evenson[70]:

$$G_{TFP} = G_Y - C_L G_L - C_A G_A - C_K G_K$$

where G represents annual growth rates in variables and C are weightings. To simplify our calculation, and faced with the difficulty of obtaining for each country the remunerations of the productive factors, we have used the weightings proposed by Federico, which means that in the initial year of the calculation the distribution was 40 per cent each for land and labour and the remaining 20 per cent for capital, while for the final year the remunerations of the inputs were equivalent.[71] Thus, we obtain the TFP, which is calculated as the average/mean of the weightings of the initial year and those of the final year for each input.[72]

The TFP of European agriculture, shown in Tables 8 to 10, experienced an enormous increase throughout the period.[73] Nevertheless, its rates of growth and its contribution to the increase in output show significant regional contrasts. For the whole period 1950–2005 (Table 8), the growth of production is explained by the increase in TFP and the use of capital, which more than compensated for the fall in the use of land and labour.[74] Our results show that regional differences in Europe were similar to the estimations of Fuglie (who calculates TFP growth for the period 1961–2007).[75] In most Western European countries, the contribution of TFP was lower than the increase in the use of capital, although the two rates were similar. However, there are two exceptions within this group of countries; the United Kingdom and Netherlands

Note 68 *continued*
that its growth was similar to that obtained with those variables we do use. Despite this, TFP measurement includes the possible adjustment of quality in some inputs. Federico, *Breve historia económica*, pp. 62–6.

[69] M. Del Gatto, A. Di Liberto and C. Petraglia, 'Measuring productivity', *J. of Economic Survey* 25 (2011), pp. 952–1008.

[70] A. F. Dias Avila and R. E. Evenson, 'Total Factor Productivity growth in agriculture: The role of technological capital' in P. Pinghali and R. E. Evenson (eds), *Handbook of Agricultural Economics* (4 vols, 2010), pp. 3769–3822.

[71] Federico, *Breve historia económica*, pp. 62–6. Changes in input shares show the trend of technical change, S. L. Wang, D. Schimmelpfennig and K. O. Fuglie, 'Is agricultural productivity growth slowing in Western Europe?', in Keith O. Fuglie, Sun Ling Wang, and V. Eldon Ball (eds), *Productivity growth in agriculture: An international perspective* (2012), pp. 109–25.

[72] D. W. Jorgenson, 'Productivity and economic growth', in E. R. Berndt and J. E. Triplett (eds), *Fifty years of economic measurement: the jubilee of the conference on research in income and wealth* (1991), pp. 19–118; J. A. Olavarría, B. E. Bravo-Ureta and H. Cocchi, 'Productividad total de los factores en la agricultura chilena, 1961–96', *Economía Agraria y Recursos Naturales* 4 (2004), pp. 121–32.

[73] Our estimate may suffer from a problem of overestimation, as the increase in part-time work in the period means that the reduction in the use of the labour factor was less marked. The ideal measurement of labour would be in hours worked, yet the only database to include this variable is EUROSTAT, but does so neither for all countries nor for the whole period.

[74] We have also estimated annual TFP growth, with logarithmic growth rates of output and inputs and distinct weights based on Fuglie, 'Shifting Patterns' and 'Productivity' and Federico 'Breve historia económica'. The differences among countries in TFP growth in this case are not large, in comparison with our main calculation, although obviously there are differences in the rates of TFP.

[75] Their results of TFP annual rates of growth are: 1.59 for north-western countries, 1.15 for the southern European region and 1.03 for eastern Europe as a whole. Fuglie, 'Shifting Patterns' and 'Productivity'. The estimations by sub-regions in Europe, either each ten years or with other year periods to present the results as annual indexes hinders comparison with our results in the references appearing in n. 4.

experienced a greater increase in TFP than in the use of capital in the whole period.[76] The Mediterranean countries have a slightly higher TFP growth than the European average, but their use of capital increased much more than the wider European level. Furthermore, the difference between the rates of TFP and the use of capital was higher than in the Western countries. In the Nordic countries, the increase in TFP and in the use of capital was lower than in Western Europe. Lastly, in the Central and Eastern countries the increase in the use of capital was much higher than in other European groups of countries and almost three times more important than TFP. The fastest increase in TFP took place in the countries of Western Europe and in Spain. The lowest growth rates corresponded to the remaining Mediterranean countries, the Nordic countries, Switzerland and the Central and Eastern countries.

We can now analyse the evolution of TFP, and also that of output and inputs, by sub-periods. Table 9 underlines that in the period between 1950 and 1985 the strong growth of output was essentially explained by a very marked capitalization, especially as a consequence of the generalization of the use of self-propelled machines, chemical fertilizers, high-yielding seed varieties and pesticides, added to the sharp increase in livestock units in some countries such as Benelux, Denmark, Greece, France and Spain.[77] An improvement (very significant in the countries of Western Europe and more moderate in the rest) in efficiency in the European agricultural system as a whole also contributed to the strong rise in production, which was achieved while the use of land and labour were already falling.

The relative contributions of capital and TFP vary according to country type. In the Western countries and the German Federal Republic, TFP growth was higher than the European average. In the Mediterranean countries, this growth was slightly lower than Europe as a whole because of a stronger capitalization process than in the Western countries, as these had advanced this process further before the war. In the Nordic countries the TFP contribution was lower than the average European level, but their output growth was the lowest on the continent. In the centrally planned economies, the contribution of capital was the highest on the European continent, but TFP increased, although slightly, as capital growth was almost five times higher than TFP growth. This was due to the majority of countries having concluded the collectivization process, which permitted farmers to enjoy a certain institutional stability.[78] However, Federico demonstrates a lack of incentives to work on collectivized farms, and similarly a reformulation of agricultural policy due to the excessive use of capital in a still backward agriculture.[79]

[76] The agricultural sector in the UK and the Netherlands was of lesser importance in the economy, due to the early industrialization processes in these countries. This sector had incorporated more technical inputs, as can be seen for the UK in Table 6.

[77] The reason to divide the sub-periods in 1985 is because European agricultural production followed a growing trend until 1985, after which it stagnated. Thus, we need to explain two different trends in European agricultural production.

[78] In countries such as Poland this institutional stability was absent, due to various legislative modifications regarding the incentives to invest in collective farms, the dissolution of a number of cooperatives following a process of forced collectivisation, and similarly the loss of consistency in government action, which permitted farmers to acquire land for crops to avoid urban growth and a rural exodus; in fact, this policy only incentivised the purchase of land for the socialized farms. Landau and Tomaszewski, *Polish economy*; Pryor, *Red and the green*.

[79] Federico, *Feeding the world* and *Breve historia económica*.

TABLE 8. Annual growth rates of outputs, inputs and TFP between 1950 and 2005

	Output	*Labour*	*Land*	*Capital*	*TFP*
Germany	1.24	–3.88	–0.22	1.00	2.48
Austria	1.35	–3.35	–0.44	3.37	1.84
Belgium-Luxembourg	1.44	–3.18	–0.34	2.75	2.00
Denmark	1.18	–3.13	–0.27	2.13	1.86
France	1.48	–3.87	–0.14	2.43	2.31
Ireland	1.47	–2.09	–0.18	2.52	1.63
Netherlands	1.84	–1.87	–0.11	1.84	2.08
Switzerland	0.63	–1.53	–0.23	1.22	0.95
UK	1.06	–1.64	–0.41	1.04	1.54
Western Europe	1.37	–2.98	–0.22	1.95	2.02
Greece	2.07	–1.16	0.13	3.16	1.61
Italy	0.89	–3.78	–0.87	3.08	1.78
Portugal	0.90	–1.73	–1.09	2.24	1.34
Spain	2.34	–2.52	–0.20	3.64	2.37
Mediterranean Europe	1.48	–2.74	–0.46	3.06	1.84
Finland	0.87	–3.66	–0.18	3.18	1.43
Norway	0.42	–2.36	0.12	2.20	0.65
Sweden	–0.01	–2.85	–0.61	1.31	0.91
Nordic Europe	0.32	–3.07	–0.36	1.88	1.08
Albania[a]	2.60	0.37	0.81	2.33	1.55
Bulgaria	0.43	–5.01	–0.45	1.07	2.15
Czechoslovakia	0.58	–2.38	–0.28	1.37	1.19
Hungary	0.99	–3.10	–0.34	2.76	1.52
Poland	0.63	–1.35	–0.44	3.01	0.49
Romania	1.47	–3.44	–0.02	4.85	1.45
Yugoslavia	1.72	–3.35	–0.32	4.22	1.94
Central and Eastern Europe	0.94	–2.65	–0.30	3.29	1.15
Europe	1.26	–2.76	–0.31	2.18	1.80

Note: Triennial averages have been used, based on the benchmark year, for the calculation of all growth rates, except for the active population, arable land and tractors for the year 1950 and for livestock units for Bulgaria, Czechoslovakia, Hungary, Romania, Spain and Portugal in the year 1950. When taking into account the data for 1950 and 2005 for the calculation of TFP, it was necessary to aggregate the data for the GDR and GFR to obtain a measurement for Germany.

[a] The growth rates refer to the period 1962–2005 because there are no data for Albania in the 1950s.

Source: As Table 1. For details, see the Appendix.

TABLE 9. Annual growth rate of output, inputs and TFP between 1950 and 1985

	Output	*Labour*	*Land*	*Capital*	*TFP*
GDR	1.72	–2.63	–0.07	2.83	1.96
GFR	2.35	–3.90	–0.39	2.72	3.20
Austria	2.07	–3.70	–0.56	5.22	2.24
Belgium-Luxembourg	1.86	–3.60	–1.03	4.55	2.34
Denmark	1.49	–3.08	–0.09	4.10	1.57
France	2.29	–3.72	–0.28	4.08	2.66
Ireland	2.12	–2.51	–0.68	3.82	2.27
Netherlands	2.93	–2.36	–0.60	3.17	3.17
Switzerland	1.21	–1.74	–0.49	2.53	1.35
UK	1.85	–1.73	–0.16	1.81	2.06
Western Europe	2.14	–3.14	–0.28	3.26	2.53
Greece	3.02	–0.62	0.36	5.02	1.78
Italy	1.32	–3.53	–0.89	5.11	1.58
Portugal	0.87	–1.20	–0.33	3.38	0.54
Spain	2.92	–2.20	0.09	5.00	2.36
Mediterranean Europe	1.94	–2.48	–0.26	4.58	1.73
Finland	1.56	–3.50	–0.24	5.57	1.45
Norway	0.79	–2.34	0.16	3.45	0.67
Sweden	0.35	–2.76	–0.71	2.20	1.04
Nordic Europe	0.77	–2.99	–0.43	3.19	1.18
Albania[a]	3.42	1.87	1.67	5.56	0.64
Bulgaria	2.48	–3.70	–0.15	5.53	2.41
Czechoslovakia	1.88	–2.17	–0.18	3.66	1.76
Hungary	2.30	–2.76	–0.25	5.25	2.01
Poland	1.62	–0.87	–0.25	5.80	0.49
Romania	2.78	–2.67	0.30	9.37	1.15
Yugoslavia	3.12	–2.24	–0.01	7.50	1.94
Central and Eastern Europe	2.18	–2.08	–0.08	6.34	1.28
Europe	2.07	–2.41	–0.20	3.92	1.98

Notes: Triennial averages have been used, based on the benchmark year, for the calculation of all growth rates, except for the variables of active population, arable land and tractors for the year 1950 and for livestock units for Bulgaria, Czechoslovakia, Hungary, Romania, Spain and Portugal in the year 1950.

[a] The growth rates are for the period 1962–1985 because there are no data for Albania in the 1950s.

Source: As Table 1. For details, see the Appendix.

TABLE 10. Annual growth rates of output, inputs and TFP between 1985 and 2005

	Output	*Labour*	*Land*	*Capital*	*TFP*
Germany	–0.41	–4.60	–0.14	–1.93	1.84
Austria	0.09	–2.72	–0.23	0.25	1.11
Belgium-Luxembourg	0.73	–2.44	0.89	–0.30	1.38
Denmark	0.63	–3.20	–0.59	–1.21	2.34
France	0.10	–4.14	0.10	–0.36	1.67
Ireland	0.35	–1.35	0.70	0.34	0.50
Netherlands	–0.03	–1.01	0.75	–0.44	0.18
Switzerland	–0.38	–1.15	0.23	–1.01	0.23
UK	–0.30	–1.48	–0.84	–0.26	0.62
Western Europe	0.03	–2.70	–0.12	–0.30	1.15
Greece	0.43	–2.11	–0.26	0.06	1.28
Italy	0.14	–4.23	–0.84	–0.30	2.08
Portugal	0.96	–2.64	–2.41	0.30	2.73
Spain	1.33	–3.08	–0.69	1.33	2.36
Mediterranean Europe	0.67	–3.21	–0.81	0.48	2.02
Finland	–0.33	–3.96	–0.07	–0.84	1.37
Norway	–0.24	–2.39	0.04	0.08	0.60
Sweden	–0.65	–3.00	–0.44	–0.23	0.68
Nordic Europe	–0.47	–3.20	–0.23	–0.37	0.89
Albania	1.67	–1.33	–0.18	–1.18	2.54
Bulgaria	–3.05	–7.27	–0.97	–6.22	1.62
Czechoslovakia	–1.65	–2.74	–0.46	–2.47	0.18
Hungary	–1.26	–3.69	–0.48	–1.23	0.60
Poland	–1.07	–2.19	–0.76	–1.68	0.46
Romania	–0.79	–4.77	–0.60	–2.42	1.83
Yugoslavia	–0.69	–5.26	–0.86	–1.14	1.86
Central and Eastern Europe	–1.19	–3.64	–0.69	–1.82	0.89
Europe	–0.15	–3.37	–0.50	–0.77	1.48

Note: Triennial averages, based on the benchmark year, have been used for the calculation of the growth rates. Data for Czechoslovakia and Yugoslavia were aggregated following their dissolution.
Source: As Table 1. For details, see the Appendix.

Finally, Table 10, with regard to 1985–2005, displays a change with respect to the situation observed thus far. The growth of TFP in this period is somewhat lower. The real change was produced because capital began to decrease, as had occurred previously with the other productive factors. Furthermore, output growth halted in Europe as a whole (as the result of the stagnant growth of Western Europe and a fall in that of Germany, the Nordic countries and Central and Eastern Europe). Only the Mediterranean countries, particularly Spain, had somewhat higher annual growth rates of production. These two changes are related. The limitation on the use of composts and fertilizers, due to abuse in preceding decades and the environmental problems it produced, affected production. In fact, this fall in the use of fertilizers is reflected in the negative growth of capital, also produced partly by the slight decreases in the number of animals and of tractors. Thus, it is efficiency gains in the agricultural sector as a whole which permitted slight increases in production, given a lower use of all productive factors. The less developed countries of the European market economies, namely the Mediterranean ones, are those which displayed different behaviour. Their TFP growth was even higher than in the previous period.

A different case is that of the countries of Central and Eastern Europe, which experienced a sharp fall in their agricultural production, and similarly in the use of inputs, especially labour and capital. This is due to the range of problems caused by the economic transition from a centrally planned economy to a market one.[80]

So, to summarise. European agricultural production grew strongly until the mid-1980s, stagnating from then on. During the first stage of rapid growth, a process of intensive capitalization of the sector occurred, as against reductions in the use of labour and land. Furthermore, sharp increases in productivity permitted the improvement of efficiency in this sector.

In turn, from the late 1980s onwards, the transformation of the productivist model of the CAP to another in which agricultural income support was partially decoupled from production, and similarly the transition from a centrally planned system to a market one in the countries of the ex-Communist bloc, affected production; this continued to reduce the use of land and labour and, in turn, maintained or reduced the role of capital. Faced with these reductions in factor employment, it was the increases in the total productivity of these same factors which permitted production to be maintained.

IV

The present study has highlighted diverse ways of accomplishing high production growth in the long term. From our perspective we can distinguish two different models and one intermediate one. The first is characteristic of the countries of Western Europe and Germany. At the

[80] There also existed problems in the German Democratic Republic in comparison with the Federal Republic of Germany. In the mid-1990s there were differences between capital, labour and livestock per hectare, and also between yield per hectare and input quality between the two Republics. Inefficiency in the GDR resulted from the assignation of inputs and the size of farms, not from ownership type. H. Thiele and C. M. Brodersen, 'Differences in farm efficiency in market and transition economies: empirical evidence from West and East Germany', *European Rev. of Agricultural Economics* 26 (1999), pp. 331–47; Macours and Swinnen, 'Causes' and 'Patterns'.

beginning of the period, these countries had a more advanced level of economic development and higher capitalization of their agriculture. These were based on strong increases in agricultural efficiency, with an annual mean growth rate which exceeded 1.5 per cent in the 55 years studied. The increase in the use of capital played a very important role, although its significance waned by the end of the period. Capital investment grew extraordinarily quickly in the 1950s, decelerated in the 1960s and 1970s (although it continued to increase significantly) and fell from the 1990s on. This model combined, therefore, a considerable fall in the use of land and, above all, labour, with a significant growth of capital, while efficiency improvement played a prime role.

The opposing model is that of the countries with centrally planned economies. In them the key to growth in agricultural production was the very strong increases in the use of capital, much higher than those of the Western countries, while the use of land and labour similarly diminished. The efficiency of the system improved, but by considerably less than in the rest of Europe. In short, their model of agricultural growth resembled that of their economies as a whole, in which efficiency considerations played a secondary role compared to the accumulation of the capital factor (and labour in non-agricultural activities).[81] The transition to a market economy seriously affected their production, and also upset their model of growth, by significantly reducing the use of capital and maintaining efficiency improvement. A certain, although still slight, convergence towards the Western model took place.

The intermediate situation is that of the lesser developed countries in the southern European periphery and the Nordic countries, although between these two groups there were also important differences. Their development model was based more on the increase in capital than on efficiency improvement, but unlike those of the Soviet bloc, they tended to converge much earlier with the model of the Western countries. In the 1950s their growth was based very unequally on the increase in capital, as against efficiency. By contrast, from 1960 onwards, although the use of capital grew rapidly, so did efficiency, at a rate which approximated that of the Western countries. From 1985, although in distinction to the Western countries the use of capital continued to increase in the Mediterranean countries, its rate was slow and efficiency increased even more quickly than the Western countries, showing a tendency to converge, especially in Spain and Portugal. In the Nordic countries the use of capital also fell from 1985 on, as in the Western countries.

In summary, the growth of agricultural production in Europe shows paths which differ but which tended to convergence. A model strongly based on efficiency increase was categorically followed by the more advanced countries since the early 1960s and by the more backward countries of the southern periphery from the early 1980s. The countries of Central and Eastern Europe had to wait for their transition to market economies in the mid-1990s before they could adopt a similar model.

But what is there behind such an important role for efficiency improvement in European agriculture in the second half of the twentieth century? In great measure, this strong growth was derived from the massive adoption of technologies which permitted land and labour to be saved, while production was maintained or even increased. Technology and technical progress,

[81] A. Maddison, *The World Economy in the twentieth Century* (1989).

as we have seen, played a fundamental role in European agriculture throughout this period. Technological innovation materialized in a significant and growing use of capital inputs, which, despite having been introduced before the Second World War in the most advanced countries, now spread to an unprecedented degree. The adoption of technological change and the conditions which permitted its generation were without a doubt closely linked to the type of economy and society which developed in Europe following the Second World War.[82] In this way, high-income economies, characterized by a continuous adoption of innovations oriented towards efficiency improvement, steered agriculture towards a model of growth which was not significantly different from the general model of economic growth.

Perhaps the principal difference was the importance to agriculture of public policies oriented towards the maintenance of agricultural incomes, which considerably limited the role of the market. It is not that the public sector and government policies were not important in the remaining economic activities, but rather that in agriculture their role was much more decisive, due not only to the establishment of prices or the protection of the internal market, but also more dynamically, such as the stimuli supplied by public research efforts. Investigation into creating and improving machinery, into chemical fertilizers and into the genetic selection of seeds to improve yields, among other research, meant a very strong boost to technical processes and, therefore, to TFP. Agricultural extension services facilitated the diffusion of new technologies, coming to play an important role in the increase in TFP.

The countries with centrally planned economies departed from this model. Their strategy of a huge use of the capital factor in agriculture and a certain disdain for efficiency is congruent with their general model of economic growth. The countries of the southern European periphery, although they also initially based their agricultural growth on heavy injections of capital, attempted from a relatively early period to improve their efficiency, following (although with limitations) the model of agricultural development previously employed by the countries of Western Europe. Yet this growth of TFP does not only show technical progress, but also a measurement of efficiency in the system as a whole. Its TFP growth was also based on an improvement in factor allocation, that is to say sound economic policies.[83]

In conclusion, it can be stated that although the present study validates the general hypothesis, originally proposed by Federico in 2005, regarding the highly intensive agricultural growth in this period, the European case qualifies the hypothesis in two directions. Firstly, it highlights the close interconnection between TFP growth and the use of modern capital inputs. Secondly, at the regional level in Europe it can be concluded that there were significant differences in the contribution to output growth of capital and TFP.

[82] D. Gallego, *Más allá del Mercado: Los condicionantes históricos del desarrollo económico* [*Beyond the Market: The historical conditions of economic development*] (2007).

[83] Federico, *Breve historia económica*, p. 66.

Appendix

Groups of countries: The countries which constitute the Western Europe group are: Austria, Belgium-Luxembourg, Denmark, France, Ireland, the Netherlands, Switzerland and the United Kingdom.[84] The countries included in the Mediterranean group are: Greece, Italy Portugal and Spain. Three countries comprise the Nordic group: Finland, Norway and Sweden. The market economies group is formed by these three groups of countries. The last and final group, Central and Eastern Europe, is constituted by Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania and Yugoslavia. The data for Czechoslovakia and Yugoslavia are aggregated after their dissolution in 1992 and 1993, respectively.

Data sources for the tables: Authors' compilation, using FAOSTAT as a base.[85] The 1950 data for all the variables has been elaborated using the *FAO Production Yearbook*.[86] Data for the two Germanies prior to 1992 are the authors' compilation, based on the *FAO Production Yearbook*.

Calculation of variables: If there are no data for some years we have obtained them through linear interpolation from among the statistics available from the data sources.

Production: The data are for net production, which is gross production minus seeds and feedstuffs. The data have been extracted from FAOSTAT and the *FAO Production Yearbook* in the following way. The data from 1962 to 2005 were downloaded from FAOSTAT. These represent the level of net production at 1999–2001 prices in international dollars. The only exception to this procedure was the case of Germany. The data corresponding to the Federal Republic of Germany and to the German Democratic Republic have been calculated using the 1999–2001 prices from Germany, downloaded from FAOSTAT and multiplied by physical production extracted from the *FAO Production Yearbook*.[87] Prior to 1961 FAOSTAT does not offer production data, but the annals of *FAO Production Yearbook* do however facilitate numerous indices of gross production from 1948, with a base firstly at the pre-war level and later in 1953.[88] To obtain a complete annual series from 1948, we have employed the evolution of those statistics indicating the indices of gross production, comparing the 1961 value of net production with the index number for the same year. Obviously, we are assuming that the evolution of the gross production and net production are equivalent. In this way we calculate net production until 1953. Prior to that year the base level in the numerous indices calculated by the *FAO Production Yearbook* is the pre-war level. Thus, we calculate the evolution between 1948 and 1953 by comparing the production level obtained in 1953 with the index number of the same year with its base at the pre-war level.

[84] The data for Belgium-Luxembourg are aggregated in the FAO and FAOSTAT databases until 2000. We then aggregated the data to homogenize an annual series.

[85] FAOSTAT, *FAO Database,* faostat.fao.org (2009), Accessed June 2009 and April 2010

[86] *FAO Production Yearbook*, 1948–2004.

[87] *FAO Production Yearbook*, 1948–1976; *FAO Production Yearbook*, 1977–1986; *FAO Production Yearbook*, 1987–2004.

[88] The index offered by FAO is the production of crops and livestock products for human consumption, adding fibres, tobacco, industrial oilseeds and rubber and substracting crops and skim milk used as feed in livestock production.

In FAO yearbooks there are no indices of agricultural production for the Central and Eastern European countries. We have had to obtain data to measure their net production in the 1950s differently to the market economies and Yugoslavia. For Hungary and Poland, we have used one index of agricultural production for each country; the sources are Berend and Ranki (1985) and Landau and Tomaszewski (1985) respectively. We have taken as reference net production in 1961 and assumed that the evolution of agricultural production in the 1950s followed the trend given in these indexes. For Bulgaria, Czechoslovakia, the German Democratic Republic and Romania, we have obtained production in quantities during the 1950s from FAO (1948–2004). We have calculated production in 1999–2001 dollars using prices from FAOSTAT (2009). Such calculations have permitted us to obtain an evolution of agricultural production for each country in the 1950s. We have elaborated an index for each country using this variable in this decade. Thus, we have obtained production for the 1950s taking net production in 1961 as reference.

The pre-war index number base period for FAO is 1934–38, with the exceptions of West Germany and Greece (1935–38) and Spain (1931–35).

For the case of Albania, we have assumed that agricultural production between 1950 and 1961 followed the evolution of crop production, which is available for the 1950s in the FAO Yearbooks.

Agricultural workers: The population censuses do not permit us to establish the number of part-time workers in agriculture. Similarly, it is not possible to determine whether the workers registered in the sector dedicated all their time to farm work. Consequently, it would be convenient to measure the active agricultural population in hours worked.[89] Faced with the difficulty of finding reliable databases for broad spatial and temporal samples of this variable, we decided to measure the active population in agriculture by the number of workers. This variable, although it differs from the true labour force, can describe in broad outlines the sharp decrease in the real human labour force which agriculture experienced after 1945.

The datum for Albania in 1950 has been estimated. We have assumed that the active population and the number of tractors (Tables 6 and 7) follow the same evolution as Yugoslavia between 1950 and 1961.

Land: The datum for Albania in 1950 is that of 1959.

Area equipped for irrigation: the FAOSTAT database begins in 1961. We have completed the decade of the 1950s with data from the *FAO Production Yearbook* for Greece and Spain. For the rest of the countries either there are no data or the data offered by FAO and FAOSTAT display significant differences in their definition, and consequently we have assumed that this variable remains constant.

The datum for Albania in 1950 is that of 1953 taken from the *FAO Production Yearbook*.

Livestock units: This is a weighted average in which the weightings are obtained from Hayami and Ruttan, and the species taken into account, together with the weightings in parentheses,

[89] Federico, *Feeding the World* and *Breve historia económica*.

are: donkeys or asses (0.8), buffalos (1), horses (1), goats (0.1), pigs (0.2), chickens (0.01), cattle (0.8), geese (0.01), mules (1), sheep (0.1), ducks (0.01) and turkeys (0.01).[90]

There are no data for Portugal before 1957. We have assumed that the growth between 1950 and 1956 was at the same annual rate as in the period 1957–61.

In the case of Bulgaria there are no data for chickens before 1952. We have assumed that the figures for 1950 and 1951 grew at the same annual rate as in the period 1952–56.

The datum for Albania in 1950 is that of 1957.

Fertilizers: The datum for Albania in 1950 is that of 1959.

Machinery: The datum for Albania in 1950 is the average of 1949–1952.

[90] Hayami and Ruttan, *Agricultural development*.

Annual list of publications on agrarian history, 2013*

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TAYLOR, K. S., *Dry shod to Chippenham: a history of Maud Heath's ancient causeway in North Wiltshire.*

TOMAN, JOHN, *Kilvert's world of wonders: growing up in mid-Victorian England.*

TRINGHAM, NIGEL J. (ed.), *Victoria History of the counties of England: Staffordshire,* XI: *Audley, Keele and Trentham.*

TURNER, SAM, SEMPLE, SARAH and TURNER, ALEX, *Wearmouth and Jarrow: Northumbrian monasteries in an historic landscape.*

VELTEN, HANNAH, *Beastly London: a history of animals in the city.*

WADDELL, GORDON, *Highland roots: the real story behind one Highland cottage.*

WAIN, BRIAN and ROBERTSON, CHARLES, *At a meeting held at Kelso: a bicentenary history of the Border Union Agricultural Society, 1813–2013.*

WALKER, AUDREY and WALKER, PHILIP (eds), *Belton at war.*

WALKER-MEIKLE, KATHLEEN, *Medieval dogs.*

WALLACE, VERONICA, *Yorkshire food and diet: history, production and consumption.*

WAREHAM, A., DAVIES, M., HARDING, V. and FERGUSON, C. (eds) *London and Middlesex Hearth Tax returns: a critical edition*, BRS Hearth Tax Series IX (2 vols).

WATTS, MARTIN ANTONY, *Prehistoric, Romano-British and medieval occupation in the Frome Valley, Gloucestershire.*

WELLS-FURBY, BRIDGET (ed.), *Medieval property transactions in Rutland: abstracts of Feet of Fines, 1197–1509.*

WHITE, SIMON J., *Romanticism and the rural community.*

WHITWORTH, ALAN, *A comprehensive bibliography of dovecotes.*

LEACH, P. (ed.), *The account Books of Richard Wigglesworth of Conistone and his sons 1683–1719.*

WILLIAMS, GEOFFREY L., *Evacuees: growing up in wartime Britain.*

WILLIAMS, MIKE, *Textile mills of South West England.*

WILLIAMS, SAMANTHA, *Poverty, gender and life-cycle under the English Poor Law, 1760–1834.*

WILLIAMSON, TOM, *Environment, society and landscape in early medieval England: time and topography.*

—, *An environmental history of wildlife in England, 1650–1950.*

WILLIAMSON, TOM, LIDDIARD, ROBERT and PARTIDA, TRACEY (eds), *Champion: the making and unmaking of the English Midland village.*

WILSON, ADRIAN, *Ritual and conflict: the social relations of childbirth in early modern England.*

WILSON, CAROL M., *Westerdale: the origins and development of a medieval settlement.*

WILSON, CATHERINE, *Lincolnshire farm animals: a brief history,* (2012).

WINCHESTER, ANGUS, STRAUGHTON, ELEANOR and ROSE, SARAH (eds), *Manorial records in Cumbria and Lancashire.*

WITTERING, S., *Ecology of enclosure: the effect of enclosure on society, farming and the environment in South Cambridgeshire, 1798–1850.*

WOOD, ANDY, *The memory of the people: custom and popular senses of the past in early modern England.*

WOOD, MIRIAM, *Landownership in Aston upon Trent, Derbyshire, 1500–1924.*

WOOD, PAUL, *A guide to the townscape of Otley: thirteenth to twentieth century.*

WOOLF, JOANNE, *Knoydart: landscape, history, people.*

YATES, JEAN (ed.), *Medieval Dunstable: its monasteries, manors, markets and mêlées.*

Book Reviews

G. LAWTON (ed.), 'Church Lawton Manor Court Rolls, 1631–1860', *The Record Society of Lancashire and Cheshire*, CXLVII (2013), 297 pp., 9 figs, 15 tabs.

As the era of 'open access' approaches, it is worth pausing for a moment to consider the old saying 'that you can get what you want but lose what you have'. Guy Lawton's painstaking edition of the Church Lawton manorial court rolls is a perfect example of the benefits of subscription publication of a scholarly edition of a historical text by a long-established learned society. Life has been proceeding in this vein for 170 years in most British counties. Scholars undertake such monumental editorial tasks as a labour of love, the societies undertake to publish them for their subscribers, and in this way documents see the light of day that would never be produced by commercial publishers. While the embargo periods built into initial 'open access' agreements appear to safeguard this ancient craft, fears remain that such things might disappear as the collateral damage created by the changing whims of an internet giant.

If so, let us appreciate what we have, while we still have it. In this instance, one could argue that the value of editorial work on these court rolls outweighs the intrinsic interest of the documents themselves. Church Lawton was a small manor of 1366 statute acres on the Cheshire-Staffordshire border. Its court rolls do not survive as a consecutive series through the period covered in this volume, because there were large gaps: 1643–57, 1701–34, 1740–70, and 1779–1840. While many of these gaps reflect genuine losses, the final hiatus might reflect a genuine lack of business, or more properly the steward's genuine lack of interest in keeping the court, when the manorial lord held 92 per cent of the land in hand. So, it is fair to say that there are probably more exciting historical documents available in print.

However, there are few more painstaking editions of them. The rolls themselves detail patterns found elsewhere. Relatively vibrant Leet business in the 1630s halved in volume in the Restoration period, and halved again by the 1730s. The greatest casualty was the court's regulation of petty affrays, which probably fell increasingly under the summary jurisdiction of the local magistrate. These court rolls are buttressed by extensive indices of persons and places, as they occur in every single surviving roll. In addition, the editor has done sterling work in setting the rolls in a much broader documentary context, by transcribing supporting material such as the 1660 Poll Tax, Hearth Taxes of 1664, 1669 and 1673, Land Taxes of 1781 and 1800, and the 1841 Census. In addition, he has also included a fascinating probate inventory of Church Lawton Hall in 1693, and a document designed to make the early modernist's head swim, a 1741 itemised inventory valuation of a Newcomen Engine used to drain the Lawtons' salt pan in the manor.

The editorial introduction is also well worth reading, not just because of its description of the composition of the rolls, the conduct of the court, or their value in pushing back the history of the Cheshire salt trade into the early eighteenth century, but because of the story of the Lawton family itself. Again, this is both idiosyncratic and very familiar – accumulation of wealth and status in the century following the Reformation, reaching a peak with John Lawton (d. 1736), his 21 children, his £100 income, his house, his salt pans, and his political career. The next century was one of decline, mismanagement and misalliance, as the estate fell into the hands of an exploitative steward, was turned around by an indefatigable widow, and was then eventually inherited by the uncouth husband of the lover of the diarist Anne Lister. Church Lawton Hall followed a similar trajectory, tracing its own slow decline from the 1880s, as it was first rented out, then used as a hospital and as a private school, then left to become derelict and vandalised, and then redeveloped as apartments in the late twentieth century.

While this edition is likely to be of most interest to its subscribers in Lancashire and Cheshire, it is a useful reference work, a handy source of examples of the post-medieval court roll, and an illustration of the workings of the regional economy explored in some depth by Charles Foster a decade ago. In this sense (and hopefully only in this sense), it provides another valuable illustration of the 'world we have lost'.

H. R. FRENCH,
University of Exeter

IAN WAITES, *Common land in English painting, 1700–1850*, Woodbridge, Boydell Press, 2012. 181 pp., 42 figs., 30 illus. £50.

Our shared vision of the English countryside has been hewn and gently shaped by centuries of engagement, from regional farming practices to radical transformations and maturing plantations. Art and experience have undoubtedly played a key role in this and Ian Waites' work offers a new perspective on how that landscape has been represented in art over the key period of transformation 1700–1850. Whilst the landscape history of that period has its champions – one being Tom Williamson the general editor of this relatively new series from Boydell – its representation in art has perhaps been less well explored beyond the popular canon. Waites seeks to reveal lesser known artistic representations of common land: open fields, meadows heaths and woodland. The first chapter deals with the works of Tilleman, whose sketches and washes of pre-enclosure Northamptonshire show the baulks, furlongs and strips so ably studied by generations of historians and archaeologists, and of course John Clare. Consideration of George Lambert, Thomas Gainsborough's woodland scenes and Richard Wilson's heathlands lead into a chapter on Sandby, Cotman, Constable and William Turner of Oxford bringing a regional consideration to the representation of landscape.

Across all of these landscapes blow the winds of change. Waites draws on the historiography of landscape and agricultural change as well as art history to try and understand why these landscapes were so rarely depicted. It is a complex answer and one that must involve the relationship between art and private property as well as the more familiar territory of picturesque aesthetics and the progress of enclosure. There is also considerable complexity – in terms of tenure, use, access, and form – within the types of landscape that Waites considers. There is early on in the book a discussion of terms which arguably does not resolve itself with clarity. 'Common field' is preferred to 'open field' but this becomes confusing at times when commons themselves are being discussed. A quick flick through the well-produced illustrations, including some excellent colour plates, suggests that many of the unenclosed landscapes depicted were not actually common or open fields, but heaths, meadows and woodlands; images which drew heavily on classical models. Tellingly perhaps, it was the artists of Dutch heritage – Tilleman and DeWint – who are drawn to the open prospects of the unenclosed fields. It is perhaps significant that whilst most forms of open landscape are given excellent coverage the moorlands are peculiar by their absence. Perhaps covered under common land their ecosystems were and are distinctive, and they included a complex mix of enclosed (privately owned) and common or waste land, but were also home to industrial processes.

Waites' book draws landscape art together with an appreciation of the landscape before the impact of parliamentary enclosure and it raises interesting questions about preconceptions of the relationship between art and the landscape and the choices made in each subject or view point. As an art historian the artistic element is naturally the stronger of the two themes, but the book reminds us that common land – land to which we all have access – is both fundamental to our picture of England and our imaginary country, and constantly under threat.

JONATHAN FINCH,
University of York

PETER ROEBUCK, 'Cattle droving, cotton and landownership: a Cumbrian family saga', *Cumberland and Westmorland Antiquarian and Archaeological Society* Extra Series, XLIII, 2014. xii + 169 pp., 19 illus., 2 maps. £20 post-free from Hon. Librarian and Stockholder, I. D. Caruana, 10 Peter Street, Carlisle, Cumbria, CA3 8QP.

This is a book with an unusual structure. The first 22 pages describe the Parker family who lived in north Cumberland from at least the first half of the seventeenth century; holding farms (*inter alia*) in Wreay and High Hesket along the main road (now A6) from Penrith to Carlisle. One part of the family turned up in the Stockport area in 1791 and proceeded to generate substantial fortunes from the textile trade; the bulk of the narrative relates to these activities. From about 1820, the men increasingly invested in commercial property in Manchester and country houses in Cumberland. So far, so normal.

The author (formerly of the University of Ulster) was drawn to the story by the chance purchase of one of the former Parker homes together with the discovery of a family history put together by a member of the Parker family. The first section therefore is largely based upon this family story and so is not necessarily Roebuck's own narrative. To my mind this is a limitation, because half-way through this family depiction we discover that the Mary Nicholson who, in 1696, married Thomas Parker (1678–1760) was the niece of Dr William Nicholson, Bishop of Carlisle, later Archbishop of Cashel, whilst her brother was the Joseph Nicholson, who in 1777 (together with Richard Burn) published the enduring *History and antiquities of the counties of Westmorland and Cumberland*. We might

well wonder about the other women who married into this family; who their antecedents might have been; to what networks the Parker men consequently had access. As with most family histories, we get almost no information about the families into which sisters and daughters married.

The bulk of the narrative concerns the commercial activities of various grandsons and great-grandsons of Thomas and Mary Parker who became involved in textiles and for which, it appears, there is a substantial archive held at Carlisle. As with the first part of the book, we are given an overview against which to set the Parkers' activities although this necessarily limits the space available to discuss those complex and varied businesses. Consequently, the reader can be left uncertain as to whether the Parkers were actually manufacturing or acting as middlemen. (The discussion of calico printing gives the impression that the work was done on behalf of the Parkers, for they lament that they cannot control the quality of the products.) Indeed, it is difficult to envisage how these men might have gained sufficient expertise in all the branches of manufacturing to which reference is made. However, whether as manufacturers or middlemen, the Parkers were to move onto the international stage with goods being shipped to both South and North America as well as around the Mediterranean, and here there is some very interesting detail. In fact, there is a lot of material here to interest us: the men depicted lived complex lives. As so often appears to have been the case, many of them were so busy making money they never got round to marriage, so that the second generation generally died without direct heirs. And make money is what the Parkers certainly did, with the result that by 1820 they were building large houses in the textile areas; subsequently moving onto country houses in Cumberland where they are linked with Warwick Bridge, Skirwith Castle and Petteril Green. Thomas Parker (1784–1828) was particularly active, with substantial homes at Ardwick Green (then a pleasant suburb of Manchester) and Warwick Hall (to the east of Carlisle), although a more lasting legacy were his entrepreneurial efforts in rebuilding what is now known as the Northern Quarter in Manchester. The story of the Parkers is worth telling. In many respects it is typical of the north west of England in the century from about 1780 but, it is only if enough such narratives are written that we know what the norm actually was. In so far as it leaves us wanting to know more, this is a good book and good value for the money.

JENNIFER HOLT,
Rossendale

CAIN HEGARTY with ROB WILSON-NORTH, *The archaeology of hill farming on Exmoor* (English Heritage, 2014). 137 pp., 114 illus. £20.

After some historical and archaeological neglect, in the last decade there have been a number of valuable studies of the Exmoor, notably Mary Siraut's 2009 volume in the 'England's Past for Everyone' series. Hegarty and Wilson-North's study adds considerably to this research, and ought to be of considerable interest to agrarian historians, particularly those concerned with upland agriculture.

Based on detailed analysis of vertical aerial photography, the study is organized into three sections. The first details the evolution of the landscape within the royal forest, and the effects of (legal) disafforestation in 1818, some of which is also covered in Siraut's study. The second deals with exploitation and enclosure of the substantial area of commons that existed within and outside the royal forest, particularly after its bounds contracted to approximately half the geographical area of Exmoor from *c*.1300. The third provides a fascinating analysis, based on archaeology and analysis of aerial photography, of the importance of catch-meadow irrigation in upland pastoral farming.

While this volume includes information on Exmoor's development over 8000 years, it is particularly concerned with investigating the changes wrought by the sale of the royal forest to the midland iron founder, John Knight, in 1819. Knight epitomized the optimism, but also the over-ambition, of early industrialization and the era of 'high farming'. He schemed wholesale reclamation, enclosure and arable improvement, large-scale sheep ranching (rather like the demesne of a medieval lord), and planned roads, railways and even a canal to open up Exmoor's agriculture to distant markets. His spending alarmed his family sufficiently that the bulk of the family fortune was willed away from him, leaving his son to make more modest, but still significant enclosures and irrigation improvements. The history of this industrial-scale exploitation and cultivation provides an interesting alternative to the current emphasis on promoting Exmoor's 'natural beauty' as a National Park.

The Commons within and surrounding the old royal forest were also subject to substantial encroachment and enclosure, as well as providing a substantial resource for peat fuel. Indeed the authors suggest that Exmoor would probably not have harboured year-round settlement without the availability of peat. Aerial photography demonstrates that peat extraction was extensive but small scale, compared to the Somerset Levels or Norfolk Broads. The volume contains an interesting discussion of the different extraction

methods of pit turf (which dried into coal-like lumps) and skin-turf (which was fibrous and quick-burning). Similarly, the discussion of the effects of Parliamentary enclosure (in the Knight era) makes very clear and effective comparisons between the mapped and physical landscapes. This produced two kinds of outcomes. In many places, open tracts were carved up into the classic rectangular fields, which often incorporated (but also diminished) existing landmarks, like barrows and hill forts. At Holdstone Down (seen on the book's front cover), though, a different situation occurred. Here an extremely intricate grid of allotments was marked on the ground by boundary stones, but the land continued to be thrown together into an apparently undivided landscape (apart from the remnants of a failed late Victorian attempt to build a row of holiday villas!). This is a fascinating example of behaviour that probably happened elsewhere, particularly in earlier eras of 'enclosure by agreement'.

The final section on farmland is, in many respects, the most valuable for agricultural historians. Its discussion of the intricate drainage systems necessary to irrigate upland 'catch meadows' is a worthy corrective to the historical emphasis on the 'floating' of water meadows in chalk downlands. The authors illustrate powerfully that these upland drainage schemes could be as complex as (and were often much larger in scale than) their lowland peers, and that they made dramatic improvements to the timing and volume of spring grass growth. Aerial photography comes into its own in this section to illustrate the extensive nature of these drainage channels on steeply sloping hillsides. By the time that these systems featured in the mid-Victorian agricultural literature, it was claimed that they resulted in earlier lambing, and better survival rates than had previously been the case in the unforgiving Exmoor climate.

While this research concentrates closely on its subject area, it will be worth reading as part of a contextual analysis of many upland regions in Britain. Its extensive use of aerial photography provides a template for future studies, particularly now that it can be enhanced relatively cheaply by large-scale LIDAR surveys as well. Such research breaks free of the limitations facing the earth-bound documentary historian, who stands to be frustrated by the scanty records surviving from the royal forest and its nineteenth-century purchasers. It provides a perspective that combines an important narrative of the 'big picture', with nuanced, detailed and effective local case studies, and is worth reading to enrich any trip to this much-visited location.

H. R. FRENCH,
University of Exeter

N. F. BEARD, R. A. FRAZIER, D. J. JUKES, O. B. KENNEDY, A. SWINBANK and R. B. TRANTER, *Feeding the public: a centenary review of food and drink manufacturing,* CAS Report 20, October 2014 (Centre for Agricultural Strategy, School of Agriculture, Policy and Development, University of Reading, PO Box 237, Earley Gate, Reading RG6 6AR). £16.

In 1913 the Board of Trade was thinking about making the confectionery, jam, pickle and sauce-making trades subject to the minimum wage provisions established by the 1909 Trade Boards Act. In response, several of the firms likely to be affected, some of them still familiar household names, came together to form the Confectionery and Preserved Food Manufacturers' Federation. By October 1913 over 200 firms had joined. Four years later it became the Food Manufacturers' Federation, and was one of the principal industry pressure groups. In the mid-1980s it merged with the Food and Drink Industries Council to represent the whole food and drink processing industry as the Food and Drink Federation, which commissioned this short account of the major changes in the industry from a group of food scientists and economists at Reading University to commemorate its centenary.

Summarizing a century's changes at this length requires some selectivity, and it is perhaps revealing of the industry's sensitivities that three specialist chapters concentrate on nutrition, science, and food quality and safety. The nutrition chapter highlights the discovery of vitamins and micronutrients in the first half of the twentieth century, the establishment of the National Food Survey in 1940, and the more recent attention to cardio-vascular disease and obesity in nutrition policy. The scientific and technical developments discussed include not only freezing, packaging, and other processing methods, but also the impact of analytical methods, such as spectrophotometry and chromatography, in the detection of fraud and in identifying the food components responsible for flavours and aromas. The chapter on quality and safety deals with both the legal framework and factors affecting consumer confidence. For many historians, however, chapter 2, which provides a narrative summary of the main changes and continuities in food processing over the century, will be the most interesting. The 1907 Census of Production, for example, revealed an industry in which well over half of the labour force was employed in just three sectors: grain milling, baking, and the manufacture of alcoholic drinks. Nevertheless, there was by then a well-developed export trade ensuring a supply of British 'native foods', from suet to plum puddings, across the world. The

subsequent history of the industry is about its response to demand influences, such as income, household size, and retailing developments, to the rise of branded products, and to technology changes such as the development of refrigerators and freezers, all of which combine to increase the level of services incorporated into food products.

While this is a useful summary of the main changes in food processing over the last century, it has little to say on some of its more significant and controversial aspects, such as changes in the size and ownership structure of the industry. And while pointing out that productivity in food processing lagged behind that of the manufacturing average for most of the twentieth century, it fails to explain why this was so. Finally, and paradoxically, given that it commissioned the work, the book has virtually nothing to say about the history of the Food and Drink Federation, and makes no attempt to investigate its political effectiveness in representing the interests of the industry.

PAUL BRASSLEY,
University of Exeter

Europe and Elsewhere:

FREDERIC APARISI and VICENT ROYO (eds), *Beyond lords and peasants: rural elites and economic differentiation in pre-modern Europe* (Publicacions de la Universitat de València, 2014). 256 pp., 49 figs., 27 tabs. €20.

While English economic history remains in the doldrums, falling into a gap between the fashion for social and cultural history on the one hand and the application of economic models to historical examples on the other, classic economic history continues to thrive in continental Europe. This volume brings together promising young scholars from Spain and Belgium working on the rural economies of late medieval Valencia and Flanders, with additional contributions from two more experienced historians of England. The 'rural elites' with which these studies are concerned are peasant elites; and the 'economic differentiation' is that which can be observed within particular village communities. A strength of the volume is the range of perspectives and approaches represented. With regard to Valencia, Vicent Baydal and Ferran Esquilache look at the extent of differentiation within corporate Muslim villages; Vicent Royo examines a region dominated by livestock farming; and Frederic Aparisi considers the links between notaries and the peasant elite. For Flanders Lies Vervaet examines different forms of leaseholding; Kristof Dombrecht studies funeral arrangements as a measure of social inequality; Eline van Onacker identifies the Campine area with its extensive tracts of common land as a region where social differentiation was limited, while Maïka de Keyzer looks at how the commons were regulated in the same region. Miriam Müller contributes a study comparing landholding structures in various English manors, while Chris Dyer provides a conclusion.

The volume is not without its problems. Little editing appears to have been undertaken. The text is littered with mistakes of spelling and grammar. Figures are misnumbered and in one case duplicated. Names are misspelt and mistaken. The bibliographical format is inconsistent. Punctuation is missing. There are long quotations in French and Latin with no translation provided. Perhaps more significantly, there seems to have been little editorial control of the contents, and the chapters are variable in quality. The introduction starts with the misleading premise that social differentiation within peasant communities has received little attention, before moving on to acknowledge that it is a long-standing theme in the English-language literature. However, this still ignores the significant international debates within Peasant Studies from Marx and Chayanov onwards, despite the fact this is mentioned in at least one of the chapters. This is a shame, as these shortcomings make the volume unsuitable for recommending to undergraduates. Nonetheless, specialists conducting their own studies of social differentiation in village communities and those interested in comparative approaches to pre-modern rural society will find much of value. The strongest chapters, such as those by Aparisi, Vervaet, van Onacker and de Keyser contain substantial new research, soundly anchored in existing debates, but offering unique perspectives. Aparisi uses an extensive set of early fifteenth-century notarial notebooks kept by Antoni Ferrando, a notary of peasant stock, to illuminate the social and economic networks of rural society. This is a world of commercial transactions, money-lending and frequent movement between country and town, where social links were maintained over relatively long distances. Vervaet offers a corrective to the accepted view of leaseholders as the forefront of agrarian capitalism, showing that large leaseholders in coastal Flanders often paid rents in kind to provide institutional landlords with a food supply, while landlords tolerated sub-economic rents to secure the stability and loyalty of reliable large tenants. The work of van Onacker and de Keyser overlaps to an extent, both concentrating on the Campine region, an area of sandy soils dominated by extensive tracts of common land. The Campine, despite its location surrounded by some of the most densely populated and highly commercialised regions

of sixteenth century Europe, retained its open and lightly regulated commons up until the eighteenth century. The relative lack of social differentiation, and of landlord interference, in these communities provide an interesting counter-example against the dominant story of increased social polarisation and privatization of property in this period elsewhere in early modern Europe. Dyer's conclusion, which in fact makes a useful introduction to the volume, helpfully pulls together themes raised by the volume: how can the village elite be defined, when and why do they emerge, what is the role of commercialisation, and how did such elites move beyond the confines of village society? Thus, if you are willing to tolerate its idiosyncrasies, there are plenty of new insights into late medieval society to be gained from this volume.

JANE WHITTLE,
University of Exeter

PAUL HALSTEAD, *Two oxen ahead: Pre-mechanized farming in the Mediterranean* (Wiley Blackwell, 2014). 372 pp., 19 illus., 2 maps. £60.

> 'What does "farmer" mean?' Alexis answered his own question: 'two oxen ahead and one ox behind'; in Greek, *vódhi* (ox) symbolizes stupidity rather than strength (p. 11).

'Two oxen ahead and one behind'. No other phrase could better summarize the condition of Greek agriculture during the period dealt with in this outstanding, in all respects, book by the eminent archaeologist-anthropologist-ethnologist and historian Paul Halstead. Simultaneously, the very same phrase he chooses as a title for his book epitomizes/condenses, and signifies the profound interest and affection the writer deals with his subject.

But, let us take things from the beginning. This book is the result of the long-time acquaintance, and better still, involvement of the writer with the rural society or, more precisely, with the remote, poor and disadvantageous rural communities of the Mediterranean south, especially Greece. This fact is itself particularly interesting for all those studying the evolution of rural society and its history.

The book is an ideal recording of rural occupations, of cultivation methods, as well as of the underlying ideas and attitudes inherent in the farming practice, all of which the author conveys in a direct and vivid manner. Halstead does not talk with his informants simply to record their views, but he also communicates with them in a directly experiential, almost bodily, way. This fact is revealed apart from anything else, by his familiarity with and interest in his interlocutors, referring to them by their first names or even by their nicknames.

Simultaneously, the book declares the writer's wider interest in the humble and despised, insular, mountainous and disadvantages areas of Greece and the Mediterranean at a turning point: on the borderline between primitive or traditional and modern or latently modernized agriculture, through the introduction of mechanization and innovation, which has been slow and tortuous process both in Greece and in the other regions on which the writer focuses. Equally slow and laborious has been the transition from the state of a peasant to that of a farmer – to recall Stathis Damianakos, another researcher of the Mediterranean rural space *La paysan grec. Défis et adaptations face à la société moderne* (Paris, L' Harmattan, 1996).

This transition – in the case of Greece at least – was never accomplished. It remained incomplete or in abeyance, particularly in the semi-mountainous and disadvantaged areas – which are the writer's field of analysis – thus rendering agricultural production 'something between subsistence husbandry […] and micro-commodity "capitalist" agriculture', while for a large number of farmers, farming remained 'a given social state of being, to which they submit due to lack of other reliable options', as Damianakos points out. In this respect, rural areas and rural society form an ideal field for ethnographical-anthropological observation.

The book is divided in seven chapters in which all phases of agricultural work and practice are analyzed thoroughly: from cultivation, sowing and harvesting, to the management and planning of rural means and resources. The writer provides sufficient information on the broader intellectual and cultural background, carefully setting people and their stories (or their destinies, I would dare say) in a solid historical and cultural context. The information and details he gives on cultivation practices, sowing methods and farming systems are so exhaustive that only a specialist agriculturist could appreciate their width and wealth. Furthermore, the writer's citations are literally a parade of numerous –and definitely the most significant– folklorists, ethnologists and scientists specializing in the rural world, therefore offering an extremely useful bibliographical guide.

On the other hand, I have to stress the fact that the writer's chosen view provides us with a specific picture of rural Greece and Mediterranean. It is a rural iconography, almost frozen in time and space, which remains primitive in the late twentieth century. However, it is significant (and worthy of further investigation) that this particular region – rural Greece and the Mediterranean – does not seem to

communicate in any way, cross with or be affected by, the scientific and/or practical knowledge produced in university departments and several agricultural research institutes and foundations, which had already developed to a great extent during the inter-war period and the first post-war decades with the precise purpose of promoting and disseminating scientific (primarily, but not only, agronomic) knowledge in the rural world.

Nevertheless, this does not diminish, but on the contrary it increases, the charm and uniqueness of the book. Through this unique conjunction of archaeology, anthropology, ethnography and oral history, Paul Halstead reminds us that this rural civilization emerging alive from the lines of his book was so material, handmade, made of stone, sun and earth, so *theoctistos*. He offers us the essence of a lifetime of research and experience, together with his love and admiration for a civilization which gradually perishes with its people, if it has not disappeared already.

DIMITRIS PANAGIOTOPOULOS,
Agricultural University of Athens

British Agricultural History Society Spring Conference 2014

by Carol Beardmore

The spring conference was organized by Dr Nicola Verdon and convened at the Federation of Women's Instututes' Denman College, near Abingdon. After afternoon tea, the conference was opened by Dr John Broad with a paper exploring 'Social housing in the English village before and after the New Poor Law', which concentrated on two periods, 1660–1834 and 1890–1930. He argued that the Old Poor Law gave every settled inhabitant the right to be housed and consequently magistrates frequently ordered parishes to build houses for the poorer residents. Initially the monies for these projects were raised from the rates or by borrowing against the parish rates. As a result, in the early nineteenth century, approximately 10 to 15 per cent of houses in the midlands were owned by the parish. The Poor Law Amendment Act of 1834 forbade parishes from subsidizing housing and occupiers were required to pay for repairs and upkeep. Rural housing provision now lay with benevolent landowners and led to increasing complaints of overcrowding and insanitary conditions. Change was slow and it was not until after the First World War and Lloyd George's campaign of 'homes fit for heroes' that state-owned housing increased. He concluded that social housing in the countryside was not new but had a long history. The discussion afterwards was enlivened by Professor Howkins' reminiscence about how social differences in housing in East Sussex might be determined by the size and brand of the prams being pushed on the streets of Lewes.

Following the discussion the majority of delegates retired to the bar for refreshments before dinner, which was a lively affair owing to Denman College being fully booked. Agricultural historians, being of an independent nature, trickled into dinner in small groups, which meant some of us being served dessert before others had had their starters. However, the food was delicious and the conversation animated.

After dinner the conference was addressed by Dr Kate Tiller, who explored the landscape history of 'Down and Dale', topical for the conference venue, as illustrated by the Vale of the White Horse. Dr Tiller examined the imprint of pre-history on the locality, which encompassed Uffington Castle and the Ridgeway. She suggested that myth, legend and landscape were intertwined and reflected in place names, for example Dragon Hill where St George was alleged to have slayed the dragon. The rich cache of surviving Anglo-Saxon charters for the Vale of the White Horse allows the historian to visualize the development of the landscape. Towns and abbeys in the area epitomize the historiography of the landscape. Place names ending in '-ey' reveal the efficiency of Abingdon Abbey's exploitation of the areas unique resources. The vale lacked a heavy density of landed magnates and Joan Thirsk used the locality to investigate and define broad regional characteristics. The area was made famous by James Betjeman's poetry as he used this particular landscape to illustrate the differences between vale and dale. After a spirited question and answer session delegates either moved to the bar to socialize or else to bed to prepare for an early start the following morning.

The conveyor-belt toaster at breakfast proved somewhat problematic. Either one had to accept anaemic toast or risk a second pass; this might result in either the perfect degree of browning, or cremation, and caused much amusement amongst the obviously talented WI cooks!

Tuesday morning started with the new researchers' section of the conference and the presentation of three papers. The first was given by Dr Susan Kilby, who examined 'Hidden peasant economies: how the other half lived in late medieval Lakenheath'. This paper essentially consisted of a case study of John de Wangford, probably the richest peasant in Lakenheath. Kilby suggested that it was unlikely that de Wangford earned a living purely through sheep farming. He held a reasonable quantity of freehold land and there is

evidence of a direct correlation between wealth and sheep farming. Other peasants were reliant on the fisheries for a living. Richard Lericok depleted the entire contents of one fishery and as a result ended up in court. Kilby concluded that in order to understand landscape and peasant economies it is necessary to look at occupations and incomes beyond farming and good arable land.

The second paper of the morning was my own which explored the 'The rural community through the eyes of the land agent on the Dorset and Somerset estate of the marquis of Anglesey: William Castleman and his sons, 1812–1854'.

The final paper of this section was given by Matthew Holmwood and was titled 'Understanding rural migration in late nineteenth-century England: taking research to a new level'. The speaker pointed out that this study formed part of his PhD and was a work in progress. After presenting the historiography of rural migration, Holmwood explained that in the past looking at individuals from a random data set often produced results that were too broad to be of worth historically. He argued that village sampling took the wider ideas down to the parish level and explained his new methodology and the reasoning behind his selection of villages and locations. For the study he had identified 36 villages in three counties, Sussex, Norfolk and Northumberland. He had transcribed 15,000 names from the censuses, establishing those who stayed at home and those who migrated. In this study he had not counted sons and daughters who migrated with their parents.

The next to address the conference was Dr David Stead who presented 'Agricultural policy lessons for Ireland from the hot, dry summer of 1976'. He suggested that throughout the twenty-first century drought is predicted to become more prevalent.

The ideas in his paper form an essential element of the debate surrounding risk management in farming and food security. The research is important because no one has ever undertaken a political economy study of Irish agriculture during 1976. As part of his research Stead investigated policy response with particular emphasis on the potato sector. During the crisis export restrictions had been placed on potatoes and steps taken to prevent smuggling. However he suggested the policy lessons for the future should not be determined by one case. One issue is that a balance needs to be achieved between the often-competing interests of farmers and consumers. Local authority water providers in Ireland were in the process of being merged into one utility and in the event of future droughts cohesive action could then be taken. Stead concluded that more research was required into the impact of weather induced food price inflation particularly on low-income consumers in Ireland and other developed countries. The debate afterwards centred around whether history could have a role to play in guiding future agricultural policies.

To celebrate our host organization, the Federation of Women's Institutes, in place of the usual Tuesday afternoon trip it had been decided instead to feature a panel session focusing on women in the countryside over time. The first paper was presented by Dr Rebecca Andrew and investigated 'The Girls' Friendly Society in the Lake District in the 1930s'. The Girls' Friendly Society was founded by Mrs Townsend in 1874 to protect and guide young country girls who moved into domestic service in the cities. The leaders had to belong to and regularly attend church while its members were young unmarried women, of virtuous character and epitomizing chastity. The leaders were mainly upper class and meetings held in their homes sharpened the social divide. Many of the girls attended because it provided a 'night out' and a break from their routine. Overall the aim of the movement was to promote moral fortitude. The countryside was seen as a strongly moral place and it was these morals the GFS sought to protect when the girls moved into more urban areas.

The second paper was presented by Dr Sian Edwards and surveyed 'Good wives and citizens: gender and the Young Farmers' Clubs in 1950s England'. This association was formed in the 1920s to prepare young people for their future on the land. Women had to be proficient at home and on the farm. During the 1950s these clubs received governmental funding which helped to provide vital training and opportunities for socialization. For rural women life as a wife and mother was almost unavoidable, but farming from world war two onwards was classed as a male occupation. However it was proposed that women remained important for rearing the next generation, and female classes included farm craft lessons and were closely related to productivity. The paper concluded that the rural housewife during this period was the lynch-pin of society.

Dr Rachel Ritchie presented the final paper of the afternoon entitled 'Rural life and fashionable dress in Post-War Britain'. It suggested that before the 1960s ideas of modernity within the countryside were rare. Barbour and 'wellies' were classed as rural chic but did not reflect what people actually wore. Home and Country typically portrayed an outdoor countryside setting that reflected the centrality of rural life. It recognized the problems rural women had in accessing shops. Kays catalogue advertised regularly in Home and Country, and the patterns contained the same

discourse used to describe fashion in upmarket magazines such as Vogue. Home dressmaking and knitting gave geographically isolated women access to fashion. Ritchie argued that the portrayal of the countryside in high-end magazines encouraged the idea that rural life was synonymous with fashion. Before supper delegates took the opportunity of walking in Denman's beautiful grounds to enjoy the early spring sunshine or partook of afternoon tea indoors.

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The second paper, 'The mistress of the estate is the best servant: women, property and estate management in the long eighteenth century', was presented by Dr Briony McDonagh. The proposition was that women owners have historically been ignored despite controlling around ten per cent of the land. The paper explored the theme by using a variety of women as examples and argued that women's involvement in estate management was illustrated in their account keeping. Elizabeth's Dryden's accounts were kept in her own hand and she continued this practice even after having a stroke. Elizabeth Somerset, fourth duchess of Beaufort, exerted considerable influence on both the management of the estate and its accounts and Mary Clarke managed both Chipley estate and its constituency. McDonagh argued that it should not be assumed that women left their estates to be run by male agents, many were personally involved in their daily management and in pursuing improvements including enclosure. Women's clothing was impractical, particularly their shoes, which were not suitable for walking over their estates. Even with the issues surrounding impropriety women were clearly not confined just to the private domestic sphere and frequently proved very capable managers.

In the final paper of the conference, Dr Jeremy Burchardt and Nicholas Haigh examined 'Country childhood in twentieth-century England: perceptions and experiences'. John Creasey's collection at the Museum of English Rural Life had been used as the source for this research. It was suggested that the strength of this archive lay in its detailed first-hand accounts but weakened by its nostalgic retrospectiveness and patchy geographical coverage. Childhood emerged as a distinct phase of life in the eighteenth and nineteenth centuries and the paper maintained that childhood should be explored through a multidisciplinary approach. During the early part of the twentieth century children's leisure time was usually spent outdoors. Children learnt though their activities, but boys were generally viewed as a destructive influence, hunting and carrying out acts of cruelty to animals and prone to bloodthirsty activities such as pig slaughters. This childhood was subject to gender interpretations. Conditions were frequently harsh and children subject to violence, smoking, sexual abuse, hunger, cold and poor nutrition. Children were often exploited and classed as a disposable form of labour for stone gathering, potato harvesting, and fruit picking. On a positive note village celebrations brought communities together, village characters and nicknames forged a sense of belonging, aided by a sense of collective fears, which might include gypsies, urban invaders, and spies from the next village. Childhood changed in the latter half of the twentieth century through car ownership, the growth of communications, village prosperity, mechanization, the impact of planning and heightened social issues. This paper created a lively question and answer session with many of the delegates querying whether the difference between urban and rural childhood were actually more blurred than this paper suggested.

The conference concluded after lunch and many thanks go once again to Dr Verdon for all her hard work in organizing another very successful conference.

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confiscations, XVIe–XXe siècles, Luigi Lorenzetti, Michela Barbot, Luca Mocarelli (eds), Bern-Wien, Peter Lang 2012; email: Manuel.vaqueropineiro@unipg.it; address: Department of Political Science, University of Perugia, Via A. Pascoli, 06123, Italy

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Joan Thirsk Memorial Prize Fund

The British Agricultural History Society is pleased to announce a prize to be awarded annually for the

Best Book in British or Irish Rural or Agrarian History

in memory of one of the founder members of the Society,

Joan Thirsk (1922–2013)

The prize will be awarded for the first time in Spring 2017, for a book published during 2016

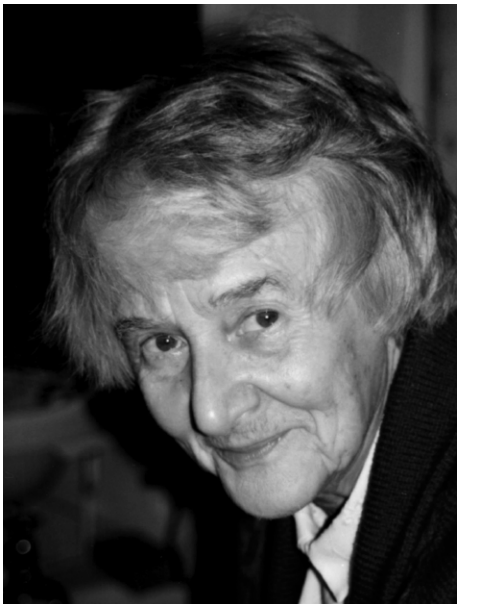
The Society is seeking donations to the fund for this prize.

Contributions to the prize fund may be made online through the Society's website, www.bahs.org.uk. or by filling in the form that accompanies this issue of the *Review* and sending it with a cheque to

The Treasurer
British Agricultural History Society
c/o 12A Carleton Avenue
Fulwood
Preston
PR2 6YA

Spare copies of the form are available from the Treasurer

Joan Thirsk (1922–2013)



Joan Thirsk was the leading agricultural and rural historian of her generation. Her books and articles have a lasting influence. The fertility of Joan's mind was such that she wrote a succession of pioneering articles, offering ideas and even creating areas of research which others took up and developed. She was an early writer on the family, on open fields, on the industrialization of the countryside. Her *Economic Policy and Progress* invented a history of the manufacture and consumption of ordinary things ('starch, needles, pins, cooking pots, kettles, frying pans, lace, soap, vinegar, stockings do not appear on the shopping lists [of men] but they do appear on mine'). She was a historian of knitting, horticulture, tobacco and, of course, woad and our leading authority on early modern food. Her editorial labours, notably on the *Agrarian History of England and Wales*, were prodigious. And, one should not ignore – Joan would not forgive us if we did – her interest in (and and deep empathy with) her female predecessors in the history profession. Her kindness and generosity of time, advice and references to many historians was considerable.

Joan was much more than an agricultural and rural historian and yet the British Agricultural History Society, of which she was a founder and loyal servant, always remained dear to her. In return the Society acknowledged her excellence by making her its president for two terms. Many of its members gave her a festschrift when she retired and another when she passed eighty. The Society now wishes to perpetuate her memory with an annual prize for the best book published in the broad fields of British and Irish agricultural and rural history. To that end we solicit contributions to a prize fund to be administered by the Society.

One prize will be made annually using the interest from the fund, topped up by the Society. There will be no limitation on the character of the works eligible: they may be singly or jointly authored (collections of essays will not be accepted). The work may be concerned with any aspect of British and Irish rural or agrarian history provided that it uses broadly historical methodology (so works of pure archaeology will not be eligible). It is envisaged that the annual competition will be advertised each autumn, with the announcement of the prize winner made at the Society's Spring Conference the following year.

Forthcoming conferences

British Agricultural History Society
Spring Conference 2016

The Spring Conference will take place from Monday 4 April to Wednesday 6 April at Wortley Hall, near Sheffield, the stately home of the Labour movement. In recognition of the venue the conference will open with a paper by Dr Nick Mansfield on built heritage and 'sites of rural labour'. There will be a diverse New Researchers session with papers on the early medieval settlement landscape of Dumfriesshire, on the development of agrarian capitalism in early modern England and public opinion towards POW labour, 1945–48. A field trip, led by Prof David Hey, will take us to a local landmark, Wentworth Hall. Other speakers include Professor Sarah Carter (University of Alberta), Dr Paul Warde (University of Cambridge) and Dr Jordan Claridge (LSE).
Please join us for a friendly and invigorating conference in a fabulous venue!

The composition of *famuli* labour on English demesnes, *c.*1300*

by Jordan Claridge and John Langdon

Abstract

This article explores the nature of agricultural labour in England *c.*1300. Using a national sample of over 400 manorial accounts containing detailed data for over 4000 individuals, the piece looks closely at *famuli* labour, the nucleus of the workforce on seigneurial demesnes (the farms directly cultivated by manorial lords as opposed to the land of their tenants) at the beginning of the fourteenth century, a period considered to be the pinnacle of medieval population and intensive land exploitation. By examining the rates of remuneration as well as the availability of work for the range of *famuli* labourers, we argue that *famuli* labour was divided into a bipartite system of first- and second-tier workers where core, or first-tier (and mostly male), labourers such as ploughmen, carters, and shepherds were paid higher wages and presented with more opportunities to work as compared to a group of more subsidiary 'second-tier' labourers largely comprised of women, the young and the elderly.

This article is an exercise in examining the labour employed on medieval English demesnes – the working farms of lords on manors as opposed to the lands of their tenants – in a more systematic, comprehensive, and innovative fashion than is available in the literature to date. We do this particularly to assess the numerical and other relationships between the routinely hired supervisory personnel, ploughmen, carters, shepherds, and so on – 'first-tier' labour, as we style it in this article and the more subsidiary or 'second-tier' labour that mostly existed to support and extend the effectiveness of the first-tier personnel. This latter, ancillary group encompassed much of the work of women, and certainly that of the young, the elderly, the poor, and perhaps even the disabled, in demesne workforces. A 'snapshot' of these various workers in demesne agriculture, referred to in totality as the *famuli* in the records, is provided in this study for around the beginning of the fourteenth century. This is the moment considered to be the peak of medieval population and intensive land exploitation, but also

* We are grateful to the Social Sciences and Humanities Research Council of Canada for research support (grant file no. 410-2009-159) and to the editor of this journal and two anonymous referees for many pertinent and useful comments. Bruce Campbell also contributed many excellent ideas and throughout has been a much appreciated supporter of this work. We also extend thanks to Philip Slavin for access to his photographs from the Northamptonshire Record Office, to Michael Fisher who prepared Map 1 for us, to the British Library for permission to reproduce Figures 3–5 , and to Catherine Glover for expert copyediting. Finally, we would also like to express gratitude to the staffs of all the record offices we visited throughout England during the summers of 2009 and 2010.

of alleged increasing unemployment and subsistence crisis.[1] It would be useful to know how such imputed conditions for the period were matched by contemporary agricultural labour profiles, such as that of the *famuli*. In particular, it is argued here that the presence, or not, of women, children, and the elderly – as inferred here largely through grain payment levels and job descriptions – can not only illuminate the structure of such a workforce, but can also provide vital clues as to the health of the economy at any particular time.[2]

To set the *famuli* in context, they cannot be considered typical of all agricultural labour in England at this time, particularly the peasant farms (which we assume were more family-based), but they seemingly encompassed a full range of personnel from supervisors through to the most junior of workers. We estimate they comprised a total working population of 105,000 or so in England by the end of the thirteenth century (see Appendix A). Critically, this labour is very richly documented in manorial accounts,[3] which, as part of monitoring agricultural operations as a whole on demesnes, tracked wages in kind and cash paid to each of the *famuli* workers,[4] as well as indicating what that worker did, whether it was ploughing, carting, dairying, shepherding, or scaring away crows and rooks from newly seeded land (a particular duty of the young).

Although the *famuli* can only be considered the nucleus of the workforce needed for a typical demesne, since the customary working services of tenants and occasional 'spot' hiring of workers for particular tasks (especially weeding and, after the harvest, threshing) were also extensive, they comprised at least a third to a half of the demesne labour requirement.[5]

[1] Any number of works can be cited for this view of English society around 1300, but a good summary of it (and competing visions for the period) can be found in John Hatcher and Mark Bailey, *Modelling the Middle Ages: The history and theory of England's economic development* (2001), esp. ch. 2 ('Population and resources').

[2] Following upon, say, Langdon and Masschaele's contention that family income might be a better indicator of society's well-being at the time than individual real wages: John Langdon and James Masschaele, 'Commercial activity and population growth in medieval England', *Past & Present* 190 (2006), pp. 35–81. To some extent the methodology suggested in this article has already been explored using royal works accounts: e.g., John Langdon, 'Minimum wages and unemployment rates in medieval England: the case of Old Woodstock, Oxfordshire, 1256–1357', in Ben Dodds and Christian D. Liddy (eds), *Commercial activity, markets and entrepreneurs in the Middle Ages: essays in honour of Richard Britnell* (2011), pp. 25–44.

[3] The latest (and very thorough) tally of manorial demesne accounts giving the sort of information used in this article puts the number at over 20,000, covering at least 2023 demesnes (a few of these are in Wales and Scotland, but the vast majority come from England): Philip Slavin, 'The sources for manorial and rural history', in Joel Rosenthal (ed.), *Understanding medieval primary sources: using historical sources to discover medieval Europe* (2012), pp. 131–48 (esp. pp. 132–6). Slavin estimates that there are an average of seven surviving accounts per documented demesne (p. 135), and that there are many demesnes that have exceptional runs over decades and even centuries (pp. 132–3).

[4] There were also other perquisites often given to the *famuli*, such as daily portions of oats/peas pottage and celebratory 'feasts' at Christmas, Easter, and other times: see Appendix B.

[5] Eona Karakacili provides a detailed example for Elton, Huntingdonshire, in 1323–4, where the *famuli* contribution was 43 per cent of the total labour needed for the demesne: 'English labor productivity rates before the Black Death: A case study', *JEcH* 64 (2004), pp. 24–60 (esp. p. 55). Christopher Thornton has also calculated that the proportional contribution of *famuli* labour was 42 per cent for the demesne at Rimpton, Somerset, around 1300: 'The determinants of land productivity on the bishop of Winchester's demesne of Rimpton, 1208 to 1403', in Bruce M. S. Campbell and Mark Overton (eds), *Land, labour and livestock: historical studies in European agricultural productivity* (1991), pp. 183–210 (esp. p. 205).

The *famuli* were particularly oriented towards soil preparation, especially ploughing, perhaps because it was felt that this early stage of crop production would be better served by a relatively stable workforce.[6] As a result, more seasonally restricted activities like the harvest and haymaking do not appear strongly in the *famuli* documentation, although they were clearly expected to assist.[7] Even with these exceptions, the range of work carried out by the *famuli* was nonetheless extensive enough across the arable and pastoral operations of demesnes to provide a useful labour profile, through which, with a carefully applied methodology, we can deduce much about its gender and age makeup, even if age in particular is very poorly revealed in any exact sense.

I

The two foundational studies on the English *famuli* are those of Michael Postan and David Farmer,[8] and the *famuli* still remain the object of attention for other scholars looking for sets of consistently recorded labour.[9] Both Postan and Farmer noted a key complication about the group in distinguishing between 'service' and 'stipendiary' *famuli*.[10] The former worked for the relief of rents and/or labour services on lands that they held, while the latter worked for grain and cash wages. It seems probable, based upon Postan's and Farmer's views, that most of the *famuli* were originally of the service type but that gradually stipendiary *famuli* became more common.[11] As Farmer observed, the economic rationale for this is not entirely clear, since service *famuli* seem to have been the far better option for lords in not requiring cash and grain outlays (see Appendix B), but *famuli* work performance might have improved under a wage regime.[12] Indeed, it is important to note that both Postan and Farmer were examining demesnes from estates, principally those of the abbot of Glastonbury and the bishop of Winchester, where, by 1300, the proportion of service *famuli* was still significant. Demesnes in the rest of the country had by then swung mostly to using stipendiary *famuli*, so that – overall across England – these waged personnel comprised around 90 per cent of the 105,000 total *famuli* workers by *c*.1300 (Appendix A), a fact which makes this study particularly feasible.[13]

[6] In part resonating with David Stone's argument that hired labour was more productive on a per person basis than that supplied by tenant labour services: 'The productivity of hired and customary labour: Evidence from Wisbech Barton in the fourteenth century', *EcHR* 50 (1997), pp. 640–56.

[7] As indicated by references to (probably young) people guarding working animals while the *famuli* went to the harvest (discussed below). For the *famuli* involvement in haymaking, see Stone, 'Productivity', p. 647n.

[8] M. M. Postan, *The* famulus*: the estate labourer in the XIIth and XIIIth centuries*, (*Ec.HR* Supplement 2, 1954); David Farmer, 'The *famuli* in the later Middle Ages', in Richard Britnell and John Hatcher (eds), *Progress and problems in medieval England: essays in honour of Edward Miller* (1996), pp. 207–36.

[9] E.g., Ian Rush, 'The impact of commercialization in early fourteenth-century England: some evidence from the manors of Glastonbury Abbey', *AgHR* 49 (2001), pp. 123–39.

[10] The terminology is that coined by Farmer ('*Famuli*', p. 208); Postan was more vague about the distinction (e.g., *Famulus*, p. 4).

[11] Postan, Famulus, p. 27; Farmer, '*Famuli*', pp. 208–9.

[12] Farmer, '*Famuli*', p. 208; see also n. 6 above.

[13] Service *famuli* are difficult to factor into the detailed statistical analysis, so no attempt was made to do so in this study, in effect treating them like tenants supplying labour services. Indeed, the only estate with similar proportions of service *famuli* working on its demesnes as we found for the bishopric of Winchester and Glastonbury Abbey was that of the Priory of Winchester Cathedral, also in the same region. For the rest

The accounts are, for the most part, also remarkably uniform country-wide in how they recorded the information about these stipendiary servants. In particular, the payment in kind made to a *famulus/famula*, usually called a 'livery' (*liberatio*), was largely recorded in terms of the number of weeks' work needed to earn a quarter (8 bushels) of grain and/or legumes, which allows a close comparison from worker to worker. Most of the *famuli*, particularly the more established ones, were also given a cash payment as well. However, these payments in cash, worth about a quarter of the value of the grains that these workers received,[14] are not as useful analytically as the grain payments, so we have treated them in the main text as incidental data, to be cited occasionally when relevant. Whether or not these combined remunerations of grain and cash plus other perquisites amounted to 'living wages' – for they were hardly generous – is, of course, an important question, but it is more complicated than at first appearance, and we have reserved a more detailed discussion of it for Appendix B.

Also, because it was not possible to do this in a consistent fashion, we did not take into account the type of 'grains' (which included legumes like peas and beans), that each worker received, as much as this would be useful in order to estimate, say, caloric equivalents received per worker. Many manorial accounts do indicate the type of grain given to each worker (and we have supplied that information in our examples when available), but most often the entire *famuli* were collectively given a 'mixture' (*mixtura*) of grains, ranging from wheat to peas or beans as recorded at the beginning of the section dealing with the *famuli*'s grain liveries, but without differentiating who got what beyond the amount of this 'mixture' each received. Even murkier were the cases where the grains making up the liveries were partly or wholly comprised of multure from manorial mills, where the types of grain were not indicated at all but simply expressed as quarters received 'from the mill(s)'. In the same vein, we did not differentiate between the types of measurement for the grain (struck versus heaped bushels, for example), again because of the difficulties of doing this consistently across the sample. In short, we concentrated upon that most consistently and clearly supplied metric, the number of weeks that a *famulus/famula* was required to work to earn a quarter (regardless of what kind of grain/legume this was). This, for us, provided the most uncluttered source of information in deciphering status levels among these *famuli*, as well as, critically, revealing something of their gender and age composition.

Also, demesne accounts across the country seem unfailingly to have used a livery rate of 16 weeks or more per quarter as denoting a decidedly secondary pool of labour. Those within this less generous range of livery rates had – certainly on average – shorter periods of employment throughout the year; were characterized by a terminology of subordination (*ancilla*, *garcio* and so on); and, for the most part, performed a range of agricultural duties that have long been associated with neophytes and underlings. For the rest of this investigation, as an exercise in breaking down the constituents of *famuli* labour, particularly by gender and age, we are going

Note 13 *continued*
of the estates in our database – e.g., those of the earl of Lincoln, Westminster Abbey, Canterbury Cathedral Priory, etc. – stipendiary *famuli* were overwhelmingly predominant. For more comparisons of service (or '*famuli* in serjeanty', as Farmer calls them) with stipendiary *famuli* over geography and time, see David L. Farmer, 'Prices and wages', in H. E. Hallam (ed.), *The agrarian history of England and Wales*, II, *1042–1350* (1988), p. 731.

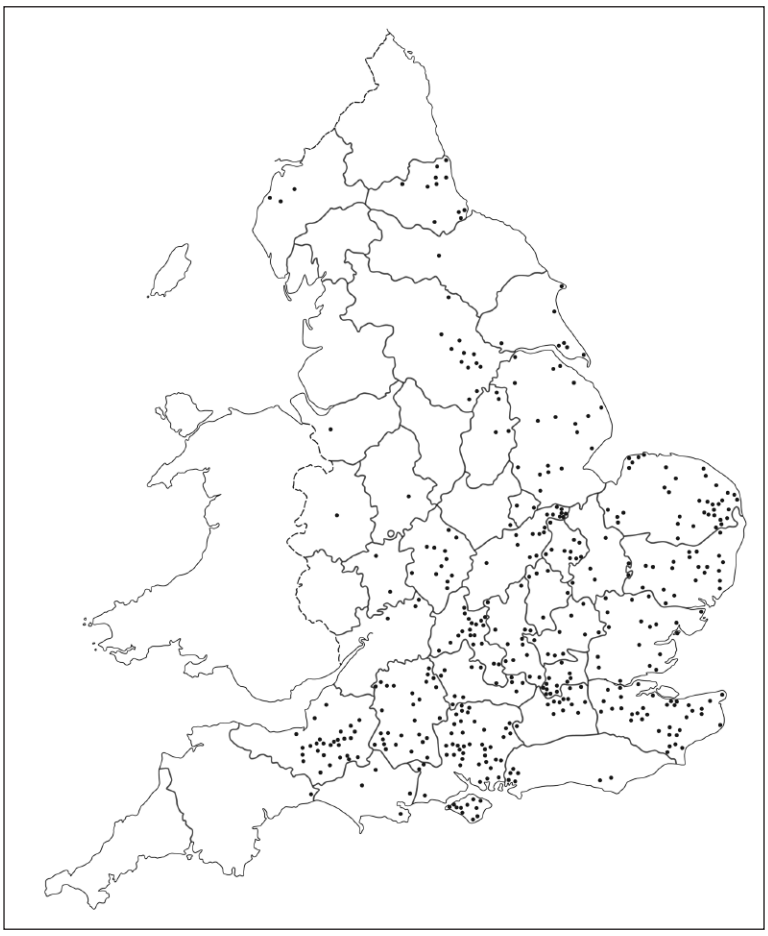
[14] See Appendix B under 'Cash Stipends'.

to examine these demesne workers through a two-part division denoted by the 16 weeks per quarter livery and will characterize the parts as 'first tier' and 'second-tier' respectively in terms of pay and authority. First-tier *famuli* (ploughmen, carters, shepherds and so on) working *less* than 16 weeks per quarter were mostly able-bodied adult males. Second-tier workers, having to work 16 weeks or more per quarter, had larger proportions of women but also, as we shall see, also included significant numbers of the young and the elderly, and possibly even the poor and disabled. Such employees generally supplemented or enhanced the activities of the first-tier workers, but, especially for young males, they might also be trainee labour hoping for eventual promotion to first-tier ranks.

Two important *lacunae* in the recorded liveries to *famuli* need to be emphasized. The first is that ages were *never* given for any of the *famuli* in the accounts, and so we do not have even occasional age-specific data to help guide our examination. Thus, the presence of child, adolescent, or elderly labour is inferred throughout by the grain/legume livery payment rate that a *famulus* or *famula* received and, to some extent, the task she or he performed. The second is that manorial servants in the early fourteenth century were seldom named, but recorded anonymously as 'ploughman', 'carter', 'shepherd', and so on. This is certainly a severe restriction in trying to establish things like family connections among the *famuli* and also, to some extent, the gender of the worker. One might also question whether the same person was involved in a job continuously through the period stipulated or whether two or more unnamed adults might have cooperated in fulfilling the specified duties, either serially or at the same time. Generally speaking, however, there is no evidence that this 'job-sharing' took place,[15] and the restricted period for many of the jobs (often of only a few weeks) suggests strongly that only one person did it, although the person nominally in the position may have brought 'helpers' probably drawn from his or her family (see Appendix B). Finally, a lack of names makes it difficult to figure out how employment among the *famuli* worked out in a life-cycle sense. Did the young people we seemingly observe entering the ranks of the *famuli* do so in order to make a long-term career in demesne agriculture, or were they there for mainly short-term employment, among other things, to enhance family income?[16] These are things that we can only speculate about here, but getting some sense of the shape of demesne labour, even for as a limited period as here, will be a good start.

[15] When names are very occasionally supplied (as for male 'dairymaids': see n. 39 below) it indicates that the job was in fact held by a single person.

[16] Evidence from the demesne of Houghall, Durham, in the late fourteenth and early fifteenth century, where the *famuli* were seemingly hired on six-monthly contracts, indicated a quick turnover of *famuli* personnel, even at the first-tier level, which would suggest a more casual attitude on the part of those going into such employment rather than making it the focus of a lifetime career: Richard Britnell, 'Employment on a northern English Farm, 1370–1409', paper delivered to the 45th International Congress of Medieval Studies, University of Western Michigan, Kalamazoo, Michigan, 23 May 2010. We are grateful to have had permission from Professor Britnell before he passed away to cite his paper. A summary of the paper can be seen at: www.medievalists.net/2010/05/23/employment-on-a-northern-english-farm-1370-1409 (last accessed 5 Feb. 2015). For a relatively recent survey of medieval life-cycle issues, see Deborah Youngs, *The life cycle in medieval Europe, c.1300–c.1500* (2006).



MAP 1: Location of demesnes in account sample, *c.*1300.

II

Given the large number of surviving accounts, to make this preliminary examination of the labour profile within the *famuli* more manageable we decided to concentrate on a relatively narrow range of years around 1300, effectively encompassing the entire decades of the 1290s and 1300s. Since accounts normally ran from Michaelmas (29 September – the traditional end of the harvest) to Michaelmas of the following year, this meant examining accounts from 1289–90 to 1310–11, a total span of 22 account years. We further restricted ourselves to taking only one account per manor, normally that closest to the year 1300 (1299–1300 was the account year most preferred, if it survived). The end result was a sample of 434 accounts, and hence manors, found in 428 different communities. As Map 1 shows, the coverage of the sampled manors across the country is uneven, being heavily skewed to the south and east of the country with notably 'empty' areas such as the forest area of the Weald south of London, the extreme South West (Devon and Cornwall), and the northern and western areas of the country generally, which largely reflects the regional survival of manorial accounts during this particular time period.

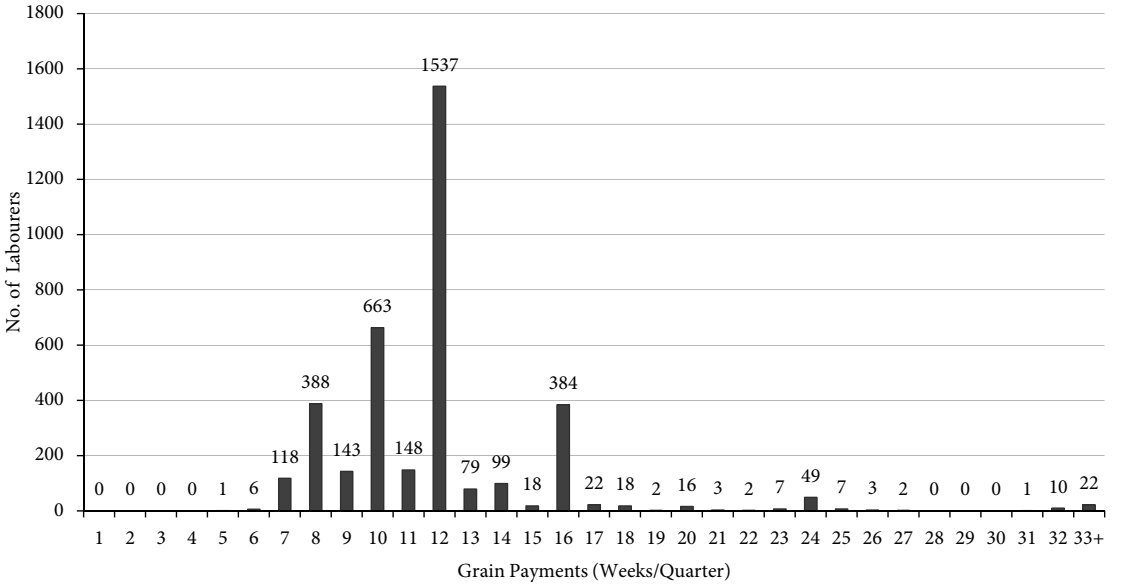


FIGURE 1: Grain Payment Rates for Demesne Labourers

Total Sample N=3748

Altogether we gathered data for 4581 stipendiary *famuli* from the 434 accounts, which were entered into a spreadsheet. Of these, the grain livery rate in number of weeks required to earn a quarter of grain was directly stated in the account or could be calculated – by dividing the number of weeks worked by the number of quarters paid – for 3748 (81.8 per cent of the 4581 total) of these workers, while the remaining 833 (18.2 per cent) only recorded the amount of grain given to the worker without specifying the time required to earn it. Figure 1 consequently shows the distribution of livery rates for the 3748 workers for which the more specific information is known, with the x-axis showing the number of weeks a *famulus/famula* worked to earn a quarter of grain, the better paid being to the left of the histogram and the poorer paid to the right, while the y-axis indicates the number of workers at each particular payment rate (this and other breakdowns of the data are presented in abbreviated tabular form in Appendix C). The distribution for the 'first-tier' workers is clear enough, with a very notable peak at 12 weeks required per quarter for 1537 of them (or 41.0 per cent of the total 3748). There was a wide variation around this mode value for first-tier workers, ranging from the single case of only five weeks required per quarter for a 'seeder' at Ickham, Kent, in 1294–95,[17] to 18 cases at 15 weeks per quarter, which seems to have existed as a sort of transition zone between the first-tier and second-tier workforces. There were also notable concentrations at the eight and

[17] Canterbury Cathedral Archives (hereafter CCA) DCc Ickham 12. This rate is not implausible, since considerable skill was needed to ensure a uniform spread of seed over ploughed soil: e.g., Christopher Dyer, 'Documentary evidence', in Grenville Astill and Annie Grant (eds), *The countryside of medieval England* (1988), pp. 12–35 (esp. pp. 26–7); John Langdon, 'Agricultural equipment', in ibid., pp. 86–107 (esp. p. 99).

ten weeks per quarter levels (10.4 and 17.7 per cent of the total 3748 respectively), which relate to traditional rates on particular estates.[18]

In Figure 1, the start of the 'second-tier' ranks is signalled by the significant number of cases at 16 weeks per quarter (384 or 10.2 per cent of the 3748 sample). When combined with the long tail of even lower rates (that is, the 164 cases from 17 to 32 and more weeks' work required per quarter), the total second-tier personnel in the sample comes to 548, or 14.6 per cent of the total 3748, indicating that roughly one in seven workers was of this station. It is probable that this proportion is an underestimate, since the additional 833 *famuli* for whom we could not ascertain the number of weeks per quarter probably had an even greater percentage in the second-tier ranks (see, for example, the analysis of bird-scarers below). On the other hand, second-tier personnel in the sample tended to work less often, on average only 30.5 weeks per year compared to 44.1 weeks per year for their 'first-tier' colleagues. As a result, the 3200 first-tier workers among the 3748 total for whom grain payment rates were known were employed for a total of 141,271.8 weeks (89.4 per cent) compared to 16,702.6 weeks (10.6 per cent) for the 548 persons in the second-tier category. The difference in the payment of grains for the two groups was even more pronounced, with first-tier workers receiving 13,363.5 quarters (or 93.6 per cent) compared to 920.5 quarters (or 6.4 per cent) given to the second-tier group.

There is a marked regional variation in the proportion of first- to second-tier workers among the *famuli*, as shown in Table 1 in order of the amount of second-tier labour present.[19] The North stands out as having the highest level of second-tier personnel across the board, from 20 per cent of personnel to over ten per cent of grains received, over double that, say, of the region with the least amount of such subsidiary labour, East Anglia, with the other regions falling in between. As Table 1 also shows, there seems to be an inverse relationship between population density in a region and its use of second-tier labour, perhaps implying that the North suffered labour shortage compared to, especially, population-rich East Anglia.[20] Part of it, however, may also have been more managerial in nature, particularly as evident on the bursar's manors of Durham Cathedral Priory, which seemingly had a more developed practice of recruiting and training new *famuli* (see below). On the other hand, the Thames Basin region had both relatively high population density and a relatively high use of second-tier labour.

[18] For example, a rate of eight weeks per quarter (and sometimes better) seems to have been the case for ploughmen, carters, and the like on the Kentish manors of Canterbury Cathedral Priory, while ten weeks per quarter was common for such workers on many Westminster Abbey manors.

[19] The proportions of second-tier people on ecclesiastic versus lay estates were also determined at 15.6 and 12.4 per cent respectively, but *t*-testing indicated the differences were not (quite) statistically significant. Also, the uneven geographical distribution of data noted from Map 1 above did not seem to make a much difference to the proportion of second-tier workers for England as a whole. Using Campbell's recent assessment of county populations in 1290 (Bruce M. S. Campbell, 'Benchmarking medieval economic development: England, Wales, Scotland, and Ireland, c.1290', *EcHR* 61 (2008), pp. 896–948 (esp. Table 14 [p. 926]) and weighting each of the regional proportions of second-tier labour in Table 1 (in this article) according to the population for that region, results in an overall country figure of 14.5 per cent for the second-tier element in the *famuli* in terms of personnel numbers compared to the 14.6 per cent currently in Table 1. Similarly, the weighted figures in terms of weeks worked and for grain received are 10.8 per cent and 6.7 per cent respectively, again close to the 10.6 and 6.4 per cent figures currently in Table 1.

[20] We are grateful to an anonymous referee for suggesting the possible connection of second-tier labour to population density. The population density figures in Table 1 were again calculated using data from Campbell, 'Benchmarking', Table 14 (p. 926).

TABLE 1: Regional proportions of 'first-tier' versus 'second-tier' *famuli*

Region	*No. of* famuli	*% personnel*		*% weeks worked*		*% grain received*		*Population Density (Persons/mi²)*
		first-tier	*second-tier*	*first-tier*	*second-tier*	*first-tier*	*second-tier*	
North	325	80.0	20.0	83.7	16.3	88.6	11.4	52.1
Thames Basin	1269	83.3	16.7	88.7	11.3	93.4	6.6	103.2
South and South West	822	85.5	14.5	89.8	10.2	93.8	6.2	72.4
Midlands	723	87.1	12.9	90.2	9.8	94.2	5.8	86.7
East Anglia	609	90.3	9.7	92.8	7.2	95.4	4.6	141.8
Total Sample	3748	85.4	14.6	89.4	10.6	93.6	6.4	79.1

Sources: Manorial Account Database for years 1289–90 to 1310–11.
Note: The counties within each region (excluding those counties with no data) are as follows, in order of the proportion of second-tier *famuli* for each region: 1) The North (Cumb., Durham and Yorks.); 2) The Thames Basin (Beds., Berks., Bucks., Essex, Herts., Kent, Middx., Oxon. and Surrey); 3) The South and South West (Dorset, Devon, Hants., Somerset, Sussex, Wilts.); 4) The Midlands (Ches., Glos., Leics., Lincs., Northants., Notts., Rutland, Salop., Staffs., Warks. and Worcs.); 5) East Anglia (Cambs., Hunts., Norfolk, Suffolk).

It was, incidentally, also the region where *famuli* were most generously paid overall, with a median grain payment rate of only ten weeks work required per quarter of grain compared to a median of 12 weeks per quarter of grain for the other four regions.[21] This phenomenon, coupled with a relatively high second-tier labour element, is probably a result of the Thames Basin being the most economically active area in the country, centred around London, giving both higher rewards to first-tier agricultural workers and greater opportunity for its second-tier ones.

(a) First-tier Workers

Here we have a quick summary of first-tier workers and the volatile first- versus second-tier split that could occur within various worker categories. Figure 2 shows this for the eight most numerous types of workers in the sample. As the figure demonstrates, the demesne workforce was clearly centred around the three most frequently recorded of the 'first-tier' *famuli* – ploughmen (*carucarii*, *famuli carucarii*, *tentores*, or *fugatores*), carters (*carectarii*), and shepherds (*bercarii*). In all three of these categories, the proportion of personnel paid at second-tier rates comprised five per cent or less (see Appendix C, part 2).

Ploughmen were predominant in number at 1423 (or 38.0 per cent) of the 3748 *famuli* with specified grain livery rates.[22] They themselves were usually divided into 'holders' (*tentores*),

[21] As evident in appendix C, part 1, where the representation of the higher rates of payment (especially at the 5–7 and 8–9 weeks per quarter levels) is much greater in the Thames Basin than elsewhere. See also the generous liveries of two estates prominent in the region, Canterbury Cathedral Priory and Westminster Abbey: n. 18 above.

[22] This should be considered as a minimum, since some ambiguous terms were not included among the 1423 'ploughmen', such as *bovarius* (literally 'ox-herd', but indicating a ploughman – there are 116 cases of them in the sample) or just *famulus* (also in many contexts probably a ploughman – 77 of them in the sample).

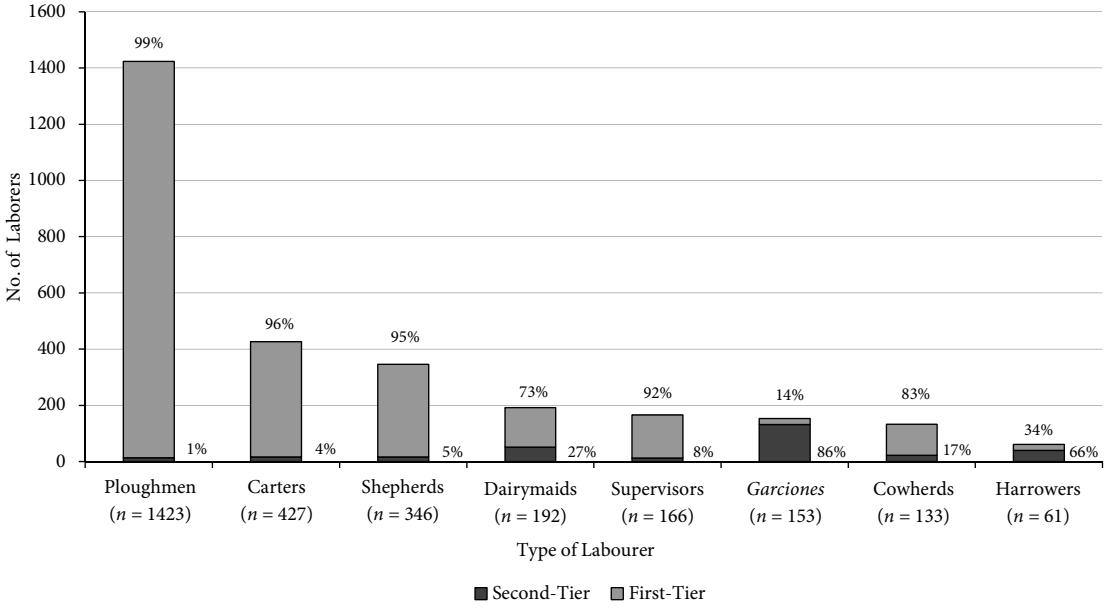


FIGURE 2: Composition of labour in eight largest *famuli* roles

those who held the plough-handles and managed the tricky job of guiding the plough at a constant depth through the earth, and 'drivers' (*fugatores*), those who drove on the plough-animals, usually oxen, with a goad or whip, as shown in the famous Luttrell Psalter ploughing illustration (Figure 3). The holder was the more senior and experienced of the two, but this was generally not reflected in a greater amount of grain received, since both holder and driver normally received the same livery, but in a slightly higher cash payment given to the holder.[23] However, when new recruits entered the ploughmen's ranks, it was generally as a *fugator* first, as shown in a 1299–1300 Bewley, Durham, account, where, among a very large contingent of plough-people, there were also ten 'pages driving the ploughs' on the manor, who seemed to have been trainee labour coming into the ranks of the *fugatores* (see also the discussion of 'pages' below). Occasionally, if there were numerous ploughs and ploughmen on a manor, a 'master ploughman' would be designated.[24]

Carters (427, or 11.4 per cent, of the 3748 sample) were less hierarchical. Generally there was only one on a manor, but two or more might be found on larger enterprises, say on manors with over 300 sown acres. Occasionally 'second' carters were named and might be included in the

[23] As one example among many, all ploughmen on the Westminster Abbey manor of Knowle, Warks., both *tentores* and *fugatores*, worked 12 weeks for a quarter of grain, but the former received 5*s.* cash for the year (1298–99) while the latter only got 4*s.*: Westminster Abbey Muniments (hereafter WAM), 27695.

[24] This was particularly the case on the Kentish manors of Canterbury Cathedral Priory, where 'master' ploughmen were found at Barksore in 1298–99 (CCA, DCc Barksore 14), Copton (in Preston) in 1291–92 (Copton 1), Elverton (in Stone, near Faversham) in 1297–8 (Elverton 9), etc., although they were not paid anything more in grain and cash than other ploughmen.



FIGURE 3: Luttrell Psalter ploughing scene
(© The British Library Board Add. MS 42130, fo. 170)

second-tier ranks,[25] but carters were almost always first-tier members in the *famuli* workforce. In contrast, shepherds (*bercarii*: 346, or 9.2 per cent, of the 3748 total) were arranged much more by status and experience, as seen in the Peterborough Abbey manor of (North) Collingham, Nottinghamshire, in 1300–01, with a 'shepherd', 'second shepherd', 'third shepherd', and a 'boy shepherd' (*garcio bercarius*) being recorded. The first three were all given a 'full livery', which, for this manor, required each of them to work ten weeks to receive a quarter of mixed grains (mostly rye plus grains received from the manorial windmill), while the *garcio bercarius* was given a 'half livery' requiring 20 weeks work per quarter.[26] Indeed, as we shall see again below in a fuller assessment of the total 'sheep carer' population, many working with sheep were not labelled specifically as 'shepherds' (that is, the *bercarii* represented in Figure 2), but rather as 'keepers' (*custodes*), being responsible for particular segments of the manorial flocks, such as the ewes, 'hoggs' (*hoggastri*; young castrated males), lambs, and sometimes even rams.

The final group from Figure 2 indisputedly in the first-tier category are those we have categorized as 'supervisors', which were called variously in the accounts, in order of their number as stipendiary *famuli*, reap-reeves (*messores*), haywards (*haywardi*), serjeants (*servientes*), reeves (*prepositi*), beadles (*bedelli*), and bailiffs (*ballivi*).[27] They were usually recruited from the ranks of experienced landholders,[28] and indeed, more than any other group in the first-tier ranks, they were often service *famuli* or paid cash only, especially reeves and bailiffs. Of the 166 supervisors who were stipendiary *famuli* and thus included in Figure 2, the median payment required them to work 12 weeks per quarter of grain, but there were very significant levels of higher payments, especially at the eight weeks per quarter level (51 or 30.7 per cent), and they could sometimes be given superior grains.[29] Yet, curiously, 13 of these supervisory personnel (or 7.8 per cent of

[25] As at Milton Hall (in Prittlewell), Essex, where a 'second carter' worked for ten weeks at a rate of one quarter per 16 weeks' work: CCA, DCc Middleton 16, m. 1d.

[26] Northamptonshire RO (hereafter NRO), F(M) Charter/2388, ms. 18r and 18d.

[27] The surprisingly low numbers of reeves and bailiffs in particular are because most existed as service *famuli* in the accounts.

[28] E.g., David Stone, *Decision-making in medieval agriculture* (2005), pp. 13–14.

[29] As at Milton Hall (n. 25 above), where the 'serjeant' was given wheat at a rate of a quarter per eight weeks' work, in comparison to the rye given to the other first-tier workers at rates of a quarter per ten weeks (for a carter and a shepherd) or per 12 weeks (four ploughmen).

the total 166) in Figure 2 were paid at 'second-tier' rates requiring 16 weeks of work or more per quarter (and for whom there was apparently no additional compensation such as relief of rents or labour services). Ten of these 13 were designated as *messores*, generally associated with overseeing the harvest, but often called on for other duties.[30] Occasionally these lowly paid *messores* were lumped in with other patently second-tier workers, as at Ketton, Durham, in 1299–1300, when the *messor* was grouped with two pages, one swineherd, and the dairymaid, each getting one quarter per 16 weeks.[31] As we shall discuss later, one explanation might be that these 'second-tier' *messores* were elderly people whose physical capabilities no longer commanded a first-tier livery, but whose age provided sufficient authority for supervisory work.

(b) Women: first- or second-tier workers?

We move now to those workers who gravitate more to the second-tier side of the spectrum. Here the picture becomes more complicated and gender issues start to play a considerable role. The two groups in Figure 2 most involved here are the 'cowherds' (*vaccarii*) and the 'dairymaids' (*dayae* or *daiae*). The term *vaccarius* for the cowherd seems to stamp the position as one for males, and fewer of them – 17.3 per cent – were at the second-tier level compared to 26.6 per cent for the dairymaids. As might be expected, though, the position was connected to that of the dairymaid and at times was clearly interchangeable with it and may have been seasonal, so that, on the manor of (Old) Bolingbroke, Lincolnshire, in 1295–96, the dairymaid there was the *vaccarius* in winter.[32] But cowherds could double as other types of (apparently male) workers, as at Sedgebrook, Lincolnshire, in 1295–96, when the cowherd also drove ploughs on occasion.[33] This may simply underline that cowherds tended to be of a lesser rank among the *famuli*, but in a trend that foreshadowed later times, some were also becoming entrepreneurial, as in the case of the cowherd at Little Chart, Kent, who was given one seam (the Kentish version of a quarter) per eight weeks for 31 weeks during 1301–02 for a total of three seams and seven bushels, clearly a 'first-tier' rate, but only one seam and two and a half bushels for the remaining 21 weeks of the year (a rate of just over 16 weeks' work required to earn a quarter) 'because he had the dairy at farm' (that is, the herd was leased to him).[34]

The interchangeability of cowherds and dairymaids inevitably throws up the question: what (or who) was a 'dairymaid'? Since the Latin *daya* or *daia* is feminine and milking was clearly associated with women,[35] it might be easy – somewhat reflexively – to consider them all as

[30] E.g., Mark Page (ed.), *The pipe roll of the bishopric of Winchester, 1301–2* (Hampshire Record Ser., 14, 1996), p. 375.

[31] *In liberatione duorum pagiorum unius porcarii unius messoris unius daye dictum tempus* [i.e., one year] *quarterio dato per xvj ebdomadas, xvj quarteria j rasarium*: Durham University Library, Dean and Chapter of Durham (henceforward DUL, DCD) Enrolled Manors, 1299–1303, m. 3r.

[32] *... in stipendiis ... j daie qui est vaccarius in yeme*: TNA, DL 29/1/1, m. 8r.

[33] *Et de iij quarteriis ij bussellis in liberatione j qui fuit vaccarius in yemale & fugans carucam per vices*: TNA, DL 29/1/1, m. 1d.

[34] *... quia habuit daeriam ad firmam ...*: CCA, DCc, Little Chart 6. Farmer noted this trend of leasing the demesne herd as becoming common in the later fourteenth century: 'The *Famuli*', p. 224.

[35] E.g., the women milking a cow with calf in MS Bodley 764 (as shown in *English rural life in the Middle Ages* (Bodleian Picture Book 14, 1965), plate 5a), and the women in the sheep-milking scene in the Luttrell Psalter: British Library Add. MS. 42130, fo. 163 (shown, for example, in Janet Backhouse, *Medieval rural life in the Luttrell Psalter* (2000), p. 30).

female. The distribution of grain payments for dairymaids, as shown in Appendix C, Part 2, certainly indicates a less generous remuneration for them as against, say, the profile for all workers in Figure 1. This might well support the findings evident in so many other forms of remuneration between the sexes that medieval women were paid less than male contemporaries when doing similar types of work.[36] However, muddying this conclusion is the fact that some at least of the 'dairymaids' were apparently males.[37] Examples include 'the man (*homo*) making the dairy [work] and the pottage for the *famuli* and winnowing all the corn of the manor' at Kings Langley, Hertfordshire, in 1305–06 for the year at a livery of one quarter of grain per 12 weeks, or the man (again *homo*) making 'the office of *vaccarius* and *daya*' at Laleham, Middlesex, in 1304–5, this time at one quarter for every nine weeks.[38] To these can be added occasional references to 'dairymaids' sporting masculine names,[39] which should make us wary of assuming that all such designated dairy personnel were necessarily female.

There are plenty of other references, however, that indicate that the 'dairymaid' was normally female. In a 1300–01 account for Castor, Northamptonshire, it stated that a *daya* was given a livery at a rate of one quarter per 12 weeks except for four weeks in the harvest and two weeks *in quibus nulla erat daya* ('in which no one was the dairymaid'), the *nulla* in Latin indicating that the dairymaid was indeed a female here (unless the scribe was more interested in making the Latin agree than in reflecting gender reality).[40] Similarly, if the person was a male some scribes felt they had to indicate this, as in the 1301–02 Bishops Sutton (Hampshire) account reference to a livery of one quarter per ten weeks given to 'one man who is in place of the dairymaid',[41] suggesting the position was normally one for a female. The agricultural treatises of the time also seem to have leaned toward the dairymaid as being female. The *Seneschaucy*, seemingly written between 1260 and 1276, used the pronoun 'she' (*ele*) throughout when considering the 'office' of dairymaid.[42] The anonymous *Husbandry*, written closer to 1300, took a more cautious line, indicating that the 'dairymaid' could be a man but also in the process referring mostly to the dairy-person as a female:

> And you ought to have in every place where there is a dairy some person in charge [*ou daerye est une daye*], be it a man or a woman. And if it were a man he ought to do the same things a dairymaid would do. And, because of the benefits which he has from milk he ought to take one quarter of corn every sixteen weeks where other servants have one quarter for every twelve weeks.

[36] Sandy Bardsley, 'Women's work reconsidered: Gender and wage differentiation in late medieval England', *Past & Present* 165 (1999), pp. 3–29 (esp. pp. 11–12); Langdon, 'Minimum wages', esp. pp. 28–36.

[37] Farmer also made this point: '*Famuli*', p. 224.

[38] TNA, SC 6/866/16, m. 1d; WAM, 27114, m. 1d. It is assumed that *homo* means 'man' here rather than, say, the ambivalently gendered 'human being', which could include a woman or girl. Indeed, using *homo* to indicate a female in a job that was largely considered female anyway would seem an unnecessary ambiguity.

[39] Thus the references to Richard 'le Daye' at Chesterton, Essex, in 1301–2 (TNA, SC 6/837/24, m. 1r) and Nicholas Daye at Popenhoe, Norfolk, in 1291–2 (TNA, SC 6/942/13, m. 1d). Similarly there is a reference to a reasonably generous grain livery of one quarter per 12 weeks given to 'le dey' (rather than 'la dey') in the Fornham St. Martin, Suffolk, account of 1300–1: Suffolk RO, Bury St. Edmunds branch, E3/15.9/2.11, m. 1d.

[40] NRO, F(M) Charter/2388, m. 5d.

[41] Page (ed.), *Pipe roll of … 1301–2*, p. 308; see also p. 307.

[42] *Seneschaucy*, cc. 66–69, in Dorothea Oschinsky, *Walter of Henley and other treatises on estate management and accounting* (1971), pp. 287–8. For the dating of this treatise, see ibid., p. 89.

> And the dairymaid ought [*E ele deyt*] to winnow all the corn, and half of her pay shall be for paying the woman [*femme*] who will help her.[43]

The last sentence in this excerpt, and a slightly later reference to the dairymaid (in the feminine) also being required to look after 'small stock', including poultry and eggs,[44] as well as the statement that her wages should be shared by her helper (for more on these 'helpers', see Appendix B), suggest a lower individual pay and status for females in the 'dairymaid' position. From this, it might follow that a larger proportion of male 'dairymaids' would occupy the higher grain payment group (that is, getting more than one quarter per 16 weeks despite what the *Husbandry* advised), while women would more often be found in the lower-paid group getting one quarter per 16 weeks or less. Consequently, when only those people in the sample who were undisputedly women – labelled as *mulieres* (probably adult women), *ancillae* (that is, maidservants, probably young women or adolescent girls[45]) or *feminae* – are considered, they mostly fell within the 'second-tier' group. Although the sample is small – at 46 individuals – 40 of them (or 87.0 per cent) had to work 16 weeks or more for a quarter of grain (see Appendix C, Part 2). The descriptions of what work these particular women performed indicate that a good deal of it centred around the manorial complex of buildings, the *curia* as it was often called, so that 14 of these women (or 29.8 per cent) were described as *ancilla domus*, *mulier custodiens domum curiae*, or something similar.[46] They also did jobs like making the oat pottage for the *famuli*, winnowing grain, milking ewes, and drying malt.[47] At Caistor cum Markshall, Norfolk, in 1299–1300 (or possibly 1300–01) one of them seems to have probably started out as an *ancilla* for 25 weeks before being promoted to a *daya* for another 23 weeks.[48]

However, despite the possibility that many women might have been in the better-paid group of *dayae*, female dairymaids were clearly in a more liminal position than more

[43] *Husbandry*, c. 13, in Oschinsky, *Walter of Henley*, p. 425. For the dating of the treatise, see ibid., pp. 200–1.

[44] Ibid., c. 16 (p. 425). For an example of a 'dairymaid' also being expected to take care of poultry from our account sample, see Page (ed.), *Pipe roll of ... 1301–2*, p. 257 (Bishops Waltham, Hants.).

[45] We do not go as far as Susan Mosher Stuard in considering *ancillae* as some form of slave labour ('Ancillary evidence for the decline of medieval slavery', *Past & Present* 149 (1995), pp. 3–28), since they often seem to have been considered the equal of, say, *mulieres* in such situations. In this, our position follows that of Jean-Pierre Devroey, 'Men and women in early medieval serfdom: The ninth-century north Frankish evidence', *Past and Present* 166 (2000), pp. 3–30 (esp. pp. 29–30), in seeing a fundamental legal equality between these (girls?) and other men and women in peasant society, although their generally low status is abundantly clear.

[46] For example, taking two examples from the extremes of payments to these women, an *ancilla domus* at Chaddington, Bucks., in 1302–3, worked 12 weeks for each quarter of grain she received (Merton College Library, Oxford [hereafter MCL] 5537), while a *mulier* keeping the 'house(s) of the court and making the pottage of the *famuli*' at Hurcot, Somerset, in 1300–1 only received five bushels for what was claimed to be an entire year's work, a rate requiring over 82 weeks' work per quarter of grain: TNA, SC 6/1090/6, m. 3d.

[47] As, respectively, at Upton, Northants., in 1300–1 (NRO, F(M) Charter/2388, m. 22d); Thorpe (in Peterborough), Northants., again in 1300–1 (ibid., m. 22r); see also similar cases at Pittington, Durham, in 1299–1300 (DUL, DCD Enrolled Manors, 1299–1300, m. 2r); and Therfield, Herts., in 1306–7 (TNA, SC 6/872/17, m. 4r).

[48] *In liberatione unius ancillae a festo sancti Michaelis* [29 Sept.] *usque festum Annunciationis beatae Mariae* [25 Mar.] *per xxv septimanas, iiij busselli. In liberatione unius dayae a festo Annunciationis beatae Mariae usque festum sancti Michaelis praeter iiij septimanas in autumpno per xxiij septimanas, j quarterium ij busselli dimidium*: TNA, SC 6/932/26, m. 1d.

well-established, continuously employed *famuli* like ploughmen and carters, particularly if some of the dairymaids indicated in Appendix C, Part 2, and especially the better-paid ones, were in fact males. In short, the gender makeup of so-called 'dairymaids' seems to have become increasingly fluid, particularly with the leasing of demesne herds, although the term *daya* or some form of it was still associated with women even in Chaucer's day with his reference in the Nun's Priest's Tale to a poor widow who made her living as a 'deye'.[49] Dairying as a consequence seems alive with the sort of gender complications that Judith Bennett highlighted in her study on late medieval and early modern brewing.[50]

(c) Second-tier workers: the young

We now move onto what appears to have been child or adolescent labour in the sample. The most obviously young, or at least 'trainee', were those named as 'pages' (either *pagii* or *pagetti*; but most often abbreviated to *pag'* in the documents). Household accounts suggest that they were younger than the *garciones* discussed below, perhaps, as C. M. Woolgar has suggested, being 'probably pre-adolescent'.[51] In our sample they were found infrequently (in only 21 cases), mostly on northern manors and in contexts that indicated they were very junior; when the rate of grain payment was either given directly on the document or could be calculated, it was almost invariably at one quarter per 16 weeks or less.[52] In some cases, it was obvious that these pages were part of a graduated training process, as on the large manor of Bewley, Durham, in 1299–1300, where ten 'pages driving the ploughs' were recorded as working for 29 weeks at a stated rate of one quarter wheat for 24 weeks each; they were at the tail end of a ploughing hierarchy that involved 20 full-time (that is, for the entire year) and four part-time ploughmen, paid at an equivalent rate of one quarter per 12 weeks of (mostly) wheat each.[53] Similarly a page driving the plough in the harvest was recorded for Little Langton (between Great Langton and Thrintoft), Yorkshire, in 1304, at an equivalent rate of one quarter (of rye) per 16 weeks.[54] Pages helping shepherds were found intermittently in the sample, as at Pittington, Durham, in 1299–1300, where two pages and a woman (*mulier*) helped a shepherd, especially at lambing time,[55] while again at Little Langton in 1304 another page kept calves.[56]

[49] Larry D. Benson (ed.), *The Riverside Chaucer* (third edn, 2008), p. 253, l. 2846.

[50] Judith M. Bennett, *Ale, beer, and brewsters in England: women's work in a changing world, 1300–1600* (1999).

[51] C. M. Woolgar, *The great household in late medieval England* (1999), p. 40.

[52] The one case of a 'page' being paid more than one quarter of grain per 16 weeks of work was at Stallingborough, Suffolk, in 1307, where a page was given six bushels of wheat for eight weeks' work for a variety of chores 'in the time of lambing, weaning, and carrying milk [presumably from the ewes]': Suffolk RO, Ipswich Branch MA53 359/354 (iii), m. 1d. This is probably erroneous, since this rate, only requiring 10.67 weeks' work per quarter, was the best among the *famuli* on the manor. What seems most probable is that the eight weeks were for the lambing season only (normally in the range of a month to 14 weeks, traditionally starting from the Purification of Mary, 2 February), while the supervision of the weaning of lambs and carrying of milk added extra weeks not recorded.

[53] DUL, DCD Enrolled Manors, 1299–1303, m. 1r. The demesne sown acreage was probably around 635 (as estimated from the number of quarters sown).

[54] North Yorkshire Record Office (hereafter NYRO), ZJX 3/2/12, m. 1d.

[55] *Cuidam pagio adiuvanti hau* [?; high?] *bercario per sexdecim ebdomadas, alio pagio per mensem tempore agnelationis & mulieri querenti lac ad agnos, j quarterium ij rasaria*: DUL, DCD Enrolled Accounts, 1299–1303, m. 2r.

[56] *Et in liberatione unius pagii custodientis vitulos, j estricha*: NYRO, ZJX 3/2/12, m. 1d.

However, a much larger group of possibly young workers in the sample were those styled as *garciones*, comprising the sixth largest grouping in Figure 2. Household accounts suggest they were adolescents and sometimes rowdy ones,[57] but otherwise the type of person represented by the term *garcio* has been very hard to pin down. It might well signify someone young but it could just as easily represent a – most probably male[58] – servant of any age. Harold Fox, who has supplied the most detailed discussion to date of the term *garcio* within a manorial context, was categorical in not confining it to a particular age group: '*Garcio*, then, is not specifically the terminology of youth … ; suffice it to say here that we are dealing with a term which etymologically implies low status and menial work and was used in this sense before also coming to designate a youth'.[59]

The distribution of livery rates for *garciones* shown in Appendix C, Part 2, certainly does not contradict Fox's definition, where the 'low status' of these workers is amply confirmed, as 131 (or 85.6 per cent) of the total 153 *garciones* had to work 16 weeks or more for a quarter of grain (the mode here was very strongly at one quarter per 16 weeks worked, where 89 of the 153 *garciones* – or 58.2 per cent – received exactly this grain livery rate). Certainly the potential age range of *garciones* seems to have been extensive. Some were almost certainly adults, as in the case of the *garcio*, who, by order of the bailiff, supervised the threshing and winnowing, at a first-tier livery of eight weeks per quarter, half of wheat and half of barley, on the bishopric of Winchester manor of East Knoyle (Wiltshire) in 1301–02.[60] Many, on the other hand, were undoubtedly young or still subordinate to parental authority, as at Westerham, Kent, in 1296–97, where a *garcio* was paid at a rate of one quarter per 20 weeks for guarding the Abbot of Westminster's sheep along with the sheep of his father.[61]

Our sense, though – following Fox as seeing context as key in deciding how the term *garcio* should be interpreted[62] – is that most *garciones* within the context of the *famuli* were probably young and some very young. This is perhaps best seen through those designated as bird-scarers keeping crows, rooks, and other birds from newly sown crops, a traditionally neophyte activity seemingly performed with sling-shots, as shown in Figure 4. Altogether, bird-scarers were recorded in 26 of the 434 accounts (6.0 per cent) and were found almost solely in southern parts of the country, where concern about maximizing arable production was seemingly strongest.[63]

[57] Woolgar, *Great household*, pp. 39–40. Woolgar translates *garcio* as 'groom'.

[58] Female *garciones* were never directly indicated in this account sample, so we have assumed *garciones* were always males, following Fox who clearly felt this: H. S. A. Fox, 'Exploitation of the landless by lords and tenants in early medieval England', in Zvi Razi and Richard Smith (eds), *Medieval society and the manor court* (1996), pp. 518–68. Occasionally, however, *garciones* might do things more associated with female workers, such as making oat pottage and doing household duties around the manorial range of buildings (e.g., see the 1308 Broadwell, Oxfordshire case below), suggesting the possibility that a few *garciones* might have been female.

[59] Fox, 'Exploitation', p. 521.

[60] Page (ed.), *Pipe roll ... of 1301–2*, pp. 51–2. Page translates the Latin *garcio* as 'attendant' (p. 369), reflecting to some extent the confusion over the term; see also n. 58 above.

[61] *In liberatione j garcionis custodientis bidentes domini una cum bidentis patris sui per annum, ij quarteria iiij busselli dimidium, per xx septimanas quarterium*: WAM, 26389, m. 2d.

[62] As he amply demonstrates when coming to a somewhat different interpretation of *garcio* as a landless male of at least 12 years old and above: 'Exploitation', esp. pp. 520–1.

[63] From east to west across the south of England, the counties recording bird-scarers (number of manors in brackets) were Norfolk (2), Suffolk (2), Essex (7), Kent (2), Herts. (2), Middx (1), Surrey (1), Sussex (1),



FIGURE 4: Luttrell Psalter scaring crows and harrowing scene
(© The British Library Board Add. MS 42130, fo. 171)

Of these, 14 were designated as *garciones*. Where the rate of grain payment was indicated – in eight of these 14 cases – six of these *garcio* bird-scarers had to work 16 weeks for their quarter of grain, one for 18 weeks, and one for 32 weeks. Three of the remaining 12 cases of bird-scaring, but where the person was not styled as a *garcio*, also had to work 16 weeks for their quarter of grain. How old might these bird-scarers have been? Jane Humphries, in her recent book on child labour during the Industrial Revolution, gives several examples of bird-scaring (of crows or rooks usually) as the first job that young people were given in an agricultural setting. Of the 22 or more instances of crow-scarers Humphries found in her sample of diaries from the period,[64] the ages of three of them when they started crow-scaring are recorded in her text as 'nine', 'not yet six', and 'from age six'.[65] A fourth and particularly illuminating example was that of William Arnold, born in 1860, whose first job was 'scaring crows from newly sown fields in late February and early March', before he went on to guard 100 sheep, lead the first horse of the wagon and mind 40 pigs during the acorn season, all before he went into the boot trade 'aged just over seven'.[66]

The account material also gives this sense of bird-scaring as a starter position. At Kennett, Cambridgeshire, in 1299–1300, a *garcio* was hired to guard the manorial *curia* (or range of buildings for the demesne) against rooks 'lest they should nest within' for what looks to be a modest half-quarter (four bushels) of grain for an unspecified period of time.[67] A similarly poorly rewarded task for an unspecified period was recorded for 'a keeper of the wheat in winter because of wild geese', for which the person involved was only given two bushels, at Little Humber, Yorkshire, in 1296–97.[68] Presumably if the 'scarer' was good at it, it could be

Note 63 *continued*
Berks. (1), Hants. (4), Dorset (1), and Somerset (1). The single outlier outside this southerly band was Little Humber, Yorks. (mentioned below). As indicated, bird-scaring was most commonly found in Essex, where, in the sample, seven of the 18 manors (or 38.9 per cent) for the county recorded some degree of the practice.

[64] Jane Humphries, *Childhood and child labour in the British Industrial Revolution* (2010), p. 211.

[65] Ibid., pp. 174, 188, 230.

[66] Ibid., p. 219.

[67] *In liberatione j garcionis custodientis curiam pro fruibus ne intus nidarent, dimidium quarterium*: TNA, SC 6/768/20, m. 1d.

[68] *In liberatione j custodis frumenti in yeme propter aucas sauvagnias, ij busselli*: TNA, SC 6/1079/15, m. 4d.

turned into a reasonably lengthy spell of employment, as in an account of 1305–06 from Kings Langley, Hertfordshire, where a *garcio* drove away rooks for 33 weeks at the winter and spring seedings and received one quarter for every 16 weeks for doing it.[69] Otherwise, bird-scaring appears to have been occasional and probably dependent upon decisions made on the spot by officials, as at Bosham, Sussex, in 1302–03, where a *garcio* was paid a bushel of barley (for an unspecified time) to keep crows from a crop of beans 'by order of the bailiff'.[70]

Another activity seemingly directed at young people as much as bird-scaring was harrowing, shown as the smallest grouping in Figure 2. Leading harrowing horses was often connected to bird-scaring, as at Aldenham, Hertfordshire, in 1298–99, where the harrower (*herciator*) also acted as a 'rookherd' (that is, chasing away rooks) and received an equivalent of one quarter per 16 weeks for this dual role.[71] Altogether, it was probably no accident that the crow-scarer and the harrower are shown together in Figure 4, taken from the Luttrell Psalter, and which was possibly meant to represent a child labour scene. The distribution of harrowers (*herciatores*) when rates of grain payments could be determined did, however, show a reasonably significant proportion getting liveries at the 'first-tier' level: 21 of the total 61 harrowers, or 34.4 per cent, worked less than 16 weeks per quarter of grain (Appendix C, Part 2), so it is probable that they ranked higher than bird-scarers. Harrowing was sometimes connected with carting,[72] and it seems that the natural progression of harrowers was probably to go onto helping and possibly eventually becoming carters, as in the case of the *garcio* 'going to harrow and cart' at Hamstead (Marshall), Berkshire, from 1 November to 28 December 1298, again at the 'second-tier' rate of one quarter per 16 weeks' work.[73]

The archetypal task for young people, though, was some form of herding or looking after animals generally. This could start with the herding of domestic geese, as in the case of the 'girl' (*puella*) who kept around 40 demesne geese for the payment of four and a quarter bushels of grain at Thorncroft, Surrey, for an unspecified time in 1310–11.[74] Goose-herding might have involved people even younger than bird-scarers: of the 11 cases where a livery was given to a gooseherd, in only two was a rate indicated – one at one quarter per 16 weeks and the other at a quarter per 24 weeks.[75]

Care of sheep and particularly helping shepherds at lambing time also undoubtedly involved young people. A seemingly very young person, considering the low rate of pay, helped a

[69] *In liberatione unius garcionis fugantis frugellas de blado seminato ad utrumque seminem per xxxiij septimanas, ij quarteria j pecka* [here one-half bushel?], *qui cepit quarterium ad xvj septimanas*: TNA, SC 6/866/16, m. 1d.

[70] *In liberatione unius garcionis custodientis fabas pro cornicibus, j busellus, precepto ballivi*: TNA, SC 6/1020/24, m. 2d. There were 27½ acres of beans sown this particular year.

[71] *In liberatione j herciatoris & eiusdem Rocherde per xviij septimanas tempore utriusque seminis, j quarterium j bussellus*: WAM 26046.

[72] As in the case of the 'sub-carter' who also harrowed at Berkhamsted, Herts., in 1296–7: L. Margaret Midgley (ed.), *Ministers' accounts of the earldom of Cornwall, 1296–97* (Camden Soc. Third Ser. 66 and 68, 1942–5), I, pp. 20, 24.

[73] TNA, SC 6/748/27, m. 1d.

[74] MCL, 5742, m. 1d.

[75] That is, at Brent, Somerset, in 1302–3, where the gooseherd was given a bushel for two weeks' work (Glastonbury Abbey Documents at Longleat; hence-foreward GAD; these are available on microfilm, which was used for this study – 11271, m. 3r). Also, at Ketton, Durham, in 1299–1300, the gooseherd was given two bushels for six weeks' work (DUL, DCD Enrolled Manors, 1299–1300, m. 3r).

shepherd for six weeks during lambing season for a 'gift' of two bushels, one of wheat and one of peas, equivalent to one quarter per 24 weeks (at Therfield, Hertfordshire, in 1307).[76] A similar reference is found in a 1305–06 account for Pitchford, Shropshire, where a *garcio* 'stood with the shepherd in lambing time and afterwards kept the lambs over a total of eighteen weeks' and was given the modest grain payment equivalent of one quarter per 24 weeks 'for [his] livery and wage'.[77] Shepherding as a whole probably involved a wide range of adults and youngsters. Taking all sheep carers together (and not to be confused with the 'shepherds' in Figure 2, which only included those styled as *bercarii*), the total number of shepherding people, including 'keepers', *garciones*, and occasional pages involved in sheep management presented a wide range of grain payments (see Appendix C, Part 2). Altogether, 84 of the total 464 sheep carers, or 18.1 per cent, were paid at a rate of one quarter per 16 weeks or less, indicating that nearly one in five of the people caring for demesne sheep was 'second-tier' and, in this case, probably young.

Pigs, despite their reputation as difficult animals to control, as George Arnold (mentioned above) testified about his childhood in the nineteenth century,[78] nonetheless seem even more likely to have been looked after by young minders. It is probably more than just literary fancy that the well-known late medieval outlaw tale, 'Adam Bell, Clym of the Clough, and William Cloudesley', twice characterized the town swineherd acting as a go-between for William Cloudesley and his wife as a 'lytle boy(e)'.[79] In the account sample, the distribution of grain payments for swineherds and keepers of pigs (Appendix C, Part 2) does have a broader spread across the first- to second-tier divide than, say, more obviously young people like harrowers and bird-scarers, but nonetheless the majority of them – 76 (or 60.8 per cent) of the 125 total – were in the 'second-tier' group of having to work 16 weeks or more per quarter of grain.[80] Swineherds would command a higher wage when the pigs were numerous, as at Elton, Huntingdonshire, in 1305–06, where a *porcarius* was given one quarter per 12 weeks for looking after a herd of pigs that totalled around 100.[81] There were, however, many very poorly paid swineherds, often getting a quarter or less for the entire year.[82] This raises the possibility

[76] *In dono cuidam garconi auxilianti bercarium tempore agnelationis per vj septimanas, j busellus frumenti & j bussellus pisae*: TNA, SC 6/872/17, m. 4r. The word *dono* instead of the more usual *liberatione* was perhaps meant to emphasize the one-time nature of the payment.

[77] *Et in liberatione j garcionis qui stetit cum bercario in tempore agnelationis & in posterum ad agnos custodiendes in toto per xviij septimanas, vj busselli pro liberatione & mercede*: Lichfield RO, Cox reference no. G8, m. 1d.

[78] Where he noted that looking after pigs 'made him reflect with fondness on his earlier sheep': Humphries, *Childhood and child labour*, p. 219; see also B. Gregory Bailey, Meaghan E. Bernard, Gregory Carrier, Cherise L. Elliott, John Langdon, Natalie Leishman, Michal Mlynarz, Oksana Mykhed, and Lindsay C. Sidders, 'Coming of age and the family in medieval England', *J. Family History* 33 (2008), pp. 41–60 (esp. p. 54), concerning the difficulties with pigs.

[79] Stephen Knight and Thomas Oldgren (eds), *Robin Hood and other outlaw tales* (sec. edn., 2000), p. 246, lines 169, 173.

[80] As in Appendix C, pt 2. The great majority of cases (119 of the 125) were styled simply as *porcarii* (swineherds); in addition, there were three *custodes porcarii* and three *garciones custodes porcarii*. Three people combining swine herding with other duties are not included among the 125.

[81] TNA, SC 6/874/12, mm. 1d–2d. These more senior swineherds are probably envisioned in the *Seneschaucy*'s 'office of the swineherd': *Seneschaucy*, cc. 58–60, in Oschinsky, *Walter of Henley*, p. 285.

[82] For example, the swineherds on the Glastonbury Abbey manors of Badbury and Idmiston, Wilts., and Greinton, Somerset, all in 1302–03, were paid two bushels, five bushels, and one quarter per year respectively: GAD, 11271, mm. 24r, 31d; GAD, 11246, m. 12r.

that some of these low payments are because the swineherd was actually combining care of the demesne's pigs with care of pigs from others in the community, for which he was presumably also paid in some fashion, as implied in the case of an account for Bourton-on-the-Hill, Gloucestershire, for 1298–9, where the common swineherd for Bourton kept the pigs of the lord (the abbot of Westminster) with the other pigs of the community for a livery of six bushels for the year.[83] Our supposition, though, is that, even with this complication, the weight of evidence of low wages – plus allusions by 'Adam Bell' and others, and later by George Arnold – lies with swineherds being mostly children.

The guarding of cattle and horses similarly seems to carry the same child or juvenile element to it, although the cases are not as frequent as for the minders of sheep or pigs. They were often connected to the summer or harvest period when working animals in particular would be idle, as in a 1298–9 account for Chilbolton, Hampshire, where a *garcio* was recorded as guarding the 'affers' (working horses), oxen, and (other) idle animals while 'the *famuli* harvested and did other works', at a livery that would have him working 16 weeks for a quarter of grain.[84] Certainly, on the basis of pay, some of these summer livestock carers seem to have very young, as in a 1299–1300 Monkton Deverill, Wiltshire, account, where it was recorded that a *garcio* was given two bushels of grain for his 'stipend and food' for keeping the *averia* (a more general term for livestock as a whole) 'for the whole summer'; if the time covered was, say, eight weeks it would only give a rate of one quarter per 32 weeks.[85]

One thing that is clear about second-tier workers is the great variety of tasks they could be asked to do, as against first-tier staff who specialized in being ploughmen, carters, shepherds, and so on. Thus, a *garcio* given a quarter per 16 weeks was charged with 'making the pottage of the manorial servants, going to the harrowing, and keeping the birds away from the *curia* and the corn for the year' at Cams, Hampshire, in 1301–02, for which he received a livery of one quarter per 16 weeks.[86] Similarly a *garcio* protected the fields from birds, kept lambs after separation from their mothers and old sheep in summer at Easton in the same county in 1298–9, also receiving one quarter of grain per 16 weeks,[87] while at Broadwell, Oxfordshire, a *garcio* made pottage for the famuli and 'kept the fire and the court' from 20 January to 12 May in 1308, a period of 16 weeks for the payment of a quarter, half of wheat and half of barley.[88] All of these instances are reminiscent of the variety of tasks performed by William Arnold in the nineteenth century before he was seven. On the female side, an *ancilla* at Walton, Northamptonshire, in 1300–01, kept the manor, made the pottage for the *famuli*, winnowed corn, and loaded carts in the harvest, for which, over the year, she received a livery at a rate requiring a little over 20 weeks' work per quarter.[89]

[83] *In liberatione j porcarii de ville custodientis porcos domini cum aliis porcis de villa per annum, vj busselli*: WAM 8249, m. 1d.

[84] Hampshire RO, Dean and Chapter [hereafter HRO Dean & Chapter] of Winchester Muniments, Account Roll III, Chilbolton, 1298–99, m. 1d.

[85] GAD 9685, m. 2r.

[86] Page (ed.), *Pipe roll ... of 1301–2*, pp. 364, 366.

[87] HRO, Dean & Chapter, Roll III, Easton, 1298–99.

[88] TNA, SC 6/957/6.

[89] NRO, F(M) charter/2388, m. 6d.



FIGURE 5: Luttrell Psalter spreading furrows scene
(© The British Library Board Add. MS 42130, fo. 171v)

(d) Second-tier workers: the elderly and others

'Elderly' is applied here to those people of advanced years who were perceived as no longer working as effectively as they did in their prime, to the extent that they were paid liveries at the second-tier rather than the first-tier rate. The age at which this would happen would clearly be variable, but in the medieval context certainly anyone 60 and above would qualify and, depending upon the person, their age might be considerably lower.[90] We have already considered the possibility that the elderly had a presence among supervisory personnel, judging from occasional low rates of payment or the occasional use of subordinate terminology for these overseers (for example, the *garcio* at East Knoyle above). There were other tasks among second-tier workers that might be considered more typical of older people than, say, the young. One was gardening. Normally gardening would be done by first-tier staff.[91] However, on some occasions, the task was more poorly paid, so that seven of the 30 people in the sample (23.3 per cent) who had gardening as all or part of their duties did so at the rate of one quarter per 16 weeks (Appendix C, Part 2). Again, perhaps these were elderly people who were entrusted with work of some responsibility but were given less because of their age. At Chilvers Coton in Warwickshire, in 1309–10, this seemingly elderly labour was juxtaposed with what was probably young labour, where a 'cook/gardener', who also tied sheaves, was preceded immediately in the record by a swineherd/harrower; both received a livery equivalent to one quarter (of mixed grains) per 16 weeks' work.[92]

Another indication of the elderly among second-tier *famuli* initially comes not so much from the database, but from yet another illustration from the Luttrell Psalter (Figure 5), which shows a man and woman using long-handled mallets to break up large lumps of earth that

[90] Men and women 60 years and above were exempted from the mid-fourteenth-century labour legislation in England, and the 20-year span from 40 to 60 was a period when workers were felt to experience a gradual decline in their physical capabilities: Shulamith Shahar, *Growing old in the Middle Ages: 'Winter clothes us in shadow and pain'*, trans. from the Hebrew by Yael Lotan (1997), ch. 1 (esp. pp. 26–7); see also Youngs, *Life cycle*, pp. 163–5, for the age of 60 being considered decidedly ancient in the later Middle Ages.

[91] As at Little Hinton, Wilts., where a gardener was given a substantial livery rate of one quarter per eight weeks for preparing a garden over 15 weeks: HRO, Dean & Chapter, Account Roll III, Little Hinton, 1298–9, m. 1d.

[92] *In liberatione j porcarii herciatoris & alia necessaria facientis, iij quarteria ij busselli per annum. In liberatione j coci gardinarii & tassatoris per annum iij quarteria ij busselli*: TNA, SC 6/1040/18, m. 1d.

were still left after ploughing and harrowing. As Janet Backhouse has commented,[93] the couple appears very elderly, with the man (when one looks closely) having a grizzled beard along his jaw line. The activity seems to be what the accounts call 'spreading furrows' (*spargens sulcos*), as suggested by an account for Feering with Pattiswick, Essex, in 1299–1300; here a livery was given to a *garcio* 'spreading furrows and making water-furrows', the latter action indicating the clearing out of water channels and implying that 'spreading furrows' took place on the top of the ridge, as also suggested in Figure 5.[94] Altogether in our *famuli* sample, there were nineteen individuals, found on 17 manors, who were given grain liveries for 'spreading furrows' as all or part of their activities. Of the 13 cases where a livery rate could be determined for these 'furrow-spreaders', 12 were required to work 16 weeks for a quarter of grain, putting them firmly in the 'second-tier' ranks. The thirteenth case was even more telling by involving the combination of 'furrow-spreader' and bird-scarer at Lawling (near Mundon), Essex, in 1304–05. This individual had to work 32 weeks for his quarter of grain.[95] This last case suggests that the furrow-spreader cum bird-scarer was perhaps young, while the more physically demanding work suggested at Feering with Pattiswick might suggest an older, and perhaps elderly, person. Interestingly both were called a *garcio*, and altogether seven of the 19 'furrow spreaders' were styled as such. Also, these 'furrow spreaders' were concentrated very narrowly in one part of the country. Like bird-scarers, they had their greatest concentration in Essex, where 12 of the 17 communities with 'furrow spreaders' were in the county, with the other five being in the neighbouring counties of Suffolk (three cases) and Hertfordshire (two cases).[96] The heavier soil conditions in this part of England might explain some of this, with a greater incidence of clumps of earth being left behind after ploughing and harrowing, especially in cooler, wetter conditions.[97] Six of the 17 accounts mention the activity as taking place 'in winter' and another two as being in the 'wheat seeding', the latter indicating the months leading up to Christmas. However, the tendency for the activity to be connected to bird-scaring might also suggest a greater concern to maximize grain production in an area close to the biggest urban centre in the country. It is notable, for instance, that other areas of England with heavy soils, notably the Midlands, did not record 'furrow-spreaders' at all.[98]

Other categories of second-tier workers are scarce in the sample. There was no one in the second-tier ranks of our sample with an obvious work-limiting disability, and indeed the only reference to someone with a disability of sorts concerned a Thomas 'le harelippede' (indicating at least a cleft lip), who kept the lord's wood at 'la Bere' for a part-year on the Winchester

[93] Backhouse, *Medieval rural life*, p. 19.

[94] *In liberatione j garcionis spargentis sulcos & facientis sulcos aquaticos apud Pateswyk & Haringgeslond per ix septimanas, iiij busselli & dimidium* (WAM 25601, m. 2d).

[95] *Cuidam garcioni spargenti sulcos & fuganti aves per viij septimanas ad seysonem yemale, ij* [written over *iiij* crossed out] *busselli* (CCA, DCc Lawling 4, m. 1d).

[96] Altogether two-thirds of the accounts for Essex (12 out of 18) had at least one 'furrow spreader'. The manors of Feering with Pattiswick (Essex) and Clare (Suffolk) had two each.

[97] For the generally heavy soil conditions in Essex, see H. C. Darby, *The Domesday geography of eastern England* (1952), fig. 55 (p. 217).

[98] For the complicated interaction of soil type and commercial opportunities in determining agricultural practices, see John Langdon, *Horses, oxen and technological innovation: the use of draught animals in English farming from 1066 to 1500* (1986), pp. 255–6, 261–2; Bruce M. S. Campbell, 'Towards an agricultural geography of medieval England', *AgHR* 36 (1988), pp. 87–98 (esp. p. 95).

Cathedral Priory manor of Barton Priors, Hampshire, in 1298–99. This required that he worked for just over ten weeks for each quarter of grain he received, a 'first-tier' rate signifying a capable, adult worker.[99] More obviously handicapped by economic circumstances in the sample were the three and two paupers respectively on the Northamptonshire Peterborough Abbey manors of Kettering (in 1299–1300) and Cottingham (in 1309–10) who were recorded, in the first instance, as each receiving liveries of one quarter per 16 weeks over the entire year and, in the second, as getting an equivalent of about one quarter per 47 weeks (again over the entire year), while a single 'pauper woman' at Bewley, Durham, in 1299–1300 received a quarter of wheat over 16 weeks.[100] In none of these cases was it indicated what exactly, if anything, these paupers did, so they may simply have been instances of charity.[101]

(e) Second-tier workers: numbers and proportions

We have presented evidence for the various types of second-tier workers found in our sample. Can we be more specific about their actual numbers and proportions? We are starting with the young first, since rigorous estimates of the extent of child and adolescent labour are hard to establish for this period, and some indication of its scale in this study would provide a useful starting point for discussions on the matter. Thus, in breaking down the 548 figure for the 'second-tier' element among the 3748 workers for which we have grain payment rates, if we subtract the apparent or probable women – the *ancillae*, *mulieres*, as well as 'dairymaids' making one quarter per 16 weeks or less (a total of 91, or 2.4 per cent of the 3748 total) – we are left with 457. If we further subtract supervisory personnel, gardeners, and 'furrow spreaders' receiving one quarter per 16 weeks or less – a total of 33 in our 3748 sample (or 0.9 per cent) – as being elderly (even though some of the furrow spreaders, in particular, might have been young), plus another ten to account for the poor (there were, as mentioned above, six in the sample) and possibly disabled, this would reduce the number of probable young to 414, or 11.0 per cent, of the 3748 total. On one hand, this might be considered a maximum, since there may have been older, lower status people involved (Harold Fox's 'landless males', for instance[102]), but, on the other, given the probable larger representation of 'second-tier' personnel, many undoubtedly young, among the 833 people in the sample for whom a grain payment rate could *not* be ascertained, this percentage might well be on the low side and, in any case, a proportion of young of this size was almost necessary simply to replace some at least of the first-tier *famuli* and to cover those jobs, like bird-scaring, that were probably only done by the neophyte in any case. Our conclusion at this point, then, is that the proportion of young people – they were probably predominantly male and we might put the top age at, say, 14, since 15 was the age that medieval males were considered adult enough to farm land on

[99] *In liberatione Thomae le harelippede custodientis boscum domini apud la Bere per xxiiij septimanas, ij quarteria iij busselli*: HRO, Dean & Chapter, Account Roll III, Barton Priors, 1298–9, m. 1d.

[100] *In liberatione iij pauperum per annum, ix quarteria vj estrichae quasi capiunt quarterium per xvj ebdomadas* (NRO, F(M) Charter/2388, m. 15d); *In liberatione ij pauperum per annum, ij quarteria j estricha dimidium* (ibid., Charter/2389, m. 27d); *In liberatione cuiusdem mulieris pauperis per xvj ebdomodas, j quarterium frumenti* (DUL, DCD Enrolled Manors, 1299–1303, m. 1r).

[101] For the term *pauper* as indicating a member of the 'professional' poor in medieval society, see Miri Rubin, *Charity and community in medieval Cambridge* (1987), p. 267.

[102] Fox, 'Exploitation', *passim*.

their own[103] – was most likely in the 10–15 per cent range among the demesne *famuli* and that it tended to vary by region according to such things as population density, managerial policy, or urban demands upon agriculture. As detailed above, the types of employment entrusted to these 'young', from bird-scaring, harrowing, keeping guard over animals of all kinds, to being introduced eventually to the plough and cart, is entirely consistent with those tasks that seem to have been entrusted to younger people in agricultural societies generally, even those much closer to our own era.[104]

A maximum for the women in the sample can be obtained by assuming the 192 'dairymaids' at both the first- and second-tier levels were all women (although some clearly were not) plus adding the 46 specifically designated women (*ancillae*, *mulieres*, and so on, as in Appendix C, Part 2), giving 238 individuals, or 6.4 per cent of the total 3748 *famuli* with known grain livery rates. Given the 10–15 per cent estimate for (mostly) young males above, it appears that these young males outnumbered women of any age and of any position among the *famuli* by around two to one. This 6.4 per cent figure is smaller than recently published figures for females in agriculture based upon the 1381 poll tax, which are around 50 per cent higher than the proportion of women found in this *famuli* sample,[105] perhaps underscoring the longer-term, male-oriented nature of *famuli* employment overall. Young males dominated the elderly by even more, since those 33 cases stated above of males doing adult jobs but seemingly paid at a second-tier rate comprised 0.9 per cent in the 3748 total. Even if we add another ten people for the poor and possibly disabled, this makes 43, or 1.1 per cent, so that child and adolescent males would outnumber the elderly, poor, and possibly disabled by at least ten to one, but it does indicate that the elderly did have at least an occasional presence on demesnes and perhaps were seen as a steadying influence upon young male employees. The numbers of adolescent or child males, the elderly, and women taken together, however, were themselves dwarfed by the number of adult males who seemingly comprised at least 80–90 per cent of this *famuli* sample, and it must be emphasized again that these adult males worked for significantly longer periods and at higher livery rates throughout the accounting year.

III

This study has mapped out an English labour force from over 700 years ago. With its 105,000 or so workers (Appendix A), demesne *famuli* represented a reasonably sized proportion of English agricultural labour of the time, probably around ten per cent.[106] Among other things,

[103] As in the age of majority (15) for socage tenure: Nicholas Orme, *Medieval children* (2003), p. 327. In comparison, 90 per cent of boys were in work by age 14 during the Industrial Revolution: Humphries, *Childhood and child labour*, fig. 7.1 (p. 177).

[104] At the end of the twentieth century, 70 per cent of child labour was engaged in agriculture and related activities world-wide: Kaushik Basu, 'The economics of child labour', *Scientific American* 269, no. 4 (Oct. 2003), pp. 84–91 (esp. p. 87).

[105] Stephen Broadberry, Bruce M. S. Campbell, and Bas van Leeuwen provide a sample from the 1381 poll tax of 16,877 males and 1755 females working in agriculture, a proportion of females of 9.4 per cent: 'When did Britain industrialise? The sectoral distribution of the labour force and labour productivity in Britain, 1381–1851', *Explorations in Econ. Hist.* 50 (2013), Table 1 (p. 17).

[106] If the demesne proportion of all agricultural land across England was 20–25 per cent (Appendix A) and the *famuli* supplied a third to a half of the labour for demesne production (n. 5 above), then, if labour

what this study emphasizes is the considerable male-oriented nature of the *famuli*, above 90 per cent, certainly when compared to large farms of the early modern period where the proportion of women among servants seems to have averaged around 25 per cent.[107] Furthermore, as dairying in particular became more gender-uncertain from the beginning of the fourteenth century, it appears that males were set to dominate even more powerfully among the *famuli* during the rest of the century.

Perhaps the most novel contribution of this article is to attempt a more exact breakdown of this workforce by stage in life without any direct information as to the age of workers. Consequently, the 10–15 per cent of child and adolescent labour among the *famuli* approximated here through inference from grain livery payments and job descriptions is at least conceivable in the circumstances, even if it is, say, less than the proportion of child labour in many parts of the world today.[108] Elderly labour is more difficult to tease out, but the one per cent or so calculated above (and including the poor and possibly disabled) must easily stand as a plausible minimum. At the very least, these estimates provide a point of reference from which to compare age-related labour analyses from other sources, periods, or countries.

Finally, it is important to re-emphasize that this 'snapshot' presents a pre-eminently static view. The makeup of the *famuli*, however, was anything but static. The appearance of the labour of women and the young in particular seemingly fluctuated according to the health of the overall economy.[109] The methodology here of presenting the evidence in a bipartite first- and second-tier fashion, regardless of the degree of confidence readers might have about this division and the absolute figures generated, does allow useful comparison *over time*. The surviving manorial account material from which this examination of the *famuli c.*1300 was drawn is exceedingly plentiful for at least the period *c.*1270 to *c.*1420,[110] a range conveniently having the initial advent of the Black Death at or near its central point. In this regard, one thing that might strike readers is that the level of 'second-tier' personnel posited here for the beginning of the fourteenth century seems high, especially for the young, in a time of supposed labour glut. We feel, indeed, from other evidence not presented here that employment was reasonably robust at the time and only began to falter in the decades immediately preceding the advent of the plague.[111] An

Note 106 *continued*
productivity was roughly equal across all sectors and workers (perhaps a debatable 'if': see n. 6), then the proportion that the *famuli* represented in total agricultural labour would range from 6.7 [⅕ × ⅓ × 100] to 12.5 [¼ × ½ × 100] per cent.

[107] Jane Whittle, 'Housewives and servants in rural England, 1440–1650: evidence of women's work from probate records', *Trans Royal Hist. Soc.*, sixth ser., 15 (2005), pp. 51–74 (esp. p. 57). We are grateful to one of the anonymous referees for referring us to this very useful article.

[108] As in current sub-Saharan Africa, where an estimated 29 per cent of children from 5 to 14 years of age work for a living; the figure for Asia is 19%: Basu, 'Economics of child labour', p. 90.

[109] As their presence (or not) in royal works accounts indicates: Langdon, 'Minimum wages'.

[110] Slavin, 'Sources', p. 133.

[111] A preliminary examination of accounts for Eybury, Middx (the home farm of the Abbey of Westminster) from 1275–6 to 1346–7 shows that, although women's employment held up fairly well among the *famuli* over this period, young male labour seemingly shrank considerably, to the point that the total grains dispersed to these younger workers in 1346–7 were only a quarter of what they collectively received in the late thirteenth century: WAM 26853–26902. For similar results from royal works accounts, see Langdon, 'Minimum wages'. Possible theoretical reasons for this, pitting the metrics of individual real wages against family income, may be found in Langdon and Masschaele, 'Commercial activity'.

examination of the *famuli* over the longer sweep from the thirteenth to the fifteenth centuries will help us examine further this apparent incongruity while revealing considerably more about the nature of labour during a time of extraordinary economic and social transformation.

Appendix A: The numbers of *Famuli* across England, *c.*1300

The size of the *famuli* workforce across England around 1300 can only be an estimate, but we do have some data from which to judge the matter. There are three things to be considered here: a) the total yearly sown acreage that demesnes encompassed; b) the portion of that sown land probably worked by *famuli*, from which their number can be determined; and, further, c) the proportions of service versus stipendiary *famuli*.

a) The most recent authoritative assessment of the total annual sown land in medieval England in 1300 puts it at 8.16 million acres.[112] Campbell, in his country-wide update of Kosminsky's figure that 32 per cent of land was in demesne (based upon the 1279 Hundred Rolls for a number of Midland and eastern counties), downgraded the demesne portion to a quarter or even a fifth.[113] Using the more conservative of these figures – a fifth – then the amount of land sown each year on demesnes would be 8.16 million acres × 0.2 = 1.63 million acres.

b) How much of this land would be serviced by *famuli* labour as against customary labour services or 'on the spot' hiring of workers for specific tasks? Here we can use the employment of *famuli* ploughmen, both holders and drivers as shown in Figure 3, as an indicator. Many accounts in the sample provided very clear information both about the full set of *famuli* ploughmen and the sown acres for that account year. Using the information from 116 such accounts (78 ecclesiastical and 38 lay),[114] the mean number of sown acres per full-time *famuli* ploughman was 46.8 (median, 45.2).

It is traditional to assume that each plough could handle 120 acres per year.[115] Keeping this in mind, and assuming two ploughmen per plough,[116] the mean sown acres per demesne plough cultivated from the 116 accounts above would be 46.8 × 2 = 93.6. This would leave, on average, 120 – 93.6 = 26.4 acres of unused capacity for each plough, which might have been used, say, for ploughing up fallow, although the ploughing facilities on some estates must have been hard-pressed to cover even the sown acreage.[117] It seems most probable that, as a

[112] Stephen Broadberry, Bruce M. S. Campbell, Alexander Klein, Mark Overton and Bas van Leeuwen, *British economic growth, 1270–1870* (2015), Table 3.03 (p. 89) in the 'Total sown' column.

[113] E. A. Kosminsky, *Studies in the agrarian history of England in the thirteenth century*, trans. R. Kisch, ed. R. H. Hilton (1956), pp. 89, 91; Campbell, *English seigniorial agriculture, 1250–1450* (2000), p. 58.

[114] These were drawn from the ecclesiastical estates of Westminster Abbey, Canterbury Cathedral Priory, Norwich Cathedral Priory and Peterborough Abbey and the lay estates of Henry de Lacy, earl of Lincoln, and Roger Bigod IV, earl of Norfolk.

[115] E.g., Campbell, *English seigniorial agriculture*, p. 121.

[116] In this smaller 116 manor sample, there was only one case of a plough being handled by a single person, that is, for a small horse plough at Thornham, Norfolk, in 1299–1300 (Norfolk RO, DCN 60/37/9); the other 115 ploughs had at least some oxen drawing them and required both a holder and driver.

[117] As on seven manors of Westminster Abbey, which had a mean of 129.8 sown acres per demesne plough. This would mean that, on average, at least 9.8 sown acres would probably have been performed by other ploughing sources.

general policy, demesne ploughs were directed towards the more critical ploughing of ground to be sown, while the ploughing of fallow was left for customary ploughing services or hired ploughing, as David Stone has suggested for the manors of the bishop of Ely.[118]

Consequently, based on the above, since *famuli* ploughmen seem to have been numerous enough on average across estates to plough the demesne sown acreage at least, then a *minimum* of their total full-time numbers might be determined by simply dividing the countrywide figure of 1.63 million demesne acres to be sown each year by the mean sown acreage per ploughman given above (46.8) – that is, 1,630,000/46.8 = 34,829, rounding off to, say, 35,000 full-time *famuli* ploughmen. Converting this to a figure for the *famuli* as a whole, the 1423 ploughmen in our sample worked for a total of 65,520.4 weeks compared to 157,974.4 for the 3748 *famuli* as a whole. If we scale up from the 35,000 ploughmen figure above, this would give (35,000 × 157,974.4)/65,520.4 = 84,388. These, however, are full-time equivalents. Since the total 3748 workers only averaged 42.1 weeks per year, the actual number of people working, full-time and part-time, would be (84,388 × 52)/42.1 = 104,232. Since these calculations did not include the 833 people in the sample for whom we could not determine grain payment rates, who probably worked fewer weeks in the year than the average and thus would reduce the 42.1 denominator in the previous calculation, a minimum of 105,000 to include these people would again seem plausible. The contextual relevance of this number is perhaps best appreciated when comparing it to the estimated 600,000 smallholding families across England.[119] *Famuli* employment, if confined to this class (a big 'if', since it is hard to know how to account for the landless, including those 'drifting down' from better-off peasant classes but still contributing earnings to their families), would be a significant but certainly not overwhelming contribution to the overall well-being of smallholders.[120] In that sense, the first priority is probably best to think of the *famuli* as forming independent households in their own right, as we attempt to do in Appendix B.

c) Concerning the service *famuli* proportion among this 105,000 total, this is estimated from the service ploughmen recorded in the 'acquittances' sections of the accounts for the estates of the bishop of Winchester, Winchester Cathedral Priory, and Glastonbury Abbey, which provided most of the service *famuli* recorded among the documents examined in our study (see note 13 above). The number of such ploughmen came to 436. If we round this up to 500 to include all the possible service *famuli* in our account sample and add the 4581 stipendiary *famuli* that have been the prime focus of this study, this would come to a total of 5081, of which the service element would be 9.8 per cent and the stipendiary 90.2 per cent. Applying these percentages to the estimated total of 105,000 *famuli* above would result in 10,290 service *famuli* and 94,710 stipendiary ones in England *c.*1300.

[118] Stone, *Decision-making*, p. 70.

[119] Christopher Dyer, *Standards of living in the later Middle Ages: social change in England, c.1200–1520* (revised 1998 edn), pp. 126–7.

[120] Having said this, it does appear, on admittedly slim evidence, that smallholders were a very important source for recruiting *famuli*: P. D. A. Harvey, *A medieval Oxfordshire village: Cuxham, 1250 to 1400* (1965), pp. 77–8; see also n. 146 below.

Appendix B:
Total remuneration of *famuli*

What we attempt here is to give a sense of total remuneration in terms of kilocalories (hereafter 'kcal' or 'kcals') for typical first- and second-tier *famuli* working for a full year of 52 weeks. We are going to consider stipendiary workers only, so that reductions or 'acquittances' of rent given to service *famuli* are not involved here.

(a) Grain Liveries

In terms of assessing the generosity or not of the grain liveries for a first-tier worker, we will use the median livery rate for first-tier *famuli* of one quarter (= eight bushels) per 12 weeks' work (Figure 1), which gives an annual grain payment of 4.33 quarters, or 34.6 bushels. To assess kcal equivalents, we propose a range, based on, first, rye, as the upper bound, and second, a mixture of barley and oats, as the lower one. The caloric equivalents of a bushel of these two options would be 77,520 and 63,564 kcals respectively,[121] so that 34.6 bushels would yield a range of 2.68 million kcals (rye) to 2.20 million kcals (barley and oats) . Campbell put the kcal extraction rate writ large for all grains *c*.1300 at 58 per cent (including the use to which it was put, from pottage through to brewing, as well as loss through vermin and rotting).[122] If we apply this to the kcal equivalent range above, then the net result would be 1.55m (rye) to 1.28m (barley and oats) kcals. Campbell also put the daily grain kcal requirement at 1500 per person, balancing the differences between male and female, young and old, and the fact some protein from meat and/or dairy products would be added for a reasonably healthy diet.[123] Thus, a rate of one quarter per 12 weeks' work at 1500 kcals could support 2.8 (rye) to 2.3 (barley and oats) persons over a year.[124] If a more generous grain kcal per person per day was felt to be necessary, say at 2000,[125] then the range would be reduced to 2.1 to 1.7 persons. This indicates that the most common grain livery rate was, in terms of sustenance (and overlooking cash wages for the moment), only just able to support an adult couple if at all.

Not surprisingly the outlook was even gloomier for second-tier *famuli*. From Figure 1 the median figure for the second-tier personnel was at the one quarter per 16 weeks' work level (3.25 quarters, or 26.0 bushels, per year). Working from the assumptions above, the grain liveries for this group would have supported from 2.1 to 1.8 persons at the 1500 kcals per person per day requirement and 1.6 to 1.3 people at 2000 kcals per person per day.

(b) Cash stipends

The money wages that *famuli* received could ameliorate this situation, of course. Limiting ourselves to those for whom cash payments per year were stated or could be calculated in the sample – 1638 for the first-tier group and 115 in the second-tier – the median annual cash payments for both groups were 4*s*. and 2*s*. 6*d*. respectively. If these payments were converted

[121] Campbell, *English seigniorial agriculture*, Table 5.04 (p. 215).

[122] Ibid., esp. pp. 397–9.

[123] Ibid., pp. 401–2.

[124] For example, for rye the calculation was 1,550,000/(1,500 × 365) = 2.8311.

[125] Along the lines of, say, Dyer, *Standards of living*, pp. 134–5.

into grain, using Farmer's prices for the first decade of the fourteenth century,[126] 4*s*. if spent on, say, rye would raise the amount of grain for consumption by 7.7 bushels (or 22.2 per cent by volume over the 34.6 bushels that a *famulus/famula* would get at a rate of one quarter per 12 weeks' work). If spent on the barley/oats alternative, it would raise the livery by 10.1 bushels (or 29.2 per cent), an improvement over rye that was also reflected in kcal terms (by 7.6 per cent: 641,996 versus 596,904 kcals). Indeed, in purely sustenance terms, the optimal strategy for a first-tier *famulus/famula* receiving rye for their livery would be to spend their 4*s*. cash stipend on something like a barley/oats mixture (as long as the grains were not used for less efficient purposes like making ale), which, at a total of 3.32m kcals (2.68 + 0.64) and following the calculations above (including an extraction rate of 0.58), would support a range from 3.5 (at 1500 kcals per day per person) to 2.6 persons (at 2000 kcals per day per person).

Applying the same calculations to a second-tier *famulus/famula* receiving one quarter of rye per 16 weeks' work – thus setting an upper bound for this category of worker – 2*s*. 6*d*. at Farmer's prices for the first decade of the fourteenth century would buy 6.3 bushels of a barley/oats mixture or an extra 400,453 kcals, making 2.41m kcals in all (that is, added to 2.01m kcals from 3.25 quarters of rye), supporting a range from 2.5 (at 1500 per person per day) to 1.9 persons (at 2000 kcals per person per day).

In short, even the most optimistic conditions above only gave sustenance for an equivalent of 3.5 people, perhaps a couple and three children, assuming the latter combined amounted to 1.5 'persons'. Such a fixation on food would, moreover, leave nothing for clothing, shoes, housing, or utensils (or, even if they made some of these themselves, cloth, leather, wood, and metal). Indeed, if one views *famuli* wages from another perspective, converting all grain payments to cash, even a first-tier *famulus/famula* would receive barely 1*d*. per day, while second-tier workers would receive around ¾*d*. per day,[127] very much endorsing Dyer's pessimistic view of the *famuli* existence.[128]

(c) Perquisites

There were, however, perquisites offered by *famuli* employment that would help to soften these realities or at least provide insight as to how life at these remuneration levels could be sustained. One was the likelihood that the *famuli* received a portion of 'pottage', or porridge,

[126] Farmer, 'Prices and wages', p. 733, where the price of rye over the decade is given as 4*s*. 2*d*. per qr, barley at 4*s*. per qr, and oats at 2*s*. 4*d*. per qr. A 50-50 barley-oats mixture would theoretically be 3*s*. 2*d*., which was used here.

[127] Assuming rye, probably the best grain to be given to the *famuli*, the 4.33 quarters that a worker at one quarter per 12 weeks' work when converted to cash (based upon Farmer's prices for rye in the previous note) would be 4.33 × 50d. (4*s*. 2*d*.) = 216.5*d*. Adding to this the median 48*d*. (4*s*.) cash payment received by such a worker, this would come to an annual 'wage' of 264.5*d*. If we assume 260 days of work per year, around the average used by Dyer for his construction of medieval English wage-earning budgets (*Standards of living*, p. 226), this would come to an equivalent of slightly more than a penny per day, which at the beginning of the fourteenth century was a remuneration more consistent with that for women and the young (e.g., Langdon, 'Minimum wages'). For second-tier workers, even with the supposition that they would be receiving rye for the 3.25 quarters (= 26 bushels) per year they earned at a livery at one quarter per 16 weeks' work, which would be worth 162.5*d*. at Farmer's prices, plus a second-tier median annual cash payment of 2*s*. 6*d*. (30*d*.), this would only amount to a total of 192.5*d*., or ¾*d*. per day, at a 260-day work year.

[128] Dyer, *Standards of living*, p. 133.

made of oats and/or peas, possibly to start the day or as snacks to support their exertions thereafter. As the numerous references to second-tier men and women making pottage for the *famuli* in the main text suggests, the practice was reasonably common and perhaps even ubiquitous, even if it did not always make it into the record,[129] with each *famuli* being allocated an equivalent of 1–1½ bushels of oats/peas over the year.[130] Such pottage was probably seasoned with salt,[131] and, in one instance, it was indicated that it was prepared in an earthenware pot or bowl held over a fire by a tripod.[132] This pottage, if shared equally, could add around five per cent to the sustenance for a first-tier worker and perhaps something around seven per cent for a second-tier one.[133]

The second common benefit beyond grain liveries and cash stipends for the *famuli* was the provision of feasts to celebrate important holidays, for which expenses were paid by the lord, at about 1½*d*. per feast per *famuli* member, as well as often a tip or gratuity (*oblatio*) of a halfpenny or a penny per person per feast. These relations-improving exercises between lord and employees were particularly common on the estates of Westminster Abbey, where two-thirds of manors – usually the larger ones – had at least one such feast per year, particularly at Christmas, but often at Easter and occasionally at other times as well, such as St. Michael (29 September) and All Saints (1 November).[134] It is difficult to say how important these feasts were in a nutritional sense, because, among other things, it is not certain how many meals they entailed. A Battersea, Surrey, account for 1299–1300 indicates that the Christmas expenses for the *famuli* stretched over three days, and the reasonably generous 'expenses' of 12*s*. (itself written over 14*s*. crossed out) for the 20 or more *famuli*, which, over three days, would yield around 2.0–2.5*d*. per day per person, gives credence to what might have been a lengthier spell of banqueting and carousing,[135] but the more normal 1½*d*. per feast per person mentioned above

[129] Only seven of the 57 manors of the bishopric of Winchester, for instance, gave very clear indication of it: Page (ed.), *Pipe roll … of 1301–2*, pp. 52, 141, 274, 280, 341 (oats pottage) and 75, 199 (peas pottage). A probable eighth case (of oats pottage) was recorded for Adderbury, Oxon., where an entry in the oats section noted, 'In making meal, 1 qr', which seems to have been bound for the *famuli* (ibid., 150) and shows how easily such pottage might elude detection in the records.

[130] The eight cases above (including Adderbury) indicated that 73.5 bushels of oats/peas were given to 52 identifiable stipendiary *famuli*, for a portion of 1.41 bushels each.

[131] As at Turweston, Bucks., in 1299–1300, where three bushels of salt was bought for 12*d*. for 'the pottage of the *famuli* and the dairy': WAM 7761, m. 1r.

[132] As at Witney, Oxon., in 1301–2, where the purchase of a pot and tripod was recorded for making the *famuli*'s pottage for work they were doing 'in the park': Page (ed.), *Pipe roll … of 1301–2*, p. 137 (under 'Small Expenses').

[133] Assuming the 1–1½ bushels were oats and a 90% extraction rate – since, even though this oats was given as pottage, some would likely be lost through milling or wastage – this would give a range of 54,302 to 81,454 kcals (using the kcal per bushel figure for oats in Campbell, *English seigniorial agriculture*, p. 215). At the 1.55m to 1.28m kcal range for the liveries after overall extraction at 58 per cent above, depending upon the grain (rye versus barley/oats mixture), for the livery of a *famulus*/*famula* at the one quarter per 12 weeks' work rate, then the extra kcal percentage of this pottage would range from a minimum of 3.5 [(54,302/1,550,000) x 100] to a maximum of 6.4 [(81,454/1,280,000) x 100] per cent. For those at one quarter per 16 weeks, receiving annual liveries comprising, after 58 per cent extraction, 1.17m kcals (rye) and 0.90m kcals (barley/oats), the improvement would range from 4.6 to 9.1%.

[134] At Hampstead, Middx, in 1289–90, there appears to have been such feasts at Christmas, Easter, and Michaelmas (WAM 32405, m. 1r), while at Oakham, Rutland, in 1299–1300 the feasts were at Easter and All Saints (WAM 20228, m. 2r). These references are to be found in the 'Small Expenses' (*Minutae Expensae*) part of the accounts, as are the references to various feasts below.

[135] WAM 27504, m. 2r.

suggests that usually only a single day's feasting was involved. In terms of total sustenance over a year, these celebratory feasts probably represented only a few days' nutrition, even if the *famuli* gorged themselves and took away food for future consumption. They might also, however, have been enhanced by food provided for harvest and other customary 'boons' that *famuli*/*famulae* attended.

Where the information about holiday feasts is sometimes particularly useful, however, is in revealing more fully the working groups that comprised the *famuli*, often involving otherwise unrecorded members. Thus, in our sample, in a 1298–99 account for the Abbey's manor at Aldenham, Hertfordshire, those attending the Christmas and Easter feasts were recorded as 'the reeve, the beadle, one carter, four famuli ploughmen, their helper (*garcio*), one cowherd, his helper, one shepherd, his helper, one smith, his helper, [&] a dairymaid [and] her [female: *ancilla*] helper'.[136] None of the 'helpers' in this passage seemingly appeared elsewhere in the account and suggests broader family involvement among these *famuli* that might impart economies of scale that would help ameliorate difficult economic conditions.[137]

Our sources never clearly indicate whether members of the *famuli* received housing benefits as part of their remuneration. Some seem to have lived nearby, often on a smallholding,[138] although Harvey indicates a substantial proportion may have had lodgings within the *curia*, the manorial range of buildings.[139] It might be, too, that *famuli* could have benefits from, in effect, leasing or loaning the livestock and equipment held in the *curia*,[140] as Harvey has argued for Cuxham, Oxfordshire.[141]

In short, the value of *famulus* employment should not be judged solely on the grain and cash payments that they received. Even if, *c*.1300, individual employment as a *famulus* or *famula* might be short-term, as Richard Britnell has suggested for the later fourteenth century,[142] *famulus* positions, particularly at the first-tier level, seem to have been very solid and attractive jobs that lords' officials could easily fill when vacancies arose. The attractiveness of such

[136] *In expensis prepositi Bedelli j carectarii iiij famulorum carucarorum garcionis eorundem j vaccarii garcionis sui j bercarii garcionis sui j fabri garcionis sui daye ancillae suae diebus Nativi domini & Paschae iijs. iiijd.* [this amount was written over *iiijs.* crossed out]. *In oblationibus eorundem xd.*: WAM 26046, m. 1d. For an equally detailed example for Launton, Oxon., in 1289–90, see Bailey *et al.,* 'Coming of age', p. 51.

[137] For an indication of how this might work see the case of a *famulus* miller running the double watermill at Feering, Essex, where intense family involvement could certainly have altered what appeared from the perspective of a single employee an insupportable, not to mention exploitative, situation: Langdon and Masschaele, 'Commercial activity', pp. 69–70; the case is also discussed in John Langdon, *Mills in the medieval economy: England 1300–1540* (2004), pp. 238–40.

[138] See n. 146 below; also Harvey, *Medieval Oxfordshire village*, pp. 77–8.

[139] Ibid., p. 77. The care with which the buildings were kept might also suggest that at least some of the *famuli* resided there: see the discussion of *mulieres*, *ancillae*, etc., doing housekeeping for the *curia* above.

[140] Livestock holdings were extensive on demesnes, as any perusal of manorial accounts will reveal: e.g., Page (ed.), *Pipe roll of … 1301–2*, esp. pp. 20–1, 24, 28, 32, 37–8, 45, etc. Equipment is often revealed in 'utensils' or 'dead stock' sections at the end of accounts: e.g., ibid., pp. 15, 46, 54, 57, 61, 71, etc.

[141] Harvey, for instance, cites a 1356 case where the *famuli* were allowed to use the demesne ploughs to plough their own lands before they attended to the demesne itself: *Medieval Oxfordshire village*, p. 77. The flexibility of the cowherd's access to the milk of the animals points in the same direction (see the *Husbandry* excerpt above in the section discussing dairymaids).

[142] Where employment at Houghall, Durham, about a century later was normally on six-month contracts: see n. 16 above.

positions would increase even more if second-tier jobs could be filled by other family members, as Dyer suggests.[143] The intensity – or seasonality – of employment might a factor here. If ploughmen really did plough less than 120 sown acres a year, as Appendix A suggests, it might leave much time to attend to other personal business while still enjoying an annual 'salary'. The seasonal interplay between dairymaids and cowherds, with the former seemingly more active in the summer and the latter in the winter (as mentioned in the section about dairymaids in the main text), might suggest the same, although this alternation of slack and busy periods was not something that would necessarily apply across the *famuli* as a whole – shepherds in particular were probably busy with their sheep all year round.

Nevertheless the possibility of creating little 'family businesses' from *famulus* positions was certainly an option, as perhaps most obvious in the case of cowherds who leased demesne herds. We are only at the beginning of working out the mechanics of such 'enterprises', but they can certainly alter our perception of periods that are often characterized as being increasingly wretched for the great majority of people.[144] These accommodations are easiest to perceive with stipendiary *famuli*, where clues as to supplementary income both on an individual and family level can at least be discerned.[145] Indeed, the hardest to explain are the 'service' *famuli*, whose rent reductions of only a few shillings seem very difficult to square with the amount of work they were expected to do on demesnes.[146] If the customary right to hold their land was involved, then their demesne ploughing, say, would be little more than another form of labour service (albeit using demesne livestock and ploughs) with the efficiency issues that involved: see note 6 above. In any case, this conundrum will have to remain a topic of future research and consideration.

[143] Dyer, *Standards of living*, p. 133.

[144] E.g., see Hatcher and Bailey, *Modelling the Middle Ages*, pp. 43–8; a more optimistic, family-oriented view is in Langdon and Masschaele, 'Commercial Activity'.

[145] In a few cases parcels of land held by *famuli* are revealed: Harvey, *Medieval Oxfordshire village*, pp. 77–8; see also the following note.

[146] It may be little wonder that such 'service' personnel would prefer a shift to stipendiary status, as happened to a ploughman at Milton Podmore, Somerset, in 1302–3, who had 2*s*. 6*d*. relief from the rent of a 'ferdell' (a quarter-virgate, likely of around 7–8 acres) during the 30 weeks from St Michael to Hockday, that is, 29 Sept. 1302 to 16 Apr. 1303, in which case the relief was worth 1*d*. per week. From then to the following Michaelmas he was put 'to a livery and stipend', which yielded him 1.8 quarters of wheat and rye (at a rate of one quarter per 12 weeks' work) and a stipend of 2*s*. 4*d*. over these remaining 22 weeks. Pricing an assumed 50-50 split of the wheat and rye using Farmer's data for the early fourteenth century (Farmer, 'Prices and wages', p. 733) and adding the result to the 2*s*. 4*d*. cash payment, gives a rate of 6*d*. per week, in this case an apparent and very impressive six-fold advantage for the stipendiary over the service option: GAD 11246, m. 21r–21d. In this case it might be possible that the 'ploughman' surrendered his holding *in toto* for his stipendiary *famulus* position.

Appendix C

PART 1: Total and regional percentages of *famuli* in various livery rate groupings

Livery Rate (Weeks/ quarter)	*All* famuli		*North*		*Thames Basin*		*South and South West*		*Midlands*		*East Anglia*	
	%	n	%	n	%	n	%	n	%	n	%	n
5–7	3.3	125	0.9	3	9.5	121	0.1	1	–	–	–	–
8–9	14.2	531	0.6	2	25.9	329	18.1	149	4.3	31	3.3	20
10–11	21.6	811	9.5	31	25.1	319	23.1	190	11.6	84	30.7	187
12–13	43.1	1616	58.8	191	19.7	250	42.6	350	69.2	500	53.4	325
14–15	3.1	117	10.2	33	3.0	38	1.6	13	2.1	15	3.0	18
16–17	10.8	406	12.6	41	14.2	180	11.3	93	6.6	48	7.2	44
18–19	0.5	20	0.3	1	0.6	8	0.7	6	0.6	4	0.2	1
20–21	0.5	19	0.3	1	0.4	5	0.4	3	1.0	7	0.5	3
22–23	0.2	9	0.6	2	0.1	1	0.4	3	0.3	2	0.2	1
24–31	1.7	62	4.6	15	0.8	10	0.7	6	3.3	24	1.1	7
32+	0.9	32	1.5	5	0.6	8	1.0	8	1.1	8	0.5	3
Total	99.9	3748	99.9	325	99.9	1269	100.0	822	100.1	723	100.1	609

Source: Authors' manorial accounts database for 1289–90 to 1310–11. Counties for each region as are as specified in the note for Table 1.

PART 2: Percentages of various types of *famuli* in various livery rate groupings (in order as discussed in text)

Livery Rate (Weeks/Quarter)	*Ploughmen*		*Carters*		*Shepherds* (Bercarii *only)*		*Cowmen* (Vaccarii)		*Dairymaids* (Dayae/Daiae)	
	%	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*
5–7	5.3	76	4.0	17	1.2	4	3.0	4	0.5	1
8–9	15.5	220	18.7	80	12.7	44	11.3	15	3.6	7
10–11	23.5	334	25.1	107	28.6	99	18.0	24	19.3	37
12–13	52.4	746	47.3	202	48.0	166	41.4	55	40.6	78
14–15	2.2	31	1.4	6	4.3	15	9.0	12	9.4	18
16–17	0.8	12	2.6	11	4.9	17	15.0	20	19.8	38
18–19	0.1	1	0.5	2	–	–	–	–	0.5	1
20–21	–	–	–	–	–	–	–	–	1.6	3
22–23	0.1	1	–	–	–	–	–	–	1.0	2
24–31	0.1	2	0.2	1	0.3	1	2.3	3	1.6	3
32+	–	–	0.2	1	–	–	–	–	2.1	4
Total	100.1	1423	100.0	427	100.0	346	100.0	133	100.0	192

PART 2: *continued*

Livery Rate (Weeks/Quarter)	*Women* (Ancillae, Mulieres *etc)*		*Pages* (Pagetti)		*Garciones*		*Harrowers*		*All Sheep Carers (including* Bercarii*)*	
	%	n	%	n	%	n	%	n	%	n
5–7	–	–	–	–	–	–	4.9	3	0.9	4
8–9	–	–	–	–	1.3	2	3.3	2	10.8	50
10–11	–	–	4.8	1	2.0	3	4.9	3	26.7	124
12–13	10.9	5	–	–	5.9	9	16.4	10	40.1	186
14–15	2.2	1	–	–	5.2	8	4.9	3	3.4	16
16–17	43.5	20	42.9	9	60.8	93	57.4	35	15.3	71
18–19	–	–	–	–	5.2	8	6.6	4	0.2	1
20–21	6.5	3	–	–	2.0	3	1.6	1	0.2	1
22–23	2.2	1	–	–	1.3	2	–	–	0.2	1
24–31	10.9	5	47.6	10	13.1	20	–	–	2.2	10
32+	23.9	11	4.8	1	3.3	5	–	–	–	–
Total	100.1	46	100.1	21	100.1	153	100.0	61	100.0	464

Livery Rate (Weeks/Quarter)	*Swineherds and 'Keepers' of Pigs*		*Messores*		*Gardeners*		*'Furrow Spreaders'*	
	%	n	%	n	%	n	%	n
5–7	0.8	1	–	–	–	–	–	–
8–9	7.2	9	19.5	15	13.3	4	–	–
10–11	6.4	8	10.4	8	20.0	6	–	–
12–13	19.2	24	53.2	41	36.7	11	–	–
14–15	5.6	7	3.9	3	6.7	2	–	–
16–17	42.4	53	9.1	7	23.3	7	92.3	12
18–19	0.8	1	–	–	–	–	–	–
20–21	4.0	5	1.3	1	–	–	–	–
22–23	0.8	1	1.3	1	–	–	–	–
24–31	8.0	10	–	–	–	–	–	–
32+	4.8	6	1.3	1	–	–	7.7	1
Total	100.0	125	100.0	77	100.0	30	100.0	13

Source: Authors' manorial accounts database for 1289–90 to 1310–11.

Draining the coastal marshes of north-west Norfolk: the contribution of the Le Stranges at Hunstanton, 1605 to 1724*

by Elizabeth Griffiths

Abstract

Wetland reclamation in early modern England is generally associated with the Fens and the large drainage projects initiated by James I in the 1620s. In these schemes, syndicates of landowners ventured their capital in risky projects in return for grants of land. Vast fortunes were made and huge losses incurred while local inhabitants struggled to protect their rights. These 'adventures' have dominated the drainage literature since H. C. Darby's pioneering work on the Fenland in the 1940s, but little attention has been paid to the piecemeal reclamation of the coastal marshes of north and north-west Norfolk undertaken mostly by the local gentry throughout this period. Using the memoranda and farming notebooks kept by four generations of the Le Strange family of Hunstanton from 1605 to 1724, this article casts light on their drainage projects and assesses what distinguishes them from the more spectacular and familiar schemes elsewhere.

This article is about the reclamation of the coastal marshes in north and north-west Norfolk in the early modern period, an area almost entirely neglected by historians writing on drainage.[1] To be fair their oversight is understandable. Compared to what happened on the Fens, the Norfolk Broads and the Halvergate Marshes, the drainage undertaken on this coastline was small in scale and of no great complexity; nevertheless, capital still had to be raised, risks assessed and the work organized, which sometimes even merited the specialist services of a Dutchman.[2] And this was only the start. Once completed, sea walls had to be maintained, drains scoured, new cuts made and farmsteads built. In contrast to the Fens, these piecemeal ventures are not associated with armed struggle and social dislocation, but rights and titles still had to be defined and disputes settled, not only between commoners and landowners, but

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[1] For discussions of drainage elsewhere, see the classic works of H. C. Darby, *The Medieval Fenland* (1940) and *The draining of the Fens* (1956); for more recent work, T. Williamson, *The Norfolk Broads: a landscape history* (1997); H. Cook and T. Williamson (eds), *Water management in the English landscape: field, marsh and fen* (1999); A. Reeves and T. Williamson, 'Marshes', in J. Thirsk, *The English rural landscape* (2000). Piet van Cruyningen has recently published a valuable overview of drainage in England, France and the Netherlands: 'Dealing with drainage: state regulation of drainage projects in the Dutch Republic, France and England during the sixteenth and seventeenth centuries', *EcHR* 68 (2015), pp. 420–40.

[2] Jan van Hasdonck for whom see below, pp. 229, 232, 236–7.

landowners of different size and status. Resolving their differences and managing this fragile landscape was the everyday burden of the coastal villages bordering the marshes from Kings Lynn to Hunstanton and across the north Norfolk coast to Weybourne; this was true of all rural societies situated along the North Sea coast, as Piet van Cruyningen and Tim Soens have described, but we seem to have lost sight of their plight in our focus on the Fens.[3] Part of the interest in the north Norfolk coast lies in the fact that it is now one of the most heavily protected coastal sites in Europe, renowned for its birds, flora and coastal formations, with villages sustained by agriculture and fishing, and more particularly today by environmental tourism.[4] These sustainable outcomes indicate a long-term awareness of the requirements of managing a vulnerable landscape that includes not only the marshes, which are at the mercy of the sea, but the light sandy uplands rising up behind the villages, which are susceptible to overgrazing and erosion. These local communities seem to have got it more or less right and for that reason alone it is worth exploring how they went about it.

I

As landlords, the Le Stranges of Hunstanton were very much part of this landscape. They were not new men with big money but an ancient gentry family who had lived at Hunstanton Hall on the coast of north-west Norfolk since the twelfth century. Their huge archive shows that from the earliest times they were embedded in the culture and geography of the area and wholly committed to the locality.[5] This distinguishes them fundamentally from their compatriots speculating in the Fens – and indeed Romney Marsh – who were noted for their absentee landlordism.[6] In 1604 when Sir Hamon Le Strange inherited his estate, he abandoned a promising career at court to tackle the accumulated problems that faced him at home. After half a century of lenient management by his forebears, the family was in financial difficulties, having to pay off debts incurred by the trustees, complete the hall and rebuild decayed farmhouses 'out of the ground', as his wife, Alice noted.[7] Within a generation they had reversed

[3] Bas van Bavel and Erik Thoen (eds), *Rural societies and environments at risk: ecology, property rights and social organisation in fragile areas (middle ages–twentieth century* (2013), pp. 15–45; see also, in the same volume, T. Soens, 'The social distribution of land and flood risk along the North Sea coast: Flanders, Holland and Romney Marsh compared, c.1200–1700', pp. 147–180, and P. van Cruyningen, 'State, property rights and sustainability of drained areas along the North Sea coast, sixteenth-eighteenth centuries', pp. 181–208.

[4] J. A. Steers, 'Scolt Head Island' *Geographical J.* 83 (1934), pp. 479–94; 'Some notes on the north Norfolk Coast from Hunstanton to Brancaster', *Geographical J.* 87 (1936), pp. 35–46; *The coastline of England and Wales* (1946).

[5] The Le Strange archive (LEST) is held at the Norfolk Records Office. For a genealogy of the family, Burke's *Landed gentry* (18th edn, 1972), which supersedes F. Blomefield and C. Parkin, *An essay towards a topographical history of the county of Norfolk* (sec. edn, 11 vols, 1805–10), X, pp. 313–27. See also J. C. Whittle and E. M. Griffiths, *Consumption and gender in the early seventeenth-century household: the world of Alice Le Strange* (2012), pp. 18–20.

[6] Romney Marsh was also noted for its absentee landowners who leased their marshes to graziers; by the mid-seventeeth century only 16% of the marshes were owner-occupied, Soens, 'Social distribution of land', pp. 158–9.

[7] The trustees, all closely related to Sir Hamon, included Sir John Peyton (1554–1630) the Elizabethan soldier and administrator; Sir Henry Hobart (1560–1625) of Intwood, later of Blickling, who rose to be Lord Chief Justice of the Court of Common Pleas; Sir Henry Spelman of Congham, the antiquarian and bibliophile and the family lawyer, Richard Stubbe of Sedgeford,

their fortunes. In 1616 Sir Hamon estimated his revenue at £1247, which included rents from Hunstanton and Holme by the Sea, Great and Little Ringstead, Heacham and Gressenhall.[8] In 1620 Alice inherited an estate at nearby Sedgeford from her father, Richard Stubbe, raising their rental income to £1700 a year. From that date, with sales of sheep, wool and corn, receipts rose rapidly to £2000 a year, rising to a peak of £2640 in 1641, before their heavy losses of corn and sheep in the Civil War at the hands of the Parliamentary forces.[9] Draining marshes was part of their strategy to improve the estate and raise their revenues; it was undertaken principally by their eldest son, Sir Nicholas (1604–55) soon after his marriage in 1631.[10] By the early 1640s they were selling significant quantities of marsh barley and wheat, principally from Heacham, which greatly assisted their recovery after their losses in 1643.[11]

As a record of his work, Sir Nicholas left several pocket-sized notebooks of extraordinary detail and quality. In his knowledge and approach, he owed much to his parents, combining his father's interest in science, mathematics and engineering with his mother's aptitude for accounting.[12] These notebooks, four of which survive, provide a record of the drainage process, from the layout and construction of drains to the establishment of new farmsteads, with the costs and profits involved.[13] Most significantly, Sir Nicholas designed them as manuals of instruction and advice for his successors, following the example of his parents. We know this strategy worked, as his grandson, another Sir Nicholas (1661–1724) maintained the drains and introduced new initiatives, noting his progress in one of Sir Hamon's old memoranda books, which he updated by adding indices, tables, a system of cross-referencing and his own commentary.[14] So, not only do we find out what happened, but we begin to understand why the family avoided catastrophe. With their knowledge of the locality the Le Stranges knew the risks involved and were able to devise appropriate strategies to deal with them. They also understood the risks of adventuring on the Fens. Sir Hamon lost an investment of £500 in the drainage of Boston Fen in the 1630s; this may explain why his son concentrated on the local marshes

Note 7 *continued*
the father of Alice Le Strange. See *Oxford Dictionary of National Biography* for the first three; also, E. M. Griffiths, '"A country life": Sir Hamon Le Strange of Hunstanton in Norfolk, 1583–1654', in R. W. Hoyle (ed.), *Custom, improvement and the landscape in early modern Britain* (2011), pp. 203–34; ead., 'Improving landlords or villains of the piece?', in J. C. Whittle (ed.), *Landlords and tenants in Britain, 1440–1660: Tawney's* Agrarian Problem *revisited* (2013), pp. 166–82.

[8] Griffiths, '"A country life"', p. 210. Little Ringstead, lying south of Hunstanton Park is more commonly known as Barrett Ringstead.

[9] Ibid., pp. 226–34. See also R. W. Ketton-Cremer, 'Sir Hamon Le Strange and his sons', in *A Norfolk Gallery* (1948), pp. 56–94; *Norfolk in the Civil War* (sec. edn, 1985) pp. 20–18. Sir Hamon, his wife Alice and their three sons, Nicholas, Hamon and Roger all merit separate entries in the *Oxford Dictionary of National Biography*.

[10] Sir Nicholas Le Strange, 1604–55, first baronet, married Anne, daughter of Sir Edward Lewkenor (1587–1618) of Denham, Suffolk, www.historyofparliamentonline.org.

[11] Griffiths, '"A country life"', pp. 224–6.

[12] Whittle and Griffiths, *Consumption and gender*, pp. 28–36; Griffiths, '"A country life"', pp. 203–5; E. M. Griffiths (ed.), *Her price is above pearls: Farming and farming records of Alice Le Strange, 1617–56* (Norfolk Record Soc., 79, 2015).

[13] LEST/KA6; KA9; KA10 and KA24 survive, four others, LEST/KA4, KA5, KA7 and KA8 are listed in the catalogue, but were not deposited. They almost certainly relate to the drainage at Heacham summarized in LEST/KA24, where entries refer to 'Heacham Marsh 4th booke'. A simple paper book, relating to costs and profits, has recently been found in a supplementary list, LEST/suppl. 25ii/xvi.

[14] Sir Nicholas Le Strange, 4th Bt., 1661–1724. Sir Hamon's memoranda books, LEST/Q34; Q36, Q37 and Q38, include a vast range of information appertaining to the family and estate.

which he knew and where he exercised more control.[15] The creation of the notebooks, a prime example of information management, was a vital part of Sir Nicholas's risk management strategy for him and for future generations. Not for them the debacle of Hatfield Chase, South Yorkshire in 1626, studied by Piet van Cruyingen, or the reverses experienced in the Fens in the late seventeenth century and beyond.[16]

In the final notebook, Sir Nicholas provides a summary of the drainage work undertaken, with 50 pages of his 'observations'; a reference to 'Heacham Marsh 4th booke', suggests that there are in addition four missing notebooks relating to Heacham. Overall, it appears that 245 acres of marshes at Heacham, Hunstanton and Holme by the Sea were drained between 1633 and 1653 with the marshes at Heacham accounting for 177 acres.[17] However, as responsibility for this enterprise was shared with his father, and Alice included his payments in her books of disbursements, we have a good idea of the scale and the problems associated with this venture. She also recorded the receipts for corn in her household books. The earliest notebook dates from 1633–42 and covers the drainage of marshes at Hunstanton and Holme: this amounted to only 67¾ acres, but the notebook includes the most minute detail of the processes involved, showing Sir Nicholas's grasp of the technicalities, organization of the workforce and management of the finances.[18] The second book follows on from 1643 to 1653, covering the next phase of ploughing and sowing the newly drained marshes.[19] Another book deals almost exclusively with building work on the marshes and elsewhere on the estate, creating new farmsteads and housing for tenants and specialist labourers.[20]

The marshes in question lie in two distinct areas and can be seen most clearly on William Faden's map of Norfolk of 1797 (Map 1).[21] Those at Heacham belong to the marshes bordering the Wash, technically an extension of the silt Fens, which stretch from Kings Lynn to the chalk outcrop at Hunstanton. These marshes are not so exposed to storms and tidal surges and provide more opportunity for sustainable drainage projects. Faden's map shows an 'embankment' starting tentatively at Heacham and then running firmly southwards through the large estates at Snettisham, Sandringham, and Castle Rising to 'Lynn Regis'; this embankment still survives, but lies well inland as marshes have continued to be reclaimed from the Wash. Today, this area supports an intensive agriculture growing vast crops of corn and sugar beet, a stark contrast to the gentle livestock grazing along the north Norfolk coast. From Hunstanton, the marshes occupy a different formation, as the tides erode the chalk and carstone outcrop of Hunstanton cliffs and carry the debris eastwards to Weybourne depositing it along the coast and creating sand dunes, lagoons, islands and spits.[22] At the same time, tidal activity westwards brings more deposits from the eastern cliffs at Sheringham adding to the silting-up of the river estuaries

[15] This 'loss' appears under 'The losses in my husbands estate' at the end of Alice's summary of the family finances, 1633 to 1653, LEST/P10. However, in 1636 she records expenditure at Boston Fen, which is remarkably close to £500; it is possible that the 'loss' is not quite what it seems, see below, p. 239.

[16] Cruyningen, 'State, property rights and sustainability of drained areas along the North Sea coast', pp. 192–202.

[17] LEST/KA24.

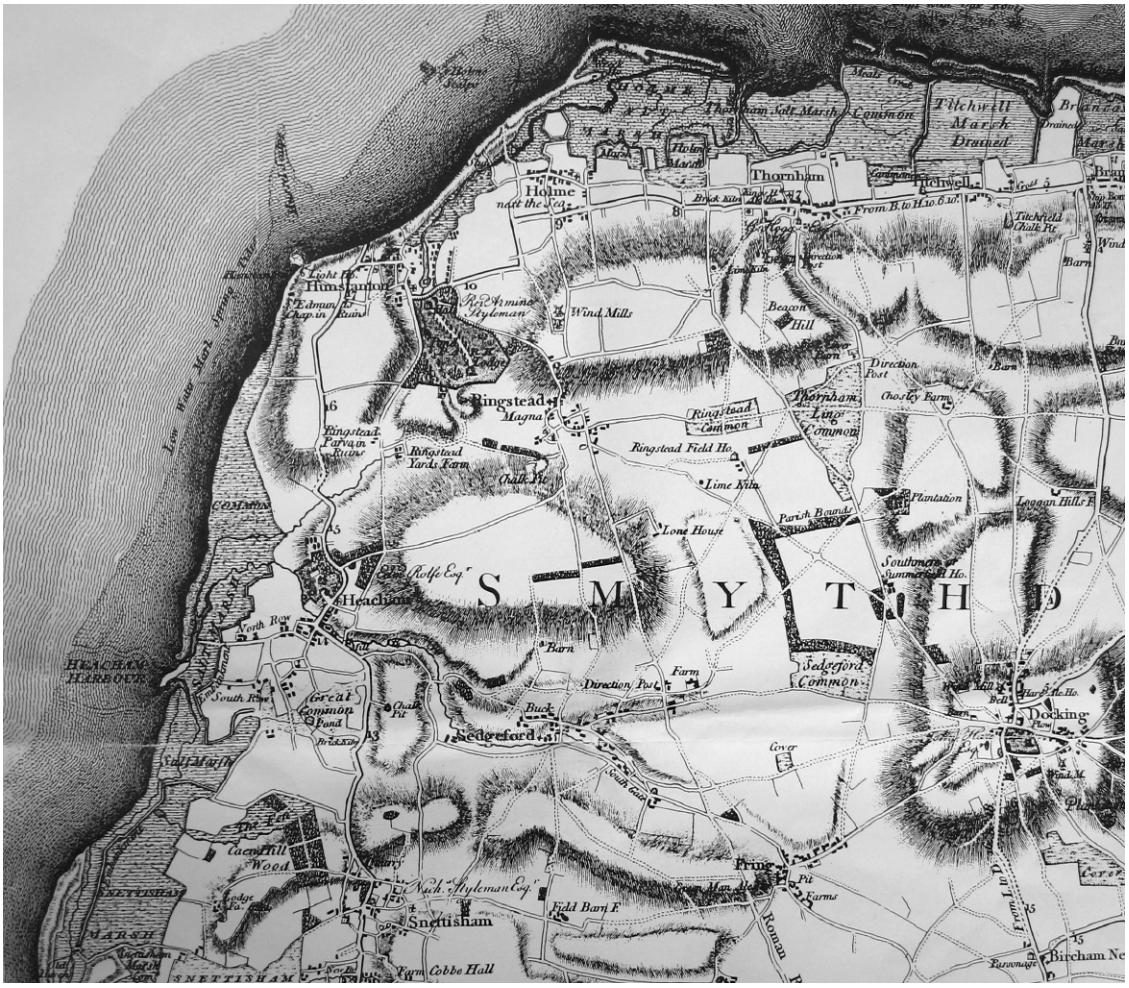
[18] LEST/KA6.

[19] LEST/KA9.

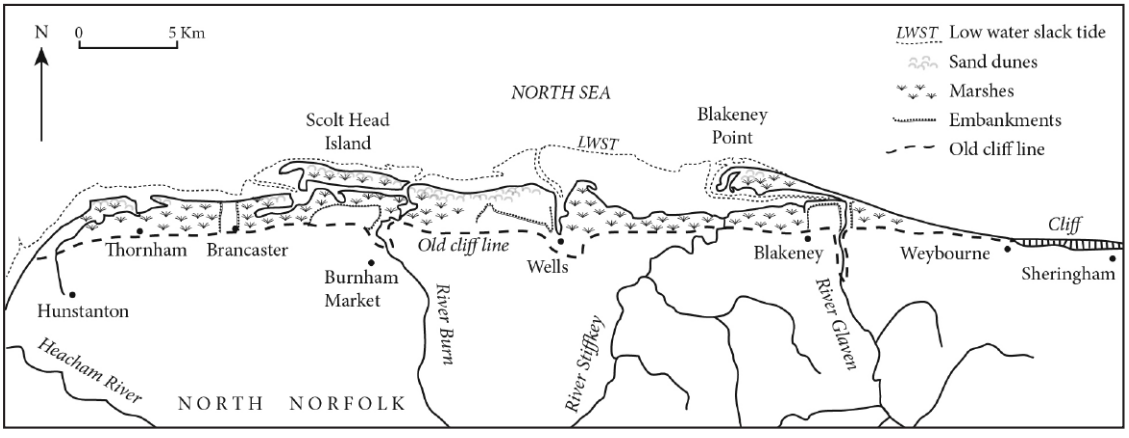
[20] LEST/KA10.

[21] A. Macnair and T. Williamson, *William Faden and Norfolk's eighteenth-century landscape* (2010). Although the maps dates from 1797, the authors note much of the detail on commons, marsh and fen relates to what existed in the sixteenth and seventeenth centuries.

[22] Steers, 'Scolt Head Island'; 'Notes from Hunstanton to Brancaster'; www.jncc.defra.gov.uk.



MAP 1: William Faden's Map of Norfolk, 1797, from Snettisham to Brancaster.



MAP 2: North Norfolk Coast showing the old cliff line from Hunstanton to Weybourne (V. J. May, 'North Norfolk Coast', from the *Geological Conservation Rev.*, www.jncc.defra.gov.uk).

and the creation of the extensive beaches and marshland at Salthouse, Cley, Blakeney and Holkham. Map 2 identifies the old cliffline, where the villages are situated, with its foreshore of accumulated marshland and sandy beaches. Faden's map also shows the light sandy uplands of Great Ringstead rising from the marshes at Holme with patches of common land and ling (heathland) clearly marked; these parishes lie near Thornham and Brancaster, studied by Angus Winchester and Eleanor Straughton in their work on lowland commons.[23] The whole landscape was part of a complex farming system, with regulated grazing rights on the common marshes and upland brecks, existing on either side of open-field arable, enclosed pasture and marshes.[24]

In his work on wool supply and the worsted cloth industry in sixteenth- and seventeenth-century Norfolk, Keith Allison explained how these marshes were developed to meet the rising demand for wool and corn. Landowners like the Howards of Castle Rising, the Cobbes of Sandringham, the Cokes of Holkham, the Bacons of Stiffkey, as well as the Le Stranges of Hunstanton drained and improved their marshes in order to raise the quality and quantity of their summer grazing.[25] In this area, marshes formed an integral part of the foldcourse system, the foundation of sheep-corn husbandry in Norfolk: this involved sheep and cattle being folded in the winter on the upland arable fields, where they fertilized the light sandy soils, preparing the ground for sowing. In the spring, when the crops were planted, the sheep had to be moved to summer grazing; brecks, commons and heathland normally provided succour, but marshes, especially when they had been drained, were vastly superior. The presence of these marshes meant that landowners could increase their stocking regimes and bring more light land into cultivation. Allison's map of Holkham from 1590 shows two foldcourses which included large areas of salt marsh; this was a common feature in all the villages along the north Norfolk coast.[26] An earlier map of 1586, from the Bacon archive, of the coast at Stiffkey and Blakeney, illustrates this formation more graphically with the villages along the old cliffline, the arable uplands behind, and the fresh and salt marshes towards the sea (Map 3).[27] Sir Nicholas Bacon, the Lord Keeper, had purchased an estate in Stiffkey in 1571. Soon after, his son Nathaniel was constructing a sea wall and reporting to his father on its success; he also commented on the rising price of corn, especially wheat.[28] Later, in 1572, he told him of his plans to build a port at Stiffkey which was deeper and safer than Blakeney or Cley, and set out his specifications for a granary.[29] This economic activity gained momentum as prices rose from the 1580s; by the 1630s, as we have seen at Heacham, corn was being grown on the drained marshes. However, landowners did not get it all their own way. These commercially driven initiatives by gentry

[23] C. P. Rodgers, E. A. Straughton, A. J. L. Winchester and M. Pieraccini, *Contested common land: environmental governance past and present* (2011), pp. 163–88.

[24] Brecks were the outfields in the 'infield-outfield system', cultivated intermittently, while the fertile infields were in permanent cultivation. H. C. Darby and J. Saltmarsh, 'The infield-outfield system of a Norfolk manor', *EcHR* 3 (1935), pp. 30–44. The aim of improving landlords was to draw these outfields into permanent cultivation.

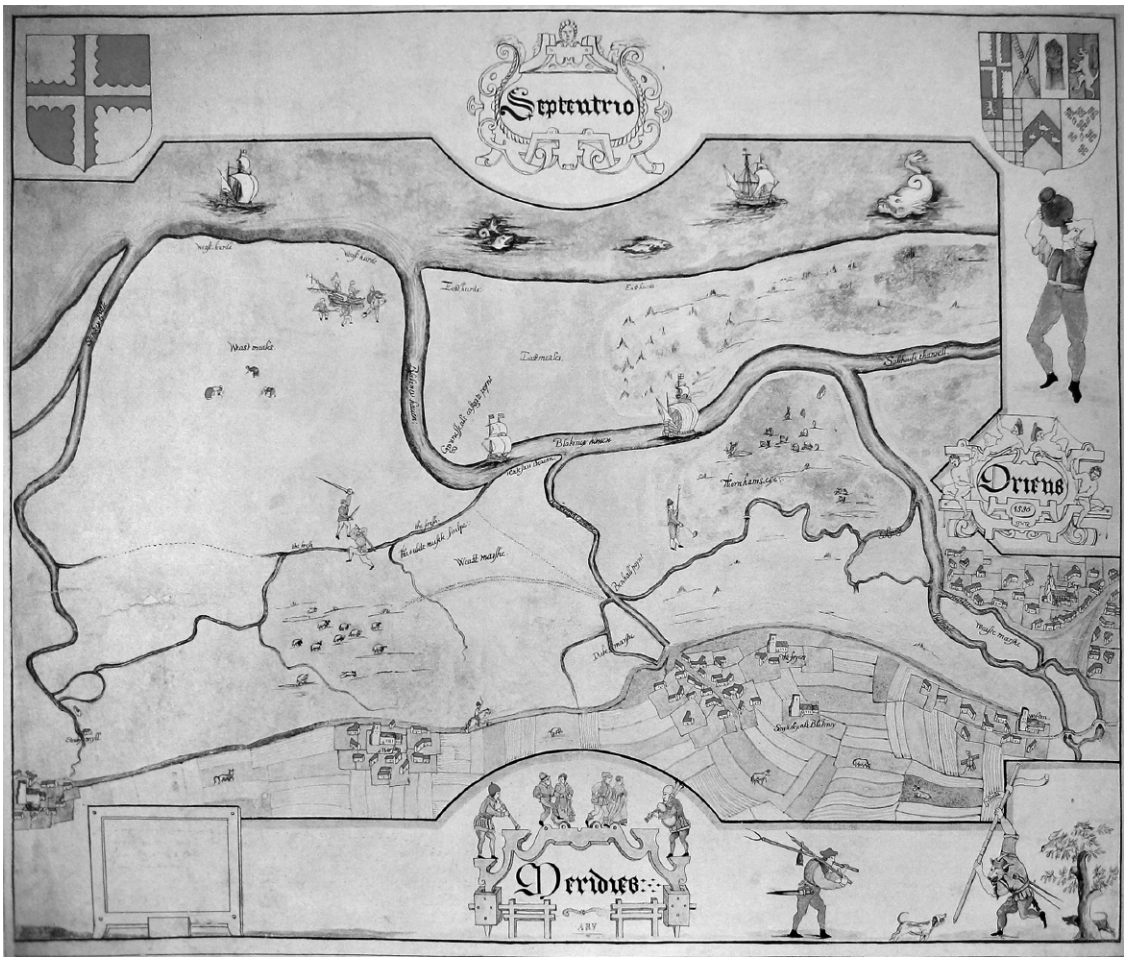
[25] K. J. Allison, 'The wool supply and worsted cloth industry in Norfolk in the sixteenth and seventeenth centuries' (unpubl. PhD thesis, University of Leeds, 1955); id., 'The sheep corn husbandry of Norfolk in the sixteenth and seventeenth centuries', *AgHR* 5 (1957), pp. 12–30.

[26] Ibid., p. 17.

[27] The map appears on the cover of V. Morgan, E. Rutledge and B. Taylor (eds), *The Papers of Nathaniel Bacon of Stiffkey*, V, *1603–1607* (Norfolk Record Soc. 74, 2010).

[28] A. Hassell Smith, G. M. Baker and R. W. Kenny (eds), *The papers of Nathaniel Bacon of Stiffkey*, I, *1556–1577* (Norfolk Record Soc. 46, 1978–9), p. 32.

[29] Ibid., pp. 41, 43.



MAP 3: Blakeney Haven and the Port of Cley showing the marshes and villages at Stiffkey, Morston, Blakeney, Wiveton and Cley. A nineteenth century facsimile of a 1586 original, thought to have been surveyed by John Darby, NRO, MC 2443/3.

landowners were often firmly resisted by villagers determined to protect their own rights and interests; if they were to survive as functioning communities they needed to find a way of reconciling their differences.

II

One of the controversies generated by this heightened activity was cited by R. H. Tawney.[30] He was particularly interested in the corporate action taken by the yeomen, commoners and freeholders of the town of Burnham Overy against Robert Bacon[31] and Thomas Coke when

[30] R. H. Tawney, *The agrarian problem in the sixteenth century* (1912), p. 245, n. 1.

[31] Robert Bacon was the son of the Lord Keeper's brother Thomas, and first cousin of Nathaniel.

they purchased marshes there in 1588. In return for Bacon and Coke walling, embanking and draining the marsh and making it suitable for pasture and tillage, the commoners agreed to sacrifice their grazing rights over three parts of the whole. In other words, they were prepared to surrender (property) rights for a *quid pro quo*. Tawney was impressed by their willingness to act as a single body:

> [T]hey buy land and they sell land and they can leave it to their heirs. Certain persons in the township act on their behalf, much as directors might act for a body of shareholders. Is it possible to speak of such arrangements simply in terms of individual rights? Are we not driven to think of the township as almost a landholding corporation?

Here Tawney gets to the heart of the issue: the distribution of property rights, the negotiated settlements and the common interests of these local communities. Disputes were frequent and hard-fought, but ultimately all parties had to resolve their differences. In the Fens, adventurers could rely on the protection of the Crown, but these coastal communities, more reliant on their own resources, needed to collaborate, form a 'good neighbourhood' and create a system of 'sustainable governance' as Winchester explained in his work on Thornham and Brancaster.[32] For resident landowners, anxious to secure the future of the family, it was essential to find sustainable as well as profitable outcomes. They needed to work with their communities to find a way forward, but at the same time they had to protect their property rights.

Tawney's example is significant as the Bacons and Cokes were relatively new to this part of Norfolk and possibly less familiar with the culture. In contrast, the Le Stranges, resident at the principal manor at Hunstanton since 1310, had long enjoyed a settled relationship with their tenantry. In the late fifteenth century, they acquired two further manors, Mustrells and Lovells, leaving just the tiny manor of Snettertons which they had absorbed by the time Sir Hamon inherited his estate.[33] Thus the family enjoyed unity of possession alongside their longevity and understanding of the area and its ways. From their records, it is evident that Sir Hamon and Alice worked closely and seemingly in harmony with their manorial tenants at Hunstanton.[34] However, elsewhere on their estates, where relationships were not so deep, they often found themselves fending off challenges and defending their rights.

The Le Strange archive is full of legal cases fought in defence of their property rights, particularly those relating to the marshes.[35] From a collection of legal papers on 'foldcourses

[32] A. J. L. Winchester, 'Property rights, "good neighbourhood" and sustainability: the management of common land in England and Wales, 1235–1965', in van Bavel and Thoen (eds), *Rural societies*, pp. 309–29.

[33] C. Oestmann, *Lordship and community: the Lestrange family and the village of Hunstanton, Norfolk in the first half of the sixteenth century* (1994), pp. 29–30. Sir Hamon's field book of 1623, Norfolk Record Office, LEST/BH1, makes no reference to Snettertons, although there is a later insertion in the margin; Alice's field book of 1648, NRO, LEST/BH2, refers to these holdings 'as formerly Snittertons'.

[34] Griffiths, 'Improving landlords', pp. 174–81.

[35] Complex rights extended over the foreshore and the sea, which the Le Stranges have fiercely defended over the centuries. The most recent example is a successful case brought by John Loose, the tenant of the fishing rights owned by the Hunstanton Estate, against Kings Lynn Shellfish, a group of cockle fishermen, for infringing those rights. See [2013] EWHC 901 (Ch) for the judge's ruling and a history of the legal cases relating to the Fishery. However, their research did not extend to Sir Hamon's memoranda books, which include much information on the management of the shore and sea, LEST/Q37.

and marshes of Holme by the Sea', a lease, cited in a case between various inhabitants of Holme in 1635, shows how these grazing regimes worked and the ever-present potential for dispute.[36] The lease, for 21 years, included a foldcourse for 480 sheep in the marshes, commons and shack of Holme.[37] The lessee, John Bass, brought a case against the tenants and farmers of William Taylor, lord of the manor of Holkham and Berrys, claiming they were 'so surcharging the common salt marsh' that he had 'no benefit from it'.[38] The principal farmer, William Holly, disputed his claim to any such foldcourse and asserted the rights of the inhabitants who 'beyond memory had liberty of fouldcourse in all the Common Saltmarshes of Holme'.[39] The Common Marshes in Holme amounted to 408 acres.[40]

This case was simply the latest installment of a long-running dispute over these grazing rights dating back to 1558, when an award specified the rights of William Aslack, then lord of Holkham and Berrys, and the inhabitants of the town.[41] In 1594, his descendant, Aslack Lany let the estate to Giles Godfrey; a copy of the lease restates the contents of the award.[42] In 1607, the new lessee, Sir Nathaniel Bacon, armed with a similar lease, brought a case against the above-mentioned William Holly, whom he similarly charged 'to have entered and fed with sheep upon Georges Marsh, North Holmes and West Marsh'.[43] The jury found for Holly 'as the marshes and meeles north of the said 3 parcels were comon and so fed by the inhabitants'. At about the same time, Sir Hamon Le Strange brought a case against Aslack Lany himself, challenging the rights he claimed in the lease to Nathaniel Bacon.[44] These rights, he asserted, were due to the Manor of Ringstead cum Holme, in the possession of his father, Sir Nicholas Le Strange (1562–92) on his death in 1592; this was proved by the fact that 'all offences of marshes and meeles (in Holme) have been punishable in the Courts of the said Manor'.[45] Lany, he claimed, had contrived to secure the freehold and inheritance of these marshes during Sir Hamon's minority. The court found in favour of Sir Hamon, confirming his position as lord of the Manor of Ringstead cum Holme and his rights to the soil of the marshes and meeles of Holme.[46]

[36] LEST/FQ1. The Norfolk RO catalogue lists 21 separate documents and bundles in this box relating to disputes over the marshes and foldcourses at Holme but some appear to be missing.

[37] '4C' means a 'long hundred', i.e. 120 sheep. 'Shack', in this context, means the right of pasturage by the lord's sheep over the tenants' fields during the winter months; more generally, it meant the tenants' right of winter pasturage over the common fields, see D. Yaxley, *A researcher's glossary of words found in historical documents in East Anglia* (2003).

[38] LEST/FQ1. Surcharging means overstocking the marsh.

[39] LEST/FQ1. The resolution of this case is not entirely clear, but it appears that the lessee, John Bass, exchanged his holding in Snettisham with Robert Riches, one of Taylor's farmers, for lands in Holme, with the stipulation that if William Taylor 'did not agree in time', the lessee would 'sowe the Holme lands to halfes with Riches'.

[40] LEST/FQ1.

[41] Blomefield and Parkin, *Norfolk* X, pp. 328–30.

[42] LEST/FQ2. Lany sold the manor of Holkham and Berrys to William Taylor in 1614, LEST/FQ4, document listed in the Record Office catalogue, which cannot be found.

[43] LEST/FQ1. In 1606, Martin Spinke was paid £1 'for the small survey plot of the marshes and commons at Holme', LEST/P6. Sir Nicholas (1661–1724) later noted in LEST/Q37, that Holme had been surveyed in 1605, but the map has not survived. However, excellent Field Maps of Ringstead and Holme survive for *c.*1680, LEST/EH8. See also, below, p. 232, n. 65, for Hasdonck's plot of Holme Marshes.

[44] LEST/FQ3.

[45] Listed under 'Searches and proofs of antient court rolls that Sir Hamon Le Strange is lord and owner of the comons in Holme and of the wrecks of the sea and groundage there' in LEST/Q37. 'Meeles' are sand dunes.

[46] LEST/FQ3.

A summary of this verdict was carefully copied down in a memoranda book by Sir Nicholas (d. 1724), Sir Hamon's great grandson, alongside other items, which he noted could be understood and rectified according to the law.[47]

The survival of these legal documents and the later notes made by Sir Nicholas Le Strange (d. 1724) indicate a central plank of the Le Stranges' management policy: the assiduous research of their ancient documents to clarify their rights and titles to their property, and the meticulous keeping of accounts and records. Deeds, charters, depositions and judgements with annotations and notes, fill the pages of Sir Hamon's memoranda books. With this knowledge, he and his successors were able to beat off several challenges. For example, in 1698 Sir Nicholas was able to refute the claim of Thomas Rogers, who had recently purchased William Taylor's estate at Holme, for the right of warren upon the meeles, 'I showed [him] the decree in the Court of Wards and Depositions in that suit w[hi]ch are recited in the foregoing lease, upon w[hi]ch he ceased further prosecution thereof'.[48] Sir Hamon's painstaking approach owed much to the advice he received from his uncle and guardian, Sir Henry Spelman, the antiquarian and jurist, who lived at Holme from 1594 and specialized in the documentation of ecclesiastical estates.[49] The memoranda books include several references to documents borrowed from Spelman indicating that he was closely involved with the researches into the Manor of Ringstead cum Holme, formerly part of the estates of the Abbey of Ramsey.[50] Sir Hamon's acquistion of the manor of Heacham Lewes in 1609 further tested their skills; the disputes in Heacham also centred on the marshes.

Heacham was particularly prone to disputes over property rights. With its extensive marshes and upland sheep courses, and access to the sea through Heacham Harbour, it was a highly desirable asset for a landowner looking to expand, but fraught with the possibility of a legal challenge. The Le Stranges first acquired a foothold in Heacham in 1520, when Sir Thomas Le Strange (1490–1545) purchased the smaller manor of Calys Hall, the lands of which lay mainly south of the river Heacham. The great manor of Lewes Priory, centred north of the river, was granted to the Duke of Norfolk at the dissolution; it was then leased to various local landowners, including the Le Stranges and finally sold to them by the Earl of Arundel in 1609.[51] This gave Sir Hamon the opportunity to consolidate his holding and effect radical improvements. However, by this time, benefiting from the absenteeism of the church and the Howard family, the tenantry had learnt to assert itself, vigorously challenging the status of their holdings and their grazing rights over the marshes. Sir Nicholas's (d. 1724) notes in the memoranda book include references to early disputes over Caly foldcourse, whose liberty extended across 'Old Field, Little Marsh, Great Marsh, Mayer Marsh and the Common Fenn and upon all the marshes and shackable lands on the south side of the river'.[52] With entries in the margin clarifying the stocking rate, he added for future reference:

[47] LEST/Q37.

[48] LEST/Q37.

[49] Sir Henry Spelman, 1564–1641. In 1594 he purchased leases of Blackborough and Wormegay Abbeys from the Crown, which resulted in lengthy, expensive and eventually unsuccessful litigation. The case led Spelman to research the charters and title deeds relating to Norfolk and Suffolk monasteries; his *Tract of the Rights and Respect due unto Churches* was published in 1613. *ODNB,* 'Sir Henry Spelman'.

[50] LEST/Q37.

[51] Blomefield and Parkin, *Norfolk* X, p. 309. Sir Hamon sold their estate at Fring for £4400 to pay for Heacham Lewes, ibid., p. 304.

[52] LEST/Q37.

> The rate for the sheep to be layd upon Caly Foldcourse made Nov. 13, 1610 by the power and persuasion of such as misinformed and misled Sir Hamon in the writing down of the same (and when his own knowledge in these matters of Hecham Town was raw and imperfect) is fit to be enquired into, altered and reformed in such manner as (upon full conference and deliberate consultation among the inhabitants) may be thought reasonable.[53]

The language is unequivocal: landlords needed to be on their guard and know their facts, but also to be prepared to consult, negotiate and reach reasonable agreements with their tenants, however difficult and fractious they may be. This experience may have prompted Sir Hamon to commission a new survey of Heacham and encourage his wife Alice to check the rentals and field books.[54] Predictably, her initiative provoked a challenge from one of the principal manorial tenants. In 1638 Robert Cremer launched a petition at the Norwich Assizes accusing Sir Hamon, 'Dame Alice' and their steward of altering the court rolls for their own benefit.[55] The land in question concerned parcels which were required to complete the construction of a sea wall linking Heacham and Snettisham; as we have seen, the embankment is clearly marked on Faden's map and survives as a significant feature in the landscape. An earlier case had been brought against Sir Nicholas (d. 1655) when he started to build the bank. A meeting had been held between the parties at Heacham Marsh to resolve their differences, with Cremer, supported by his uncle Robert Stileman of Snettisham, threatening to petition if Sir Hamon did not meet their demands.[56] Matters reached such a pitch that Sir Hamon sued for libel in the Court of Chivalry, winning his case in June 1640; Cremer responded with a bill in Star Chamber.[57] The dissolution of these bodies in 1640 left the parties without a settlement. Cremer revived the case in Chancery in 1647, but after lengthy submissions and interrogations of witnesses, with much firepower aimed at Dame Alice, the matter was settled out of court and finally agreed in Sir Hamon's favour after Cremer's death in 1651, but it was a long-drawn-out, expensive and close-run thing.[58]

These cases at Holme and Heacham show that the Le Stranges were vigilant and determined, even aggressive, in defence of their property rights, but as Winchester says this was very much a contested landscape.[59] The real risks faced by landowners were not so much the inundations of the sea, as unforeseen challenges to their property and capital investment. Even Tawney acknowledged as much, drawing attention to the organized toughness of the manorial tenants. Sorting out the property rights was a prerequisite to any expensive drainage scheme on the marshes. No wonder Sir Nicholas (d. 1655) started carefully with the marshes at Hunstanton and Holme over which he had control, or where the tenants were less likely to launch a

[53] Ibid.

[54] Waterman's map of Heacham 1623 is in two halves, LEST/OB1 north of the river, LEST/OB2 to the south.

[55] In the documents, Alice is known as Lady Alice Le Strange, Lady L'Estrange and Dame Alice. Strictly speaking, she should be known as Lady Le Strange or Alice Le Strange, but I refer to her simply as Alice.

[56] Robert Cremer was an absentee landlord; it is quite clear that Stileman of Snettisham made the running.

[57] R. P. Cust and A. J. Hopper (eds), *Cases in the High Court of Chivalry, 1634–1640* (Harleian Society, new ser. 18, 2006); for the full record, www.court-of-chivalry.bham.ac.uk/index.htm. The case was revived in the Court of Chancery in 1647: TNA, C 2/Chas1/C29/63; C 22/49/20 and for the out of court settlement in 1648, LEST/DN1; see also Griffiths, '"A country life"', p. 230; ead., 'Improving landlords', pp. 179–80.

[58] Notes on Cremer's settlement follow those on Caly Foldcourse in LEST/Q37; see also LEST/DN1.

[59] Winchester and Straughton, *Contested Common Land,* pp. 163–88.

challenge. The notebooks, recording the drainage process and making salient observations, served as a further precaution for himself and his heirs; they also provide us with a detailed insight into how these schemes were organized, managed and sustained in relative harmony.

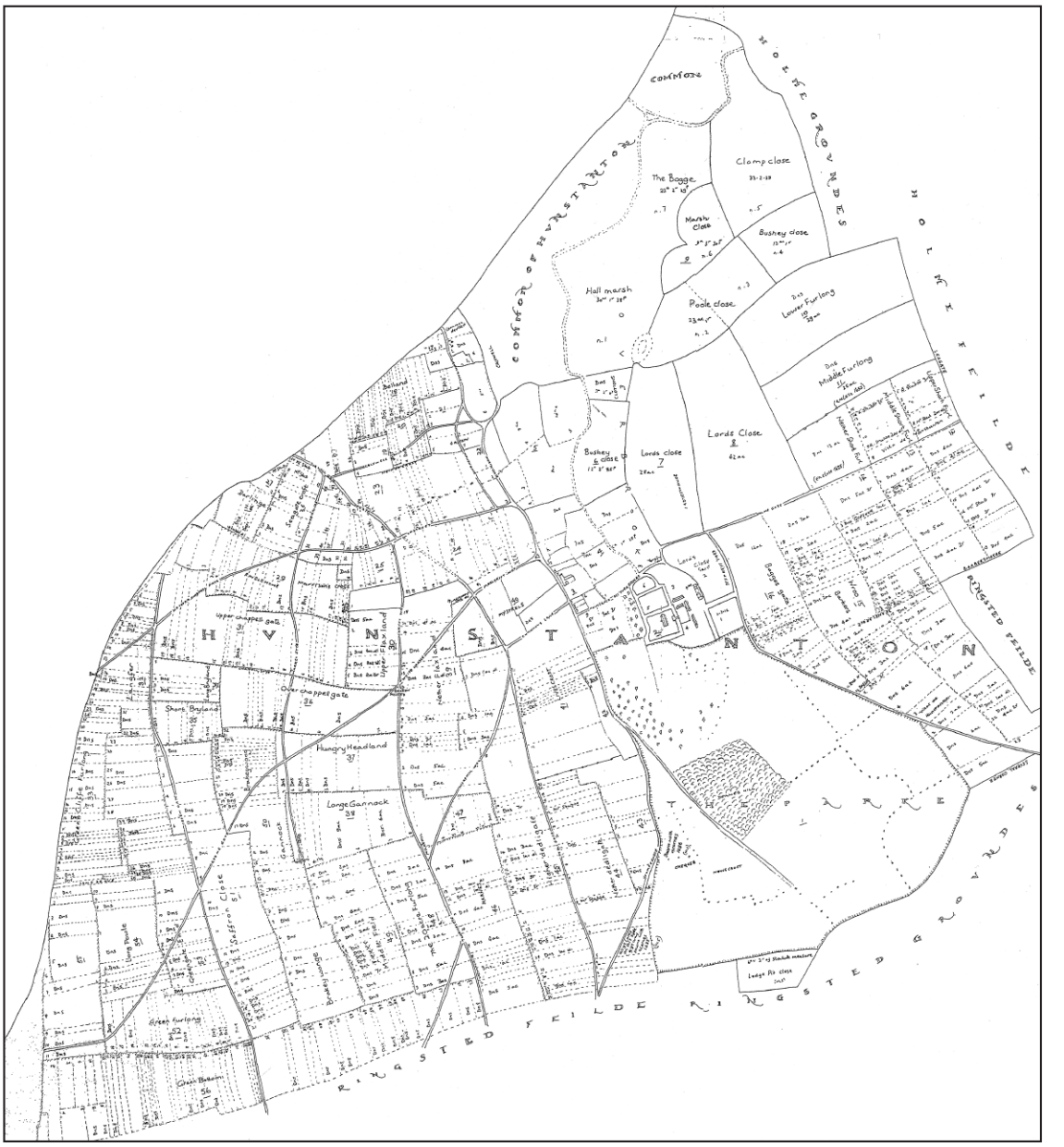
III

The information in the earliest notebook, as we have seen, relates to the drainage undertaken at Hunstanton and Holme, which Sir Nicholas started in 1633. It concentrates on the closes and marshes along the valley of the River Hun, which runs northward through Hunstanton Park and then north-eastwards to the sea at Holme (Maps 1 and 2).[60] Hunstanton Hall itself was built in a hollow facing towards Holme and Great Ringstead village, creating its own geographical unit, separate from the village and West Field of Hunstanton, which lay on higher ground stretching westward to Hunstanton cliffs. Faden's map shows the north-south route neatly dividing the parish of Hunstanton. More precisely, Thomas Waterman's survey of 1615 (Map 4) shows West Field dominated by the strips of the manorial tenants, and East Field where the demesne strips were being enclosed, with further closes of pasture created to the north, and the marshes leading out to the sea.[61]

The marshes drained in this area amounted to just 67¾ acres, with Hunstanton Marsh, Clottons Marsh with 'Osyer Island', a 'peece next Hunstanton Common' and the 'Hopp Ground Osyer Island' comprising 24 acres, the Bogge 15¼ acres, the Meeles Walled Close 8 acres and the Whin Pasture 7¼ acres, leaving just over 13 acres in Holme.[62] These acreages are significantly less than those shown on the Hunstanton map of 1615, but clearly the marshes were not drained in their entirety. Also, some of the names of the marshes have been changed. For example, the Whin Pasture does not appear on the map but as 'The Whinne Pasture New Close 1637' it is most likely the northern part of the Clamp Close. The relevant field map of Holme of *c.*1680 refers to 'Clamp Close or The Whin Pasture' over the parish border in Hunstanton.[63] Likewise, the Meeles Walled Close, to the north of the Whin Pasture on the sand dunes, was new. Earlier modifications were also made by Sir Hamon in the 1620s.[64] For example, Marsh Close was renamed Brimble Close, and Bushey Close, south of Clamp Close became Normans Close to distinguish it from Bushey Close, south of Clottons Marsh. This whole area on the east side of Hunstanton, almost exclusively demesne land, was subject to ongoing rationalization and improvement; draining the marshes was simply part of that process.

The few acres in Holme, consisting mainly of two closes, Futters Close and Holme Marsh Close lay adjacent to the north east of the Whin Pasture on the east side of 'Sir Nic. Stranges' banke'. This bank is marked on 'The Plotts of Holm Marshes' drawn by Jan van Hasdonck in about 1633; the bank is well established and almost certainly refers to the one mentioned in the award of 1558.[65] In the notebooks, it is called 'the Procession Bank'.[66] The small amount

[60] LEST/KA6.
[61] LEST/AO1; Griffiths, '"A country life"', pp. 218–26.
[62] LEST/KA24.
[63] LEST/EH8.
[64] Griffiths, '"A country life"', pp. 218–21.
[65] LEST/FQ18 for Hasdonck's plots of Holm marshes; LEST/FQ12 and FQ13 include papers relating to an 'Inquisition into Hansdonck's claims 1633–34 for reclaimed lands'. Both documents are missing, but it shows that Hasdonck was involved at Holme at this time.
[66] LEST/KA6.



MAP 4: Thomas Waterman's Map of Hunstanton, 1615, NRO, LEST/AO1.

drained in Holme may come as a surprise, but there was in fact little scope in Holme, because although the Le Stranges owned the grazing rights to the common marsh, they held very little demesne land. Holme was dominated by large manorial tenants, who initiated their own drainage schemes and farmed much of the demesne lands in Hunstanton.

A significant aspect of these marshes is their proximity to Hunstanton Hall and their function as a playground for the menfolk. Sir Nicholas's earliest efforts were directed to improving the

area for fishing, fowling and hawking.[67] He and his father, both passionate sportsmen, wanted to make places 'handsome to gunn and hawke in'; they created havens and pitts for 'handsome flying', breast works and blinds 'to gaine shootes at the fowls' and 'handsome' riding passages along 'my new drains'. Note the word 'handsome' and the desire for an attractive amenity they could enjoy with their friends. This reminds us of the enduring association between field sports and natural landscapes enhanced by hedges, tree-planting and water. These cultural considerations, widely shared across the social divide, were clearly a priority and helped to shape the look and feel of these marshes; they also reinforced the common interests and purpose of the local communities. Despite his seemingly frivolous motives, Sir Nicholas managed 'the home marshes' with precision and commitment.

IV

From the outset, Sir Nicholas's notebooks are laid out methodically and designed to inform and explain. Written in a large and legible hand, each topic is named and dated with additional references; individual entries are itemized, costed and dated. In the first notebook, the expenditure is seldom totalled, but relates to complex tables at the end of the book. The format suggests that Sir Nicholas assembled the notebooks at a later date, from concurrent notes, as a reference work.[68] He clearly understood the basic principle of information management, that knowledge, to be beneficial, has to be presented in a way that can be understood and shared with others.[69] Similarly, the content demonstrates Sir Nicholas's genuine business sense, rational economic planning, technical knowledge and judicious management of labour; attributes not commonly associated with the gentry on the eve of the Civil War. As this information is relatively rare, the following account offers a detailed description of aspects of his approach, particularly his understanding of the processes involved and his sensitive treatment of his tenants and workforce.

From the first folios of the first notebook, we find Sir Nicholas thinking carefully. The project, the making of three osier islands in Hunstanton Marsh Poole might seem trivial, but he painstakingly listed the labourers hired, the days they worked and the amount they were paid over six weeks from July to mid-August in 1633. Significantly, he noted they were paid a higher rate in the second week, as the work was 'very bad', and given a 'largesse' at the end; this acknowledgement of working conditions forms a central part of his remuneration policy.[70] Cross references to further entries reveal the names of suppliers of the osiers, including Goodman Cave of Ely, who spent two days dressing and setting plants, and 'instructing Kempe how to order them afterwards'. The idea of instruction – and passing on knowledge – runs through the text.

After the entry on osier management, Sir Nicholas sought to clarify the situation over wages by instigating a system that reflected different working conditions and ensured his labourers

[67] LEST/KA6.

[68] We now know this was to be the case as a recently found subsidiary account was copied neatly into Sir Nicholas's final notebook, LEST/suppl. 25ii/xvi; LEST/KA24.

[69] Websites on knowledge management abound, often quoting Francis Bacon's maxim 'Knowledge is power'. Several of Bacon's books are listed in the Le Strange's library catalogue, LEST/NE1.

[70] Osiers, or willows, were used to make a wide range of products, but planted in this context principally to stabilize the newly raised banks and 'sconces'.

received a fair day's pay. In his 'Rates and wages in draining', he specifies the 'rates which I allowed my workmen and at such proportions as they made good and competent earnings'. The calculations were based on the breadth and depth of the drain, the nature of the soil and the type of work, assessed at so much per rod, measured at 21 feet. For example, for a drain two foot broad and two foot deep, categorized as 'soyle and good scavel work' 2*d*. per rod. At the other end of the scale, for a drain twelve foot wide and three foot deep, 'scavell work 11*d*., but if spade and mattock [with] clay and gravel 15*d*.'. In the notes that follow, Sir Nicholas defined the nature of good scavell work, ordinary scavell work and 'spade and mattock' work; for day wages, he specified the different rates for 'wett-work both summer and winter' at 12*d*. per day and dry work at 10*d*.; and finally, he set out the terms for labourers who provided horses, 'old Greenrod for 2 horses, 6*s*. a week (but I had to find him grasse) to tumbrell earth in the marsh and to himself 3*s*. a week to follow the cart, in all 9*s*. per weeke'. In similar fashion, under the 'Rates in Digging', he allowed 10*s*. per rod for 'digging the rushy and toughest part of my marsh (which comes to 40*s*. per acre) but for ground that was clean and easier I allowed 7*s*. 6*d*., 30s per acre'. He based his calculations on Standard Measures: every rod was 220 yards or paces in length and 5½ yards wide which made 4 rods to the acre.

In the notebook, where Sir Nicholas summarized his strategy, 'rates and prices' are provided for every activity: bank work, wet and dry dikes, levelling with tumbrells and barrowing, digging and measuring, fencing, ploughing and harrowing, coleseed reaping, wheat, barley and oats, carriage of corn, and thrashing and dressing. He notes, 'In all these severall kinds of worke, being taken at the proportions and prices afore mentioned, they made very good wages, and I dare say, better cheape to me, then if I had used and employed them but at 6*d*. per day'.[71] In this way, he encouraged his workforce, improved their skills and secured better work at less cost to himself. For setting the rates and conditions he sought professional advice, 'I am experimentally assured that there will accrue to them [labourers] competent and faire earnings though these cautions and provisions following be members of the contract'.[72] Repeatedly, in his asides, he confirms his understanding of the need to establish good relations with his workforce; a concern unlikely to be found amongst the absentee landlords on the Fens.[73]

Returning to the first notebook, after setting out the wage rates, Sir Nicholas describes what had been achieved on Hunstanton Marsh between October 1633 and March 1634. For this purpose, he listed thirteen drains, dividing the area they served into 'Quarters', lettered A to K. From this point, Sir Nicholas displays his virtuosity with the technicalities of draining: 'carrying stones and shingle to spring heads and their draines', 'stoning the spring heads', 'claying them in', making gutters and covering the gutters with planks. For carting the materials he constructed '2 raild cart passages'. He also started engaging specialists and groups of men under contract to perform specified tasks, such as constructing banks and sluices. For example, Scott, Awdly and Thomasin were engaged to build the Fence Bank, while Edward Goverson took responsibility for the sluices.[74] Sir Nicholas set out all the specifications,

[71] LEST/KA24.

[72] LEST/KA24.

[73] Or on Romney Marsh in Kent. Soens, 'Social distribution of land', pp. 158–9. See also n. 6 above.

[74] LEST/Q38. Goverson also entered into agreements to build the park wall at Hunstanton Hall.

ending with the provision, 'A largesse given to my wett-workmen upon Bargaines or working at unreasonable hours, in cases of necessity, for taking up dames and the like'. Extras also included the provision of drink to labourers.

In 1635, attention turned to 'ploughing and sowing at Hunstanton Marsh' with references to wheelwrights and blacksmiths mending equipment, seed merchants bringing coleseed and'instruct[ing] my man how to sow it', and named individuals 'intending the work' of 'all other ploughmen'. Labourers were employed for 'sowing, harrowing, raking all the oates within my marsh', keeping vermin from the 'cole and oates', watergrupping, fencing, 'sheering and mowing and fitting all in the cart' and finally 'threshing and dressing these oates'.[75] As a specialist crop, the cultivation of coleseed received much attention. Sir Nicholas thanked Thomas Walker for his 'care and helpe about the sowing and reaping of cole', which required particular skills and equipment. In the final notebook, he provides a sample agreement for the work, which was by then contracted out, rather like growing potatoes is today. Alongside this activity, work started on the infrastructure. Ship planks were bought to construct cartbridges, cattlebridges, footbridges, gates and styles, post and rails. As before, Sir Nicholas provided the specifications and costings for each activity. The entries continue with detail on the Marsh Wall, the Common, Clottons, Cawkwell and Bushy Close, all around Hunstanton or Hall Marsh (see Map 4), before moving on to the Meeles, Bogge and Whin Pasture.

The Meeles, the Bogge and the Whin Pasture (as part of Clamp Close) were treated rather differently to the area around Hunstanton Marsh. Before 1632, all the marshes had been leased to tenants; in 1636 Sir Nicholas took over the tenancy of Hunstanton Marsh himself but continued to let the Bogge and Meeles to Woodrow and Murton until the 1650s, and Clamp Close, with the Whin Pasture, for the entire period to Richard Giles. These arrangements had a significant effect on their management. Sir Nicholas started the draining process in 1635, with 'tumbrelling, barrowing and levelling' the Meeles and rebuilding the banks following 'sea breaches by the old haven'; typically he took the opportunity to dig new pitts, drains and havens 'for Flying'.[76] Similarly, at the Bogge, essential work was combined with making a 'handsome riding passage along Murton's bogge by my draines'. However, when it came to cultivating the Bogge in 1637, Sir Nicholas resorted to 'ploughing to halfes' with the Murton and Woodrow. This was a system whereby the landowner and tenant halved the costs of cultivation, each providing labour, seed and equipment, and halved the profit.[77] In other words, Sir Nicholas provided working capital at the early risky stages of the venture to help the tenant get established; instead of raising the rent to cover his own costs, he shared the risk by halving the crop. He also contributed to the venture a new Dutch plough, with the vendor Charles Sands of Wisbech, who 'wrought' with Mr Hasdonck, ploughing for five days in the Bogge and instructing Write how to use her'.[78] This is the earliest mention in the notebooks of

Note 74 *continued*
These arrangements are similar to those found at Stiffkey, A. Hassell Smith, 'Labourers in late sixteenth-century England: a case study from north Norfolk [Part I]', *Continuity and Change* 4 (1989), pp. 19–28.

[75] 'Watergrupping' means cutting ditches and drains, see also Yaxley, *Glossary*, p. 94, sub 'grup(p)'.

[76] 'Flying' refers to the wildfowl they wished to attract for sport.

[77] E. M. Griffiths and M. Overton, *Farming to halves: the hidden history of sharefarming in England from medieval to modern times* (2009), pp. 60–2.

[78] 'Wrought' in this context means they created the plough together, see *OED* online edition.

Mr Hasdonck, although he was involved at Holme from 1633.[79] He seems to have performed the role of a modern farming consultant, providing specialist knowledge and access to new techonology.[80]

Similar agreements were made with Richard Giles at Whin Pasture New Close, and between Sir Nicholas and his father for Holme New Marsh Close, both in 1637. In 1643, Hasdonck measured Holme Marsh Close and divided it between Sir Nicholas and his father. 'This ground set out by Mr Hasdonck as part of my father's proportion due to him upon the imbanking of Holme Marshes & used by my Fa[ther] and Me in a partible way of charge and profitt'.[81] On the same page, Sir Nicholas noted the destruction of the first crop of winter corn by the rebels of Holme in 1643. This was part of the plunder inflicted by the parliamentary forces in the summer of 1643; it appears they had accomplices in Holme: 'all this croppe was sequester'd and reap'd by some of the rebells of Holme (S. O. and R. C. [Simon Overman and Robert Crispe]) by vertue of a pretended ordinance of Parliament groun[ded] upon a most false and clamorous petition'.[82]

The difficulties encountered by Sir Hamon and his sons in the Civil War may explain why these agreements with the tenants were terminated and why no further drainage projects were undertaken.[83] As with the adventurers on the Fens, war was not a risk they had anticipated, but with their management strategy in place, the Le Stranges were better prepared to meet the consequences.[84]

The payments and receipts for Sir Hamon's share for Holme Marsh Close were recorded by Alice in her books of disbursements and receipts.[85] As it happens, they also reveal another share farming agreement at Heacham between father and son.[86] In her receipt book, Alice recorded for April 1641, 'rec[eive]d of my sonne Strange for the halfe of the Rushes and Whins and the fearme of the grasse of Heacham £10 8*s*. 8*d*. … Received of Sherringham for our halfe of the coleseed besides £70 before received and £106 0*s*. 7*d*. payd to my sonne Strange for his halfe – £36 0*s*. 7½*d*.'.[87] From this entry it appears that the agreement dated from 1639 after the completion of the sea bank at Heacham in 1638. In her disbursement book, Alice recorded for Jun 1643: 'Layd as appeareth by Heacham Marsh Reckoning the halfe of the charge for Bearne Farme stacks remooving, thrashing, looking at the cattle wintered there and the halfe of 2 earths ploughing

[79] See above, p. 232; n. 65.

[80] Steers and Winchester also refer to Mr Hasdonck; it appears he was a familiar figure along the coast, engaged in all sorts of enterprises at Thornham, Brancaster, Wiveton and Salthouse. Dutchmen working in this way, offering their services to individual landowners, were not uncommon. My thanks to Piet van Cruyningen for this point.

[81] LEST/KA9.

[82] LEST/KA9, fol. 98. A further reference in LEST/suppl. 25ii/xvi gives name of the 'rebels' as Overman and Crispe.

[83] In July 1643, the family lost 1693 sheep, almost their entire flock, besides corn, wool and horses, LEST/P10; Griffiths (ed.), *Her price is above pearls*, pp. 3, 17–8, 32–4, 75, 83–4, 152. The sharefarming agreements for the Bogge and Whin Pasture ceased in 1642; the agreement for Holme Marsh Close was renewed in 1643, but no further reference is made to it after 1644.

[84] LEST/P10. The flocks were restocked with cullett sheep from relatives and neighbours, see also Griffiths (ed.), *Her price is above pearls*, pp. 152–76.

[85] For Alice's disbursements from 1613–45, LEST/P7; Household books with estate receipts, from 1613–21, LEST/P6; from 1621–33 in LEST/P8; from 1633–42 in LEST/P9. There is a gap from 1642 to 1649, followed by a household book with estate receipts for 1650–53 in LEST/P11.

[86] LEST/KA9.

[87] LEST/P9.

21ac 2r and 22 [combs] of seed beanes at 6*s*. 8*d*.: £20 14*s*. 7*d*'.[88] The receipt book also includes a corn account which records the loss of the corn plundered by Captains Poe and Thorner between 1641 and 1643: 190 combs from Heacham, 51 combs from Sedgeford and 101 combs from Hunstanton. Despite these reverses, father and son continued to spend money on the marshes, paying 'for the mending of Heacham Marsh Bankes which were faulty', and in 1644, 'for mending the Marshe Bankes [at Holme] after the Great Rage'.[89] Entries for expenditure on the marshes cease in 1645 when a new more simplified book of disbursements was created, but references continue to be made to other subsidiary books of disbursements which are now lost.

V

Although the records are patchy after 1642, it is possible to estimate the cost of the venture and how the Le Stranges managed their finances, before and after the crisis of 1643. In the tables at the end of first notebook Sir Nicholas attempts a calculation for the period up to 1642.[90] In the first two tables he set out the 'disbursements upon every particular ground' from 1633 to 1638 and from March 1638 to 1642. He then arranged the disbursements in tables to show 'The principall and uses calculated of the moneys which I have disbursed in Draining and improving Hunstanton Marish and other places … at 8 p. centum'. In columns, he records the year, the ground, the principal [cost], the uses [interest] for one year, the uses for the whole term [of years] and the halfe uses of the whole term. Apparently, he is trying to assess the real cost of the draining by making a calculation of the interest foregone on his capital; he adds a note 'I wrought all the uses by the table of interest in *Ponds Almanacke* for 1638'.[91] Finally, he tries to balance 'The principall and use monyes which I disburst, and the profits which I received of all the grounds'. Interestingly, he only includes the 'halfe uses of the principal', which suggests that the cost of the entire drainage operation was shared between father and son. At the end he provides 'Another way of calculation of principal and uses (differing from the former) from 1633 until 1643 with their totals'. This table shows that £1004 3*s*. 11*d*. was spent on drainage, which included £9 12*s*. 6*d*. at Ringstead Yards and Heacham Common, and £168 16*s*. 5*d*. on building, mostly at Sedgeford, with further calculations for the interest lost on the principal.[92] In this table, he also includes a column recording half the principal, as well as half the uses, which seems to confirm that father and son were working in partnership; this may have been the purpose of these rather strange accounts. To avoid disputes, sharefarming agreements need to be completely transparent.[93]

The tables above make no mention of the cost of draining Heacham Marsh, but on closer examination of Alice's accounts, it is possible to arrive at an estimate. In her summary of family finances, she records spending £372 'on imbanking Heacham Marsh' in 1638 and in

[88] LEST/P10. This entry follows an earlier one, for December 1641, on the cost of cultivating coleseed, winter corn, barley and oats at £122 18*s*. 2*d*., but there is no reference to the cost being halved, just that it was 'payd as appeareth by my sonne Stranges Book of Reckonings for Heacham Marsh'.

[89] LEST/P10.

[90] LEST/KA6.

[91] My thanks to John Barney for helping me with these tables.

[92] The building costs date from 1638 to 1642 and mostly include expenditure at Sedgeford.

[93] Griffiths and Overton, *Farming to halves*, pp. 56–110.

1640 a further £400. In her disbursements for 1641, she also entered a sum of £122 18*s*. 2*d*. for the cost of cultivating Heacham Marsh, which is not halved with Sir Nicholas; this makes a total of about £900. Working on the principle that father and son were in some kind of partnership, and that Sir Nicholas's share of expenditure would be recorded in his Heacham notebooks, the total sum would be about £2000.[94] This figure is not unreasonable given the costs at Hunstanton and Holme. However, a problem with this calculation is the 'loss' recorded by Alice at the end of her summary of the family finances, 'Lost by Heacham Marsh £600', under 'Losses in My Husbands Estate'. As we have seen with Boston Fen this loss might not be quite what it seems; she might just be rounding up the expenditure on the marsh on her son's behalf. Alternately, she might be referring to the losses they incurred at Heacham during the Civil War, or the cost of the long legal case against Cremer and Stileman, although she recorded a 'loss' of £385 against Stileman 'in an unjust suite'.[95]

Returning to Sir Nicholas's tables in the first notebook, the downside of the format was the difficulty of accommodating receipts; the amounts listed look woefully inadequate. The answer was found in the subsidiary account, which sets out the profits against the charge (costs) for every ground from 1633 to 1644.[96] Most particularly, it shows the progress made by 1641, when receipts for corn peaked, followed by the slump in receipts during the war. For example, for Hunstanton Marsh from 1633 to 1638, the charges amounted to £368 5*s*. 0*d*. with profits (in reality receipts) of £129 2*s*. 3*d*. from the sale of coleseed, oats and hay. From 1639 to 1642, charges amounted to £99 4*s*. 4*d*., while 'profits' rose to £156 17*s*. 8*d*. from wheat, barley, oats, meslin, osiers and grazing; so a promising start. However, between 1643 and 1644 receipts dropped to just £9 8*s*. 0*d*. with sales restricted to grazing, hay and osiers. At the Bogge, for the whole period, charges amounted to £144 7*s*. 10½*d*. against profits of £85 17*s*. 4*d*. from the sale of coleseed, oats, meslin, barley and wheat; this was bad enough, but then in 1643 the wheat crop valued at £9 3*s*. 0*d*. was seized by Captains Thorner and Poe. Similarly, for the Whin Pasture total charges amounted £60 12*s*. 6*d*. against income of £39 10*s*. 5*d*., and then from 1643 'it was deserted and layde down to pasture as before'. At Holme Marsh Close, income of £49 6*s*. 7*d*. just exceeded charges of £48 2*s*. 4*d*., which was promising, but in 1643 Poe and Thorner also stole the crop of wheat valued at £7 5*s*. 0*d*. The Meeles and Bank Fenne were the worst performers. Charges at the Meeles amounted to £65 10*s*. 9*d*. between 1640 and 1642 with receipts of just £20 4*s*. 0*d*. Similarly, at Bank Fenne charges amounted £51 8*s*. 11*d*. with profits of £14 15*s*. 9*d*.; a small crop of wheat was stolen in 1643 and like the Whin Pasture it was left deserted and laid to grass. The entries for Heacham Marsh do not mention charges, but include the receipts from 1640 to 1642: £138 15*s*. 9*d*. from the sale of coleseed and oats in 1640 followed by £133 4*s*. 3*d*. from coleseed, wheat and meslin in 1641.[97] These figures help to explain the

[94] The costs per acre based on 177 acres draining in Heacham would be £11 6*s*. 8*d*.

[95] LEST/P10.

[96] LEST/suppl. 25ii/xvi. The charge corresponds to the figures for 'disbursements' and the 'principal' entered in Sir Nicholas's neat books, LEST/KA6 and KA24. In other words, the 'charge' represents, in modern terms, his costs or expenses. The titles of the pages, on the RH side of the subsidiary book, actually refer to 'Expenses and Profitts', but to add to the confusion, the sums he listed as profits are in fact receipts. In this way, Sir Nicholas experimented with the concept of profit but seems not to have fully understood the principle.

[97] In 1644, Sir Nicholas sold the 1642 crop of Heacham barley to Mr Toll of Kings Lynn for £38 6*s*. 6*d*., almost certainly part of a fine payable after the collapse of the

sudden increase of income from the sale of corn recorded by Alice, from £426 in 1640 to £864 in 1641.[98] With no receipt books from 1642 to 1649 it is not possible to calculate the depth of the crisis or how long it lasted. However, by 1650 corn receipts were £619, followed by £566 in 1651, so we can conclude that the recovery was slow, but total disaster had been averted.

VI

The seeds of the steady recovery can be found in the second and third notebooks, which record expenditure from 1643 to 1653, principally on cultivating crops and building farmsteads, but also on the maintenance and improvement of drains. In the second notebook, crop-growing schedules are neatly specified. For example on Hunstanton Marsh, in April 1646, 14 acres of coleseed (having been eaten by doves in the hard winter) were ploughed in and barley was sown. This was harvested in August together with three acres of wheat; the following March seven acres were ploughed for oats; in most years beans, peas and vetches also featured in the rotation.[99] Under 'miscellaneous charges' payments were made for 'easing and cleansing draines, planting trees and hedges, trimming the arbour and island and watergrupping'. There was no charge for mowing grass as it was usually sold 'standing on the ground'. Substantial work was done on the Mill River, cutting new drains and bank mending; a task which involved building a horse bridge at the Bogge. The Procession Bank and the Great Sluice also received more attention. For the osier management, Sir Nicholas agreed in 1646, to bear 'halfe the charge of cutting and bunching wherein my share came to 5*s*. 6*d*.'; this agreement continued until 1652. At the Meeles, the problem was drifting sand, so he planted hundreds of whins on the sea side.[100] As ever, several entries relate to his passion for fishing and shooting; in fact the overall impression was that it was business as usual.

Sir Nicholas's farm building programme also underlines his continuing commitment to the drainage project. In 1648 he started work at Hunstanton with the Marsh Wall House, the Meeles Close House, houses at Calkwell and Lawes House, even at Holme he built a Meeles House.[101] Each building merits up to 50 pages with Sir Nicholas specifying every part of the process: foundations, carriage of materials, measuring up, masons' work, carpenters' work, ironwork, thatching, colouring and laying out the garden with fruit trees. For the Calkwell project, he drew up a 'Prolegomena Calkweliana' [introdution to Calkwell], outlining the rates paid to different named craftsmen. For 'ordinarie labourers' he never paid more than 10*d*. a day, but as with the drainage work, good work, difficult conditions and unreasonable hours 'were motives to me to augment their wages'.[102] The entries are in no particular order,

Note 97 *continued*
Royalist uprising in 1643. LEST/suppl. 25ii/xvi, a copy of which can be found in LEST/KA24.

[98] Griffiths, '"A country life"', appendix, also p. 223, n. 11 above.

[99] LEST/KA9.

[100] 'Whins' was the collective term for gorse, furze and broom. It was used for a variety of purposes, in this instance it was planted to stabilize sand dunes; see also Yaxley, *Glossary,* p. 235.

[101] LEST/KA9 for Lawes House, everything else is listed in, LEST/ KA10.

[102] 'Without an archaeological survey, these lesser buildings are difficult to locate, however, the Magazine in Sedgeford, also built by Sir Nicholas, survives as a holiday cottage, until recently let by the Vivat Trust, see LEST/KA6 fols 192–210. A more elaborate building, it was used to store military equipment, *see also* LEST/ Q38, fols. 85–9.

indicating once again that they were written up later, where space allowed. The latest entries date from 1653, which suggested there was a time lapse before they were written up neatly in the little books.

Sir Nicholas's death in 1655, a few months after his father in 1654 – and a year or so before his mother and his eldest son, Sir Hamon, in 1656 – was potentially far more damaging to the drainage project than the Civil War.[103] Sir Nicholas's second son, Nicholas, inherited at aged 22 but died in 1669, leaving a small child, yet another Nicholas (d. 1724), in the hands of trustees until 1682.[104] While the principal trustee, Sir Christopher Calthorpe, managed his affairs conscientiously, kept good accounts and carried out minor repairs, by the time Sir Nicholas achieved his majority, the drains – and the farm buildings – were in a woeful condition.[105]

Sir Nicholas (d. 1724) was the author of new field books and maps covering every part of the estate from the late 1680s to the 1700s, but the most telling information comes from his work on one of Sir Hamon's memoranda books which contains the extraordinary detail of his building programme carried out between 1619 and 1652.[106] Sir Nicholas noted:

> This book I found in ye old Evidence House w[i]th a decayed and wormeaten cover thrown by and neglected. But upon perusals, meeting w[i]th several things relating to buildings & every material & likely to prove of use, I put an index or table to that part of it writt by Sir Hamon & proceeded to putt down in writing at this part of ye Booke, such other observations as might possibly prove of service & convience to refer to upon occasion.

His notes mostly relate to buildings, by then in much need of repair, but they also include references to the marshes and drains from 1693 to 1720.

The strange aspect of these references is that Sir Nicholas only refers to Sir Hamon's work; he makes no mention of his grandfather, Sir Nicholas (d. 1655) nor his drainage notebooks.[107] However, his notes indicate a familiarity with his grandfather's style and practice of making observations, which suggests the existence of subsidiary notes and accounts. As we have seen, the family increasingly adopted this approach after the crisis of 1643. Significantly, in 1693, his first entry in the memoranda book notes that 'the draines were very foul and overgrown'. In 1698, he cleaned the New river, 'that was so overgrown with sallowes and willow roots that the old passage was stopt and was become a stronghold for otters w[hi]ch haunted all my waters'. The ditches between Whin Pasture and Holme Grounds, cleaned at 8*d*. and 6*d*. per rod 'had been for a long time grown up and by that meanes very much injured both those pieces of ground'. This area also suffered from 'the extremity of storms' and 'great tides', first in 1714 when the river was choked with sand and then in 1720 when large breaches were made over the meeles, filling up passages and flattening the river to the sluices; this required him to make new cuts, raise banks and replace sluices built by Sir Hamon. Compared to the notebooks, these entries do not amount to much, but the likelihood is that routine information existed elsewhere. Of Sir Nicolas's understanding of the problems associated with drainage and the

[103] Sir Hamon Le Strange, 2nd Bt., 1631–56.

[104] Sir Nicholas Le Strange 3rd Bt., 1632–69; Sir Nicholas Le Strange, 4th Bt., 1661–1724.

[105] LEST/KA11. Sir Christopher Calthorpe (*c*.1645–1718), www.historyofparliamentonline.org.

[106] LEST/Q38.

[107] In his table of building work, Sir Nicholas (d. 1724) makes no mention of the houses built by his grandfather, Sir Nicholas (d. 1655) either; it seems fair to conclude that he had no knowledge of the notebooks.

need for constant maintenance there can be little doubt. Steers quoted his description of the inundation of the fresh marshes at Titchwell in the 1680s, where the meeles were flattened with the sea reducing the area to saltmarshes,

> The property being in the hands of Magdalen College, and the Fellows contenting themselves with the old rent, neither the principal tenant or his under servants will care to contribute towards the charge of Imbanking them afresh. Brancaster Bank being by this means exposed to the strong west winds suffers very much and t'will be a great expense to keep them in repair.[108]

These comments illustrate vividly the benefit of having a resident landowner, rather than an absentee or institutional owner indifferent to local concerns and reluctant to waste their money on such risky ventures. So, now we have arrived at the heart of the matter.

VII

What conclusions can be drawn from the piecemeal drainage projects undertaken in north-west and north Norfolk in the early modern period? How did they compare with the more familiar large-scale schemes of the Fens and elsewhere? Manorial lords, provided they could secure the cooperation of neighbours and tenants by negotiation, could undertake drainage at moments of their choosing. Drainage in the fens was increasingly driven by external undertakers and the crown: both were less sensitive (and perhaps even indifferent) to local feelings. Of course drainage on the Norfolk coast was largely drainage within a manor, whereas fen drainage was drainage across a whole range of jurisdictions and the property of a range of landholders. The key difference then seems to be the presence of resident gentry landowners prepared to work with local communities as they faced the challenges of a more commercial environment rather than against them. This was particularly important on the marshes on the north Norfolk coast, which were notoriously susceptible to tidal surges and expensive to maintain and repair. Their value to large landowners lay in the sport they offered, and the summer grazing they provided for cattle and sheep, which released the brecks on the sandy uplands for corn production; after reclamation, it seems corn was grown on the reclaimed marshes. From the profits of these crops, landowners, notably the Cokes of Holkham, could afford to build and maintain sea banks extending the grazing marshes out into the North Sea. But beyond Holkham, on estates and in areas with fewer resources, the situation was patchier. Even the Le Stranges, resident at Hunstanton since the early fourteenth century and hugely committed to their estate and locality, neglected their marshes after the disruption of the Civil War. Without the efforts of Sir Nicholas Le Strange, from the 1690s to the 1720s, the reclaimed marshes at Hunstanton and Holme might well have suffered the fate of Titchwell and Brancaster. Both economically and socially, the defining feature of these marshes was the leadership, capital and commitment provided by these gentry landowners over many centuries.

[108] Steers, 'Some notes on the north Norfolk Coast', p. 44, n. 2.

Readings for farmers: agrarian almanacs in Italy from the eighteenth to the twentieth century*

by Manuel Vaquero Piñeiro

Abstract

In this paper we study the evolution of agricultural almanacs in Italy between the eighteenth and twentieth centuries. These are shown to have been a powerful vehicle for the transmission of ideas and knowledge at a time when the agriculture of the European continent was undergoing profound transformations. In Italy agricultural almanacs achieved a high level of diversification and sophistication. Over time their contents passed through a number of different phases. Between the eighteenth and nineteenth centuries the main goal was to educate the 'good farmer'. Subsequently, in the second half of the nineteenth century, almanacs contributed to the spreading of scientific and technical information (fertilizers, machinery, pesticides) with the help of both advertisements and images. In the twentieth century, especially under Fascism, almanacs became a means of spreading political propaganda. The study identifies the characteristics of publications for the rural working classes, they changes they underwent and the way in which they were also the instruments of change.

In the Italy of the eighteenth century, in the new climate of an Enlightened understanding of the laws of nature,[1] a wealth of agronomic texts were published.[2] They foreshadowed the flowering of agricultural academies,[3] which propagated the belief that landowners and their agents, as well as being personally engaged in agricultural improvement, also had to devote themselves to writing books on agriculture and the education of peasants. The development of Enlightened reform and scientific culture spread a new consciousness: it was no longer enough to have good lands, nor could the landowner rely on sheer randomness in their management. It was imperative to free agriculture from superstition and ignorance.

* This article has been made possible by the Fondazione Barbanera 1762, which generously granted me access to their rich collection of almanacs.

[1] M. Ambrosoli, *Scienziati, contadini e proprietari. Botanica e agricoltura nell'Europa occidentale 1350–1850* (1992) [English edition, *The wild and the sown: botany and agriculture in Western Europe, 1350–1850* (1997)].

[2] H. Holmes, 'The circulation of Scottish agricultural books during the eighteenth century', *AgHR* 54 (2006), pp. 45–78.

[3] D. Brianta, 'I luoghi del sapere agronomico: accademie, società di agricoltura e di arti meccaniche, orti agrari, atenei (1802–1814)', in E. Brambilla, C. Capra and A. Scotti (eds), *Istituzioni e cultura in età napoleonica* (2008), pp. 62–157; M. Simonetto, 'Accademie agrarie italiane del XVIII secolo. Profili storici dimensione sociale', *Società e storia* 124 (2009), pp. 261–302; 125 (2009), pp. 445–63; M. M. Augello and M. E. L. Guidi (eds), *Associazionismo economico e diffusione dell'economia politica nell'Italia dell'Ottocento. Dalle società economico-agrarie alle associazioni di economisti* (2000).

It goes without saying, however, that the discussions conducted in learned societies, in which it was pleasant and fashionable to discuss discoveries and experiments, took place in a completely different environment from that of the 'class of agricultural workers',[4] towards whom the innovations being debated were naturally directed. To bring together these two distinct worlds, one highly educated and the other generally illiterate, in order to transmit the basic concepts and changes that were taking place in European agriculture, constituted a key objective.[5]

One of the points of contact between high and low agronomic culture can be traced through the evolution of astronomical tables, which circulated widely in Europe between the fifteenth and seventeenth centuries.[6] These evolved into almanacs containing useful information for farmers. By the eighteenth century a theoretical reasoning based on the behaviour of stars and planets had begun to give way to a more practical and utilitarian approach based on an understanding of the growth of crops. If the observation of the universe had earlier been thought crucial to preventing natural disasters and reducing the risk of food scarcity, during the nineteenth century this world view – which had allowed humans only a limited ability to change their circumstances – gave way to scientific knowledge and good agricultural practices. The phases of the moon or reminders of how important it was to invoke the protection of the saints did not disappear from almanacs, but increasingly almanacs propagated the view that the state of the fields and health of the animals depended almost exclusively on the farmer's knowledge and skill. In this way popular beliefs were relegated to the status of curiosities by scientific and academic knowledge.

From the second half of the eighteenth century, thanks to the efforts of 'men led by an almost religious faith in the benefits of scientific progress',[7] there was the rapid emergence of a popular publishing industry, dedicated to the production and marketing of small, inexpensive books,[8]

[4] For a useful comparison with the English case see S. Wade Martins, *Farmers, landlords and landscapes: rural Britain, 1720 to 1870* (2004); R. W. Hoyle (ed.), *The farmer in England, 1650–1980* (2013).

[5] On the transformations which eighteenth- and nineteenth-century agriculture underwent, there is an abundant bibliography with regard, especially, to northern Europe. See B. M. S. Campbell and M. Overton (eds), *Land, labour and livestock. Historical studies in European agricultural productivity* (1991); M. Overton, *Agricultural revolution in England. The transformation of the agrarian economy, 1500–1850* (1996); J.-P. Poussou, *La terre et les paysans en France et en Grande-Bretagne du début du XVIIe à la fin du XVIIIe siècle* (1999). Amongst classical syntheses of agricultural history in Europe are B. H. Slicher van Bath, *The agrarian history of western Europe* (1963); W. Abel, *Agrarkrisen und Agrarkonjunktur in Mitteleuropa vom 13. bis zum 19. Jahrhundert* (1935); D. B. Grigg, *The dynamics of agricultural change: the historical experience* (1983).

[6] For England and the colonies see J. T. Kelly, *Practical astronomy during the seventeenth century: almanac-makers in America and England* (1991); D. Cressy, *Bonfires and bells. National memory and the Protestant calendar in Elizabeth and Stuart England* (1989); M. Perkins, *Visions of the future: almanacs, time and cultural change, 1775–1870* (1996); N. Campion, *Astrology and popular religion in the modern West. Prophecy, cosmology and the New Age Movement* (2012); B. Capp, *Astrology and the popular press; English almanacs, 1500–1800* (1979). For Italy see E. Casali, *Le spie del cielo. Oroscopi, lunari e almanacchi nell'Italia moderna* (2003).

[7] M. P. Donato, 'Scienza e pubblica utilità', in M. P. Donato and others (eds), *Atlante storico dell'Italia rivoluzionaria e napoleonica* (2013), p. 230.

[8] At the end of the nineteenth century some of these books, destined for a popular readership, sold for only 25 cents. See G. Bacci, 'Illustrazioni di largo consumo: dinamiche visive e culturali nei romanzi di Carolina Invernizio', *Bollettino del Museo del Risorgimento* 51–2 (2006–7), pp. 251–79, at p. 254.

written in an accessible language and designed to provide practical information and advice to farmers. Within the varied types of popular texts,[9] almanacs, and in this case agricultural almanacs, made up a category with specific characteristics, designed to meet the needs of a wide range of potential readers.[10] Now the tendency to stereotype them as having little worth has been discarded, almanacs currently enjoy considerable historiographical attention, being deemed a privileged observatory for 'measuring the rhythms of the circulation of ideas, their timing and forms of transmission'.[11]

The evolution of the almanac genre coincided with two phenomena that characterized the eighteenth and nineteenth centuries. First, the roles and functions of the farmer were distinct from those of the agronomist; second, agriculture distanced itself from pre-industrial agronomy.[12] Within this context, the almanac became a text with pedagogical functions, to consult and to follow in the context of applied agriculture. Clearly it would be naive to think that a few printed pages were enough to induce farmers to change the way they thought and went about their work. In particular, it is very difficult to discover the extent to which the information provided by almanacs was actually implemented and put into practice. This question particularly concerns agronomical pedagogy as it was structured in the early decades of the nineteenth century, a period that saw the first appearance of institutions that were designed to teach the foundations of the new husbandry.[13]

As we seek to highlight in this article, until the first half of the twentieth century Italy was one of the European countries in which agricultural almanacs had considerable importance, in terms of the number of published titles, the number of copies printed and the places they were printed. Although our reflections refer to a European historiographical context that has yet to be fully described, the success of this type of publication in Italy has to be seen in relation to a series of factors that contributed to defining a uniform national framework. It should be remembered that Italy, during the eighteenth and nineteenth centuries, had a strong publishing tradition, scattered around a large number of cities. In addition, the printers of the almanacs adopted an Italian language which was grammatically simplified and devoid of

[9] On the spread of 'books for the people in Europe', see D. Sassoon, *The culture of the Europeans: from 1800 to the present* (2006) [Italian edition *La cultura degli europei. Dal 1800 a oggi* (2006), pp. 349–69]; M. Lyons, 'I nuovi lettori nel XIX secolo: donne, fanciulli, operai', in G. Cavallo and R. Chartier (eds), *Storia della lettura* (1995), pp. 373–410. For the specific Italian case see A. Chemello, 'La letteratura popolare e di consumo', in G. Turi (ed.), *Storia dell'editoria nell'Italia contemporanea* (1997), pp. 165–92.

[10] L. Braida, 'Metamorfosi ed evoluzione di un genere letterario: l'Almanacco piemontese nel '700', *Mélanges de l'École française de Rome. Italie et Méditerranée* 102 (1990), pp. 321–51.

[11] M. Cuaz, 'Almanacchi e "cultura media" nell'Italia del Settecento', *Studi storici* 25 (1984), pp. 353–61. There is an abundant bibliography on almanacs, A. P. Montanari, 'Gli almanacchi lombardi del XVIII secolo', *Annali della Fondazione L. Einaudi* 22 (1988), pp. 43–95; S. Gabriella, *Almanacchi, lunari e calendari toscani tra Settecento e Ottocento* (1988); L. Braida, *Le guide del tempo. Produzione, contenuti e forme degli almanacchi piemontesi nel Settecento* (1989). G. Bollème, *Les almanachs populaires aux XVII and XVIII siècles. Essai d'histoire sociale* (1969). For an international comparison of almanacs and calendars see: H.-J. Lüsebrink, Y.-G. Mix, J.-Y. Mollier and P. Sorel (eds), *Les lectures du peuple en Europe et dans les Amériques du XVIIe au XXe siècle* (2003).

[12] M. Berengo, 'Le origini settecentesche della storia dell'agricoltura italiana', in J. Ajello, E. Cortese and V. Piano Mortari (eds), *L'età dei Lumi. Studi storici sul Settecento in onore di Franco Venturi* (2 vols, 1985), II, pp. 863–90.

[13] J. Mokyr, *The lever of riches: Technological creativity and economic progress* (1992), p. 58.

dialect expressions,[14] which then lent itself to be understood by a potentially large readership. Towards the end of the period the use of lithography gave the opportunity to produce long print runs. To all of this must be added the desire of the ruling classes to provide the rural lower classes with texts which on the one hand were easily understandable and on the other were bereft of any message that could be interpreted as fomenting change in the dominant socio-productive structures.[15] In this way farmers' almanacs enriched the range of agronomic literature after the last decades of the eighteenth century. The publications promoted new circles and agricultural academies and the publications grew in parallel with the spread of schools and teaching centres, both public and private, so that almanacs helped to transfer advances in agriculture to a much wider and heterogeneous audience.

In writing this paper I have chosen a timeline that starts from the late eighteenth century, when the question of the 'good farmer' came to the fore. Soon, however, this ethical and moral approach underwent a remarkable change, when the emergence of new plant diseases and the development of industry led to stronger links between scientific research and the transformation of the rural world. This connection became even more evident when, from the second half of the nineteenth century onwards, the development of mechanization and the systematic use of chemical fertilizers – innovations that were capable of transforming the life of the countryside – brought about the need for a means of spreading the news about them. If books and newspapers were out of reach for the less educated sectors of the peasant population, the more popular almanacs proved to be an appropriate vehicle for propagating the concept of agriculture adopted by more advanced countries. Later in the course of the twentieth century, almanacs represented powerful tools of political propaganda and social control, as evidenced by the use that was made of them during the period of Fascism and in the years after the Second World War.[16] In short, it is possible to outline the steps that led to the production and marketing of agricultural almanacs, which, despite their 'simple' and 'popular'[17] appearance, were able to adapt to changing needs and contingencies, demonstrating at every juncture a capacity to receive and transmit the changes that were happening in the world of agriculture.[18]

[14] T. De Mauro, *Storia linguistica dell'Italia unita* (1984).

[15] S. Zaninelli, 'Evoluzione agricola italiana ed evoluzione delle conoscenze agrarie', in S. Zaninelli (ed.), *Le conoscenze agrarie e la loro diffusione in Italia nell'Ottocento* (1990); D. Ivone, *La 'modernizzazione' dell'agricoltura nell'Italia postunitaria 1861–1910. Associazioni, stampa e cultura agraria* (2004).

[16] S. Misiani, *La via dei 'tecnici': Dalla esi alla ricostruzione: Il caso Di Paolo Albertario* (1998); L. D'Antone, 'La modernizzazione dell'agricoltura italiana negli anni Trenta', *Studi storici* 22 (1981), pp. 604–29; M. Vaquero Piñeiro, *Da fattori a periti agrari. Formazione professionale e modernizzazione dell'agricoltura in Umbria (1884–1929)* (2011).

[17] It is not certain that 'the rural population, without any distinction based on wealth, remained, until the advent of the radio, at the margins of cultural life', Sassoon, *La cultura degli europei*, p. 88.

[18] For a synthesis see A. Cova, 'La storia dell'agricoltura dell'età contemporanea', in L. de Rosa (ed.), *La storiografia italiana degli ultimi vent'anni* III, *Età contemporanea* (1989), pp. 145–70; G. Nenci, *Le campagne italiane in età contemporanea. Un bilancio storiografico* (1997); S. Visciola, 'Campagnes et sociétés rurales en Italie aux XIXe et XXe siècles: un problème d'historiographie', in J. C. Caron and F. Chauvaud (eds), *Les campagnes dans les sociétés européennes. France, Allemagne, Espagne, Italie (1830–1930)* (2005), pp. 55–75; G. Pécout, 'Les campagnes dans l'évolution socio-politique de l'Europe (1830-fin des années 1920). France, Allemagne, Espagne et Italie', *Histoire et Societés Rurales* 23 (2005), pp. 11–65.

Obviously the chronological range adopted in this essay does not exhaust the study of agrarian calendars in Italy. In addition to comparison with other countries (United States, France, Germany, Great Britain), we can identify the individual topics covered by almanacs. They help shed light on, for example, the history of agricultural mechanics, techniques of cultivation, the main crops (wheat, wine, oil), plant propagation and animal breeding, chemical fertilizers, farm administration, the role of women, and a long list of other aspects that can be followed chronologically. All of this confirms that almanacs for farmers, despite their popular form, provide an excellent source through which to follow the great transformations of European agriculture in the nineteenth century. But the analysis of these texts invites one to compare the titles released in the same chronological period in order to determine the differences or points of convergence that exist between the almanacs produced by publishers and newspapers, or given by the trade unions to their members, and those distributed by industry. These are all questions that remain to be dealt with in the future in a more detailed work. Here it was decided to adopt a general approach, which, though having clear limits, allows us to first describe the almanac as a type of literature and then assess its contribution to the modernization of agriculture.

I

Almanacs arrived in North America with the first settlers in the seventeenth century. In transferring a popular literary genre that was firmly rooted in English culture to the opposite Atlantic coast,[19] almanacs represented a fundamental element in the construction of cultural and religious identity.[20] In addition to the spiritual support provided by the Bible, the daily reading of almanacs[21] favoured the birth of a more rational and pragmatic mentality among the settlers, which proved useful when dealing with the uncertainties of a future so tied to the good results of the harvest. Read individually, they offered a vision of life and of nature understood as a manifestation of the divine will,[22] and also provided vital information about the ways to perform the cultivation of crops in a continent whose material characteristics were very different from those of the regions they came from.[23] In the New World the characteristics of an editorial product were defined: geared to mass consumption, cheap, useful and above all easy to interpret, a small book that could be read and consulted on a regular basis.[24]

Almanacs in the European colonies in North America became works conceived with a clear sense and practical application. In Europe the phenomenon of calendars or almanacs for farmers found a way to spread in the second half of the eighteenth century. In Paris the

[19] Capp, *Astrology and the popular press*; A. Lawrence-Mathers, 'Domesticating the calendar. The hours and the almanac in Tudor England', in A. Lawrence-Mathers and P. Hardman (eds), *Women and Writing, c.1340–c.1650: the domestication of print culture in the British Isles* (2010), pp. 34–61.

[20] P. Spero, 'The Americanization of the Pennsylvania Almanac', in W. Pencak (ed.), *Pennsylvania's Revolution* (2010), pp. 36–55.

[21] M. Barber Stowell, *Early American almanacs: The weekday Bible* (1977).

[22] B. A. Watson, *Acts of God: The unpredictable guide to weather and natural disasters* (1993).

[23] C. Merchant, *Ecological revolutions: Nature, gender and science in New England* (2010), pp. 133–8.

[24] J. E. Chaplin, *Subject matter. Technology, the body and science on the Anglo-American frontier, 1500–1676* (2001).

Almanach d'agriculture was first published in 1773, aiming to contribute to 'public utility', by mainly focusing on wheat and cereals in general. Agrarian calendars quickly spread to Italy and specifically Florence, where, thanks to the *Accademia dei Georgofili* in the 1770s and 1780s, a series of astronomical tables were provided to farmers.[25] We can consider this to be concrete testimony to a cultural environment that was permeable to the nascent science of agronomy. Other cities in the peninsula were not insensitive to the new genre. In 1789 the *Lunario pe' contadini. Della coltivazione degli ulivi*, was published in Milan, while in 1791 the Royal Agricultural Society of Turin promoted the *Calendario reale georgico ossia almanacco d'agricoltura ad uso principalmente degli agronomi*, primarily used by agronomists in Piedmont.

At the beginning of the nineteenth century agricultural almanacs in Italy acquired a new impetus. The French authorities considered them to be a valuable educational tool to reach popular circles and, at least in the kingdom of Naples, they were considered to offer 'useful precepts for agriculture'.[26] If, at the end of the eighteenth century, almanacs were still closely linked to a conception of agricultural work in which it was important to keep in mind the phases of the moon and the movements of the stars, with the beginning of the nineteenth century popular beliefs gave way to a technical and scientific approach, which accelerated the rethinking of cultural paradigms. Faced with the death of livestock for instance, it was no longer possible to continue to rely on bizarre and useless home remedies.[27] In this context, cattle plagues, which for more than a century had ravaged the European countryside, expanded the issues to be addressed. This was an attempt to spread modern veterinary knowledge among the peasants, to replace the popular knowledge that now seemed devoid of all scientific foundation.

Language and content inherited from tradition mingled with innovations in publications such as *L'agricoltore indovino* (Modena, 1801), *Calendario per gli agricoltori ossia memoriale delle rustiche faccende* (Modena, 1821), *L'amico dell'agricoltore. Almanacco veterinario* (Milan, 1824), *L'agricoltore. Lunario* (Bologna, 1826), *Il buon vecchio contadino* (Florence, 1838), *Il campagnino maestro d'agricoltura ovvero L'amico dei contadini* (Turin, 1846). For example, the *Almanacco veterinario*, whose author was the veterinarian, Professor Roberto Fauvet,[28] aimed to provide 'precepts about how to obtain the best possible livestock, to keep it healthy and to cure (in accordance with the progress of the branch of medicine devoted to it), the simplest and most common diseases'. In contrast to this, other almanacs continued to appear in the usual way, as works without the author's name. With regards to their places of publication, in

[25] *Lunario per i contadini della Toscana ovvero istruzione d'agricoltura* (1774); *Lunario per i contadini della Toscana per l'anno bisestile* (1788); M. Lastri, *Lunario per i contadini della Toscana per l'anno 1782. Ovvero anno rustico nono* (1782).

[26] V. Trombetta, *L'editoria a Napoli nel decennio francese. Produzione libraria e stampa periodica tra Stato e imprenditoria privata (1806–1815)* (2011), p. 133.

[27] M. Ferrières, *Histoire des peurs alimentaires. Du Moyen Âge à l'aube du XXe siècle* (2002) [English edn, *Sacred cow, mad cow: a history of food fears* (2006)]; L. H. Curth, *The care of brute beasts: a social and cultural study of veterinary medicine in early modern England* (2010). For the interaction of almanacs and medicine see T. A. Horrocks, *Popular print and popular medicine. Almanacs and health advice in early America* (2008); L. H. Curth, *English almanacs, astrology and popular medicine, 1550–1700* (2007).

[28] Roberto Fauvet, professor of veterinary medicine at the University of Rome in the 1840s. He was the head of the Pontifical army and the author of numerous treatises on animal diseases, especially of horses. See G. Baretta and G. M. Griffini, *Almanacchi dell'Ottocento a Milano* (1987), p. 64.



FIGURE 1: *Almanacco pel 1827. I proverbi del buon contadino* (Milan, 1827).

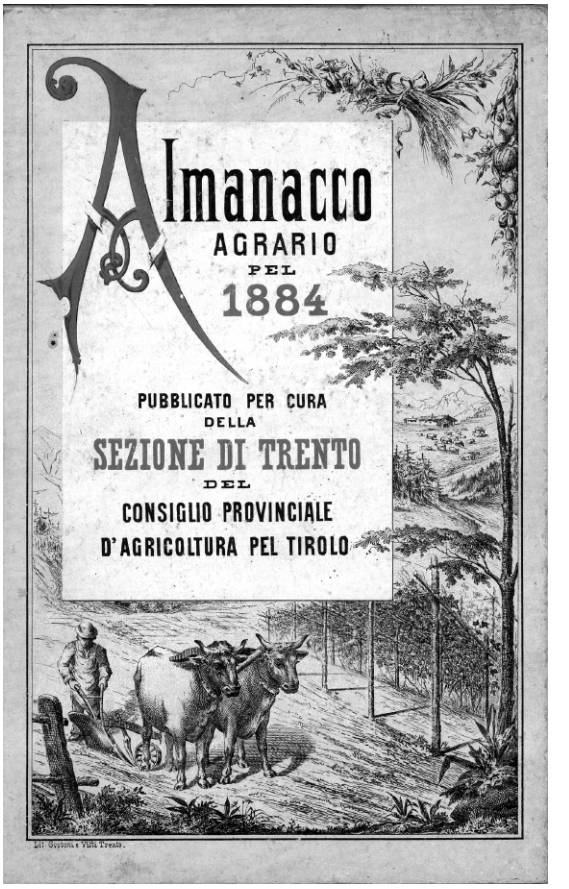


FIGURE 2: *Almanacco agrario di Trento*, Consiglio agrario provinciale (Trento, 1884).

addition to Florence, Turin and Milan, in the early decades of the nineteenth century agricultural almanacs were printed in Bologna and Modena, the two cities of the Po valley, which at the time was of considerable importance in the agricultural field.

Although it is difficult to link almanacs to a single evolutionary trajectory, starting in the early decades of the nineteenth century, alongside the traditional forecasts of harvests, almanacs increasingly contained more substantial sections of practical advice about agricultural work. One could say that *projections* were replaced by *instructions*. In the almanacs published in Italy there was a section called variously 'Advice for farmers' ('*Avvisi agli agricoltori*'), 'Information useful to farmers' ('*Cognizioni utili agli agricoltori*') or 'Instructions for agriculture' ('*Istruzioni d'agricoltura*'), which, in most cases, included a diverse compendium of advice, covering a range of topics, from the preservation of flour, to the correct use of manure for the cultivation of clover, to methods of ploughing to prepare the soil for planting. In the texts a moral and pedagogical approach prevailed, which sought to inform to the farmer about his obligations and duties in every circumstance. Nevertheless, they also covered very real aspects of life in the fields; for instance, soil quality, the cleaning of stables, the disinfection of granaries, the

planting of maize, the arrangement of olive trees, the benefits of potatoes as food, and the breeding of silkworms.

In this period, almanacs for farmers or landowners also demonstrate the initiative shown by printers, who were able to grasp the commercial potential of popular publishing and, through their activities, develop areas that had been little explored by the market if at all. The spread of the small volumes was achieved by pedlars and hawkers, who, by taking on the widespread distribution of almanacs in dozens of markets and fairs in Italy, played a major role in the transmission of content.[29] Nevertheless, we are faced with the inherent difficulty of reconstructing reliable quantitative data relating to the production of almanacs, which might allow us to calculate, even in principle, the number of potential readers.[30] Unfortunately, as we know, this is not easy to overcome, because almanacs, like many other 'minor' works, are not easily catalogued or quantified. In particular, given their nature, they were ephemeral publications, intended to fulfil their function for only one year, after which they were replaced. Generally they were not preserved.[31]

The popularity of almanacs brings us to the question of use. Before education was extended through mass schooling in the twentieth century,[32] much of the rural population had access to educational content through these slim volumes, transmitted, among others, by land agents and parish priests, who thereby played a leading role in the circulation of agricultural knowledge.[33]

Land stewards, *fattori* or agents were central figures in the management of a farm. They became the subject of a rich crop of publications, which also developed from the late eighteenth century.[34] As is clear from an increasing production of manuals and treatises on the management of lands,[35] the *fattore* was not only the representative of the master, charged with enforcing the terms of the contract; he also became the person in charge of communicating new agronomic knowledge, inviting people to set aside empiricism to put into practice what was reported in the books. Unlike agronomic publications aimed at a small group of educated readers, the short texts published in almanacs were written in a simple and clear language, and

[29] On the role of pedlars in the consolidation of popular reading see R. Chartier, *Culture écrite et société. L'ordre des livres (XIVe–XVIIIe siècle)* (1996) [English edition, *The order of books: readers, authors and libraries in Europe between the fourteenth and eighteenth centuries* (1994)].

[30] As an example, some data regarding the presses of Foligno gives an idea of the quantitative dimensions attained by the production of almanacs in Italy over the course of the nineteenth century. In 1878 the *Moti celesti* by Feliciano Campitelli had a print run of 300,000 copies and in 1908 Salvati's *Barbanera* claimed to reach 100,000 readers. M. Vaquero Piñeiro, 'Almanacchi per l'anno nuovo. Produzione e commercio di almanacchi a Foligno', in *Barbanera 1762* (2012), pp. 222–43.

[31] Chemello, *La letteratura popolare*, p. 167.

[32] E. De Fort, *Scuola e analfabetismo nell'Italia del '900* (1995).

[33] *Il Calendario per gli agricoltori ossia memoriale delle rustiche faccende* was addressed to 'landowners, people who rent land, *fattori* and peasants who can read'.

[34] On the professional profiles of the *fattore* or land steward from the eighteenth to the nineteenth century see B. Rossi, *Il fattore di campagna: profilo storico-giuridico* (1934); E. Luttazzi Gregari, 'Fattori e fattorie nella pubblicistica toscana fra Settecento e Ottocento', in *Contadini e proprietari nella Toscana moderna. Dall'età moderna all'età contemporanea* (2 vols, 1981), II, pp. 5–83.

[35] M. Vaquero Piñeiro, 'Le temps de travail dans l'agriculture italienne: les traités agricoles (XVIe–XIXe siècles)', in C. Maitte and D. Terrier (eds), *Les temps du travail. Normes, pratiques, évolutions (XIVe–XIXe siècle)* (2014), pp. 195–212.

often resorted to the use of dialogue in the form of direct speech. In addition, their small size made them inexpensive and transportable. These features made it possible for *fattori* to use the almanacs in a stable, in a country house, or under a tree, where they would instruct farmers by providing them with new agricultural knowledge.[36]

It is true that there was a current of thought that was hostile to this type of popular publication, which it saw as a simple collation of eccentricities and superstitions divorced from true science.[37] But if there is any doubt that the early nineteenth century was consumed by a clash between low and high 'knowledge', the fact that the administrators of the farms were able to pass on new developments increased the power and prestige they enjoyed amongst illiterate or semi-literate peasants.

Parish priests played an equally important role to that of the *fattori* in the dissemination of the new agrarian thinking: many were authors of agronomic catechisms.[38] Already, at the end of the eighteenth century, works had begun to circulate that emphasized how important it was that country priests knew the 'best rules of agriculture' and 'rural economy'.[39] In the early nineteenth century the teaching of subjects related to agriculture was introduced in Italian seminaries. Well before the unification of Italy, a familiar figure was the diligent pastor who, in addition to the salvation of souls, took care of the health of the fields; teaching cultivation methods, concepts of chemistry and the importance of domestic hygiene, by practical example in some garden or farm personally run by him.

The agrarian catechism became another rich genre that was addressed to the working classes.[40] By adopting the traditional form of the dialogue and a pedagogical approach that placed even more importance on establishing a direct link between the natural (that is, conservative) order of society and that of the fields, the catechisms were able to convey the new concepts to peasants using simple language. Agriculture was to be improved without subverting the rules that governed the social equilibrium. By proclaiming that country estates were like a family, and that the owners would benefit by raising the social and moral condition of the peasants, these texts were intended to guide the life of the peasants. They were to dedicate themselves to their work without leisure, to live happily without evil thoughts, to remain content with their condition, far from 'violent desires' and attentive to the prosperity of their 'small fields', knowing how to accept, with 'virtuous resignation the many reversals that are wont to happen in human life'.[41] Without abandoning a paternalistic vision that excluded any criticism of social arrangements or the actual conditions of peasant life, the need was to advise

[36] For a telling example of the reading of agricultural books to peasants on the part of *fattori,* see *Archivio del proprietario e dell'agricoltura ossia collezione periodica di memorie e di osservazioni sopra le parti tutte dell'economia domestica e rurale*, VI (1834), p. 233.

[37] *Il giornale agrario toscano*, IX (1835), pp. 456–62.

[38] L. Allegra, 'Il parroco: un mediatore fra alta e bassa cultura', in C. Vivanti (ed.), *Storia d'Italia. Annali 4. Intellettuali e potere* (1981), pp. 895–950; F. Landi, 'Il parroco maestro dei contadini: modelli di controllo sociale e di informazione agronomica nella pubblicistica del Settecento', *Proposte e ricerche*, 24 (1990), pp. 133–52.

[39] P. Brunello, *Acquasanta e verderame. Parroci agronomi in Veneto e in Friuli nel periodo austriaco (1814–1866)* (1996), p. 57.

[40] For an allusion to three works which had considerable success see: G. B. Gagliardi, *Catechismo agrario per uso de' curati di campagna e de' fattori delle ville* (1793); I Ricci, *Il Catechismo agrario per uso dei contadini e dei giovani agenti di campagna* (1832); C. Pollini, *Catechismo agrario* (1856).

[41] Brunello, *Acquasanta e verderame*, p. 94.

the 'good peasants' in order to eradicate archaic methods of cultivation. Through their example and teaching, parish priests were extremely important in spreading agricultural knowledge.[42]

However, the *fattori* and parish priests were not the only the potential readership of agricultural almanacs. The success met by these works during the nineteenth century suggests that the readers included a vast galaxy of agronomists, surveyors, veterinarians, merchants and small landowners of the countryside and the city. They could find in the almanacs a point of reference for planning economic activity, and a current vision of a rapidly changing society. The extent to which the almanacs were part of a movement to overcome local cultural practices in favour of a uniform agrarian culture regardless of geographic area remains to be ascertained. However, it is clear that, as they circulated with ease, almanacs helped to spread the idea that it was necessary to suppress traditional agricultural practices. At least in theory, this type of publication, together with other agricultural works, represented a stage in the construction of a national agriculture.

II

The popularity of agricultural almanacs intensified around the middle of the century, a moment when agricultural practices underwent a decisive change. The spread of phylloxera, powdery mildew, grape downy mildew and *pébrine* (a disease of silkworms), which occurred almost simultaneously in Europe in the mid-nineteenth century, forced Italian viticulture and sericulture to find – in a relatively short time – remedies to avert the contraction of two economic sectors of strategic importance. In the face of large-scale losses and the proven futility of traditional ways of combating disease, the world of agriculture had to rely on the results of theoretical studies and laboratory experiments. Therefore it is not surprising that, at this moment, there was a further multiplication of agricultural almanacs, designed to appeal to specialized audiences, and directed to meet the needs of particular production areas. Like their predecessors, the new almanacs also arose from the assumption that it was pointless to provide peasants with complex books, which they would neither read nor understand. It seemed much better to provide a few, clear explanations, using a genre that had already shown itself to be very useful in conveying theoretical and practical knowledge.

A quick overview of the titles and places they were published gives an idea of the scope of the popularity of agricultural almanacs during the period of Italian Unity: *L'amico del contadino ad uso degli agricoltori* (Milan, 1849); *La flora* (Portoferraio, 1855); *Almanacco del coltivatore* (Cuneo, 1863); *Almanacco del coltivare* (Casale, 1863); *Il maestro del villaggio almanacco dei campagnoli* (Modena, 1868); *Il buon contadino* (Lucca, 1868); *Almanacco agrario* (Milan, 1868); *Almanacco del frutticoltore* (Turin, 1869); *Almanacco del vignaiuolo contenente tutte le operazioni che riguardano la coltivazione delle vite coll'indicazione dei lavori mensili da farsi nella vigna* (Turin, 1870); *Almanacco dei vini o istruzioni sulle cure da eseguirsi mensilmente* (Venice, 1870); *Il mentore degli agricoltori* (1872); *Almanacco del coltivatore* (Milan, 1872);

[42] C. Gaboriaux, 'Entre innovations agronomiques et pratiques paysannes. La figure de l'agriculteur pratique au XIXe siècle', in C. Bonneuil, G. Denis and J. L. Mayaud (eds), *Sciences, chercheurs et agriculture. Pour une histoire de la recherche agronomique*, (2008), pp. 45–60.

L'amico del contadino (Casale Monferrato, 1873); *Almanacco del coltivatore e del vignaiuolo* (Milan, 1876); *Almanacco delle campagne* (1880); *Almanacco per i campagnoli* (Florence, 1887); *Almanacco per l'apicoltore* (Padua, 1872).[43] A study of the data on place of publication collected so far suggests the limited output of publishers in the southern cities of the peninsula, which confirms that Italian agronomic thought was mainly rooted in the central and northern regions. One could speak of a direct relationship between the level of modernization of agriculture and the multiplication of tools for the dissemination of agricultural innovations. Such a mechanism of cause and effect did not take hold in the cities of the south because of the backward structure of production, which did little to stimulate change.

The agricultural almanacs of the second half of the nineteenth century brought with them some significant changes, starting with the price, clearly visible on the cover: some cost a few cents and others one or two pounds. Publishers such as the Unione tipografico-editrice of Turin, which foresaw the commercial potential inherent in these volumes, priced their almanacs competitively to achieve a large circulation. In the same vein new newspapers such as the *Giornale d'agricoltura del Regno d'Italia*, *Gazzetta delle campagne*, *L'Amico del contadino*, *L'agricoltore* and *Il coltivator*, also produced almanacs which were intended to broaden the scope of their buyers by offering a winning combination of daily and instructive reading.[44]

In Italy farmers' almanacs allowed many people to participate in the dissemination of agronomic knowledge. Among the contributors to almanacs were Prof. Ettore Celi, Camillo Zucchi the expert in agriculture and director of a farm in the Bologna area, the Marcellino brothers and Giuseppe Roda, authoritative experts on fruit trees and gardens, owners of an orchard in Turin,[45] the doctor-agronomist Gaetano Cantoni, first director of the Higher School of Agriculture of Milan,[46] and Ottavio Ottavi, author of numerous works on wine. Enrico Barbero, the owner of a farm and publisher of the newspaper the *Gazzetta delle campagne*, was particularly careful, for obvious market-related reasons (he was selling farm machinery and equipment), to provide news of machinery and equipment. The multi-faceted cultural reality that can be seen in the panorama of the many editorial initiatives suggests that, beyond the conventional definition of 'minor press', agricultural almanacs looked in a plurality of directions. Cantoni argued that, given that they were 'plain in shape and practical in tone', almanacs were very helpful as they were addressed to farmers and landowners.[47] The texts, therefore, represented an additional element in a vigorous agricultural debate. These were the decades in which Italy began to operate higher schools of agriculture (Pisa, Portici, Milan, Perugia) and the royal schools of practical agriculture, while in the towns and villages courses,

[43] The catalogues of the libraries of the Accademia dei Georgofili (www.georgofili.it/biblioteca/ric.asp), the Centro di cultura e civiltà contadina, Biblioteca internazionale 'La Vigna' (www.lavigna.it/it/biblioteca) were consulted.

[44] For France see *Almanach du cultivateur et du vigneron*, a supplement of the *Journal d'agriculture pratique et de jardinage* (Paris, 1846)

[45] M. Macera (ed.), *Marcellino e Giuseppe Roda: un viaggio nella cultura del giardino e del paesaggio* (4 vols, 2009–10).

[46] The author, among other works, of the *Enciclopedia agraria italiana*; on Gaetano Cantone, see A. Mantegazza, 'Laboratori di chimica, campi sperimentali e gabinetti di zoologia. La Scuola superiore di agricoltura', in E. Canadelli (ed.), *Milano scientifica, 1875–1924*. I, *La rete del grande Politecnico* (2008), pp. 185–209 (at p. 191).

[47] F. Della Peruta and E. Cantarella (eds), *Bibliografia dei periodici economici lombardi: 1815–1914*, I, (2005), p. 56.

lectures and practical exercises were organized, promoted by agricultural rallies by itinerant teachers, rural schools and a number of bodies involved in the debate on agrarian issues.[48]

Within this framework, the contents of the almanacs mirrored the popularity of figures and places linked to research: 'the scientist as a special professional, the laboratory as a place of knowledge and conjunction of progress'.[49] The scheme that saw the almanacs as a means for the dissemination of knowledge developed from on 'high', in places that were scientifically sanctioned. The gradual transition from a solid framework of popular beliefs to a scientific climate, progressive and confident, can be seen in the almanacs of the late nineteenth century, which gave advice on such matters as the depth of ploughing, the care of trees attacked by insects, the use of grafts, the management of irrigated meadows, the preparation of forage and so on, always following the directions provided by 'experienced farmers' or the 'writings of the best agronomists'.

It was increasingly necessary to deal with agricultural issues in a systematic way, to deepen knowledge of them, especially highlighting the following main elements: (1) farming jobs; (2) pruning and viticulture; (3) plantations; (4) sowing in fields; (5) horticulture, floriculture and fertilization; (6) mowing and harvesting; (7) silkworm farming; (8) ploughing and irrigation; (9) fruit, hemp and flax; (10) the harvesting of maize; (11) fertilizing and harvesting of olives and (12) fodder and repairs. The landlord, rural manager, or head of the family farm, had to learn – just as in a modern farm – to organize people's activities over the working day. In particular, he had to permit more young people to attend school, because basic education was increasingly felt to be important in the practice of agriculture. Albeit in a very embryonic way, some of the issues would be echoed strongly in the next century by bodies such as the Ente nazionale italiano per l'organizzazione scientifica (Italian national scientific organization), which was founded in 1926 by Confindustria (the Italian national trade union) with the aim of encouraging companies to apply the principles of Fordism and the scientific organization of production to agriculture.[50] The farms, following the model of the new factory, had to be directed effectively and organized for maximum economic benefit.

The texts for 'good country folk' – the outdated *Avvisi agli agricoltori*, 'Advice to farmers' – tended to give way to scholarly articles on individual topics. In the early 1880s, before the widespread use of chemical fertilizers, there are frequent references in the almanacs to the importance of organic fertilizers, an issue that was presented under the symbolic title 'Nothing is to be wasted', and which went hand-in-hand with recommendations to ensure that every farm used manure pits in an efficient way. Almanacs contained long expositions on collecting and using urban organic waste, something that was achieved by establishing companies to

[48] O. Failla and G. Fumi (eds), *Gli agronomi in Lombardia: dalle cattedre ambulanti a oggi* (2006). See N. Goddard, 'Agricultural institutions: societies, association and the press', in E. J. T. Collins (ed.), *The agrarian history of England and Wales,* VII*, 1850–1914* (2 vols, 2000), (i), pp. 672–77.

[49] P. Govoni, *Un pubblico per la scienza. La divulgazione scientifica nell'Italia in formazione* (2002); C. L. Lacaita, 'La cultura tecnico-scientifica nell'Ottocento: problemi e percorsi di ricerca', in M. L. Betri (ed.), *Rileggere l'Ottocento. Risorgimento e nazione* (2010), pp. 441–56. For popularization of science and technology in the nineteenth century see J. Bowler, *Science for all. The popularization of science in early twentieth-century Britain* (2009); F. Papanelopoulou, A. Nieto-Galan, and E. Perdiguero (eds), *Popularizing science and technology in the European periphery, 1800–2000* (2009).

[50] G. Murro, *La cipolla del signor Taylor. Fascismo, propaganda, organizzazione scientifica del lavoro agricolo (1926–1935)* (2009).

use slaughterhouse waste. In addition to making the city more hygienic,[51] the procurement of urban refuse enabled farmers to improve soil quality.

Of course, we cannot use the content of almanacs as the sole criterion to measure the intensity and nature of the changes that European agriculture underwent during the nineteenth century. Nevertheless, it is clear that, from the first half of the century onwards, almanacs played an important role in technical communication through drawings and explanations.[52] For example, special attention was paid to the 'American-type cylinder' plough as having great beauty and perfection because, it was said, it allowed for uniform ploughing. Other ploughs examined included the 'Eagle'. Attention was also paid to tillers, harrows and to the revolutionary steam threshers whose cost was between 9000 and 16,000 liras. Machines like these, from English and German factories, were elevated to the rank of emblems of much-sought-after progress. From even the briefest of information about the new innovations, the 'slow and uneven process of the diffusion of innovations in mechanical agriculture' was pursued.[53] The use of agrarian technology was encouraged by the inclusion in the almanacs of pages and even sections of advertising that provided essential technical information about the machines in question (weight, sizes, prices), enabling readers to become familiar with their form and complexity. The transfer of technical knowledge to the rural working classes[54] was supported by drawings, which were gradually supplanted by photographic images.

In the hope of advancing national agriculture and detaching it from the practices of the past, the texts of almanacs encouraged the cultivation of sugar beet, as its production offered many economic benefits.[55] In an effort to overcome the resistance of the peasants to the introduction of a new crop that required more work and expense, they insisted that the Italian sugar industry would be able to pay fair prices. The cultivation of sugar beet, it was claimed, was especially advantageous because, by requiring repeated deep ploughing and weeding, it would substantially increase the fertility of the fields. The fact that it was possible to obtain a significant increase of livestock and obtain a better manuring of the land was not overlooked. After the beet was crushed and the sugar extracted, the crushed pulp of the beets was returned to the farmers as animal feed. In presenting the strengths of a new crop, the almanacs argued that excellent results could be achieved by adopting strategies to reduce the costs of cultivation, using high-quality seeds and collaborating with the sugar industry. In short, it was hoped that all would accept, without hesitation, the replacement of wheat with a crop that, in some provinces, had already profoundly changed the economic conditions of the farmer.

Both agricultural newspapers and popular almanacs stressed the benefits to farmers of abandoning behaviour such as the atavistic tendency to work alone. On the threshold

[51] P. Bevilacqua, *La mucca è savia. Ragioni storiche della crisi alimentare europea* (2002), pp. 12–14; E. Sori, *Il rovescio della produzione. I rifiuti in età-preindustriale e paleotecnica* (1999).

[52] On the role of publicity as a vehicle of communication and also as a stimulus to the debate on technical progress, see P. Bret, K. Chatzis and L. Pérez, *La presse et les périodiques techniques en Europe (1750–1950)* (2008).

[53] G. Della Valentina, 'Meccanica agraria e motorizzazione dell'agricoltura italiana', in P. P. D'Attorre and A. De Bernardi (eds), *Studi sull'agricoltura italiana* (1994), pp. 403–38 at p. 405.

[54] P. Govoni, 'Scienza per tutti', in L. Braida and M. Infelise (eds), *Libri per tutti: generi editoriali di lunga circolazione tra antico regime ed età contemporanea* (2010), pp. 181–200.

[55] M. E. Tonizzi, *L'industria dello zucchero. La produzione saccarifera in Italia e in Europa, 1800–2000* (2001).



FIGURE 3: *Agenda Caffaro. Prontuario pel viticultore e frutticultore, Società Caffaro* (Varese, 1923).

of the twentieth century it was essential to encourage the formation of productive collective entities that facilitated collaboration and the sharing of risks. Hence there were numerous texts published in almanacs arguing for the establishment of cooperative wineries and dairies. Specifically, the solutions that had been adopted in the United States, where the development of dairies had strengthened the position of farmers, were presented as models. A leap in quality could be achieved only if Italian farmers learned to use milk correctly. To this end, it was hoped to develop a network of dairy schools evenly distributed throughout the national territory, in which it was possible to learn 'the correct properties of milk, … how [to] handle it in different ways and obtain those products that are the most sought after and profitable according to different circumstances'.[56] Another theme frequently dealt with by agricultural almanacs was the production of wine not only for American markets (United States, Brazil, Argentina), but also for other markets, even more distant and exotic, such as Japan.[57] The opportunities for the sale of table grapes abroad, starting with Germany, which appeared particularly receptive to fresh food products from the Mediterranean countries, were not neglected either.

The numerous almanacs devoted to the field of viticulture[58] urged the construction of

[56] In 1860 the experimental dairy farm in Lodi began to function and in 1874 the school of husbandry and the dairy farm of Reggio Emilia was established. A. Galbani, 'Il caseificio lombardo e la Stazione sperimentale di caseificio di Lodi (1860–1880)', *Storia in Lombardia*, XIV (3) (1995), pp. 5–31; L. Cavazzoli, 'La stazione sperimentale di caseificio di Lodi, 1871–1900', in E. Decleva, C. G. Lacaita and A. Ventura (eds), *Innovazione e modernizzazione in Italia fra Otto e Novecento* (1995), pp. 123–66.

[57] Editions of guides to facilitate the sale of Italian wines for export are also to be considered. See P. Trentin, *Manuale del negoziante di vini italiani nell'Argentina: esportatore dall'Italia, importatore nell'Argentina, rivenditore all'ingrosso e al minuto* (1895).

[58] F. Lebeuf, *Calendario dei vini o istruzioni sulle cure da eseguirsi mensilmente per conservare, migliorare i vini vecchi o nuovi e risanare quegli che sono ammalati. Ad uso dei proprietari di vigne, dei negozianti, degli assaggiatori di vini, di bottai e cantieri* (1864); M. Roda, *Almanacco del vignaiuolo contenente tutte le operazioni che riguardano la coltivazione della vite coll'indicazione dei lavori mensili da farsi nella vigna* (1869); *L'amico del cantiniere. Almanacco del Giornale vinicolo italiano*, I (1891).

modern wine cellars because 'the cellar is the mother of wine'. High standards of cleanliness and hygiene were insisted upon. The procedures to be followed to obtain good red and white wines through the use of enzymes on the basis of the studies of Louis Pasteur were explained.[59] A great deal of attention was given to the fight against the diseases that damaged vineyards. The recommendations essentially concerned downy mildew, against which remedies made from copper were effective, while for many other diseases such as phylloxera, the choice was between the managed destruction of the vineyards or watching helplessly as the plants died. With the prospect of averting huge losses while, at the same time, giving the sense of modernization of oenology, wine almanacs of the second half of the nineteenth century were widely used to spread the idea that it was possible to fight parasitic diseases by spraying the plants with substances which were hitherto unknown: that regular sulphuring of vineyards with the aid of special equipment was essential. This was depicted using advertising images of the equipment, with associated explanations of its function. These operations were carried out without any fear that the grapes, and therefore wine, would take on the taste of sulphur, although this had been a common anxiety from the 1860s onwards.

The third turning point in the history of agricultural almanacs took place in the early years of the twentieth century. While not supplanting the format and content of nineteenth-century almanacs, in the years before the First World War new titles flourished, providing a glimpse of the emergence of new themes and new sensibilities, both in the subjects treated and in the language used, as well as in advertising. The *Almanacco del giornale l'industria lattiera e zootecnica* (Reggio Emilia, 1910), the *Almanacco delle scorie Thomas* (Genoa, 1914), and the *Almanacco della società degli agricoltori italiani* among other titles anticipate some of the issues and communicative mechanisms that Fascism, in its search for consensus among the rural population, would subsequently exploit.

III

In the early twenties the communicative style used by the agricultural almanacs underwent a radical renewal. The start of the agricultural policy promoted by Fascism, aimed at increasing grain production in the country, changed the purpose of the texts made available to farmers. Almanacs now had to be faithful executors of the objectives of the regime. The books that had arrived annually for decades in the homes of hundreds of families now had a new function, becoming one of the tools to achieve national progress, technical-scientific standardization and, more generally, the inculcation of Fascist principles among the peasant masses.[60]

The texts contained by the almanacs display traces of a frantic search for consensus. This came to monopolize the space available, including the captions about the tasks to be performed each month. We often come across sentences such as:

[59] On the close relation between scientific progress and agricultural development see M. Cassier, 'L'invention et la diffusion du vaccin charbonneux. Pasteur, entre science, agriculture et nouvelle industrie biologique', in Bonneuil, Denis and Mayaud (eds), *Sciences, chercheurs et agriculture*, pp. 61–84.

[60] On the disciplining of peasants, see G. Canguilhem, *Il fascismo e i contadini* (2006). On corporativism in general in Fascist Italy, see A. Gagliardi, *Il corporativismo fascista* (2010).

> Our Prime Minister Benito Mussolini, who cares so much about the development of Italian agriculture, has waged the battle of the grain. Each farmer must respond to the appeal of the Duce and continually enhance his production to liberate Italy from foreign imports of grain that weigh so hard on the national economic equilibrium.

or

> … he who has fought with faith by following good cultural practices will surely get high yields. Fields abundantly fertilized with chemical fertilizers will produce the best results. He who has not lavished all the care possible on the grain is to be regarded as a deserter of the good fortune of Italy.[61]

It was a clear attempt to engage the rural classes: 'Every farmer must contribute his work to increasing the prosperity of the nation and to achieve the independence of Italy, freeing it from the slavery of foreign markets'.[62] With the advent of Fascism, the almanacs came to acquire a national dimension and to incorporate messages about and statements of the government's economic policy: they became instruments of political propaganda.

During the '20s and '30s, new types of promoters of almanacs appeared. If the market had previously been served by a series of small printers, during the Fascist era, almanacs such as the *Agenda del nitrato di Chile* (Rome, 1929), the *Agenda Caffaro* (Genoa, 1923), the *Agenda agricola della Montecatini* (Milan, 1924) and the *Agenda agricola* of the National Confederation of Fascist Farmers began to circulate. They also produced booklets and notebooks with space to write and keep weekly accounts. Receiving contributions from business groups, trade unions, newspapers and sellers of seeds and plants, almanacs and calendars included pictures and tables with statistics to show objective evidence of progress and figures from the national economy in terms of quintals of wheat produced or tons of fertilizer used. In this way, blending commercial advertising and political propaganda, the usual columns containing recommendations and practical guidance on the crops were reconfigured and now acquired the status of a real vehicle of modernization, also visible in the colour photographs and images that accompanied the texts. The traditional weather predictions, proverbs, astronomical tables, calendar information remained, but in the '30s, when glossy magazines became widespread, even the modest agrarian almanacs had to adapt their figurative language.[63]

As soldiers ready to fight a tough war in the name of national food self-sufficiency, all Italian agricultural workers – without distinction of rank or social status – had to keep their attention focused on the massive use of chemical fertilizers, which the texts presented as the true panacea of national redemption. Not surprisingly, around 1930 advertisements began to appear in the almanacs for calcium cyanamide manufactured in Terni and the range of products offered for sale by the influential Montecatini Company. At the same time, information became more and more specific about the types of chemical fertilizers[64]

[61] *Moti celesti dell'astronomo degli Appennini Barbanera* (1927), pp. 12 and 24.

[62] *Moti celesti dell'astronomo degli Appennini Barbanera* (1938), p. 32.

[63] D. Forgacs and S. Gundle, *Mass culture and Italian society from Fascism to the Cold War* (2007) [Italian edition, *Cultura di massa e società italiana* (2007)].

[64] On chemical fertilizers in Italy see M. Pezzati,

and the amount that it was necessary to use. The issue of chemical fertilizers was one of the flagships of the official publications that aimed to encourage the development of domestic agriculture. The space given to this issue attests that the almanacs, alongside the itinerant teaching of agriculture and agrarian rallies, represented a powerful channel of indoctrination. For instance:

> chemical fertilizers should be used by all the farmers who want to increase their products and earn a lot. Chemical fertilizers (superphosphate, potash and nitrogen fertilizers) will also intensify the forage production and thus increase the livestock and manure accordingly. This in turn is a major source of fertility.[65]

The message circulated was also clear in its extremely direct formulation:

> the diligent, intelligent and hard-working farmer will always receive a well-merited reward of abundant harvests and the satisfaction of having helped to increase the prosperity of the nation that is based on the agricultural industry.[66]



FIGURE 4: *Agenda dell'agricoltore*, Confederazione fascista degli agricoltori (Rome, 1938).

Superphosphate, calcium cyanamide and sulphate, all became new watchwords of national agriculture, substances that the farmer, choosing the Italian brand that cost less and performed the same, had to learn to use, respecting the proportions and the dictates of agricultural engineering.

The problem of the technical training of farmers was hotly debated during the Fascist period. The readers of the almanacs were reminded of the importance of attending conferences and training courses organized by the itinerant agricultural organizers. Contributing to the training of the obedient and disciplined 'Fascist peasant',[67] the almanacs of the Fascist era provided essential information on a type of agriculture that was based not on the 'to do'

Note 64 *continued*
'La Federazione dei consorzi agrari ed il mercato dei concimi chimici (1892–1932)', in S. Fontana (ed.), *La Federconsorzi tra Stato Liberale e fascismo* (1995) pp. 133–63; id., 'Industria e agricoltura: i concimi chimici', in D'Attorre and De Bernardi (eds), *Studi sull'agricoltura italiana*, pp. 373–402.

[65] *Moti celesti dell'astronomo degli Appennini Barbanera* (1927) p. 28.

[66] *Moti celesti dell'astronomo degli Appennini Barbanera* (1925), p. 35.

[67] On Fascist rhetoric see S. Lanaro, *Retorica e politica. Alle origini dell'Italia contemporanea* (2011), pp. 140–42.

but on 'know-how' and this required knowledge that could only come from education. Such knowledge is also used in the selection of the strains of wheat to be sown, which were selected to suit the conditions of each area. In addition to absolute faith in the new weapons supplied by industry and science,[68] the peasant had to obtain, therefore, good iron ploughs since 'careful and profound work ensure the effectiveness of chemical fertilizers'.[69] To encourage the purchase of new mechanical devices, preferably transported by Fiat tractors, almanacs resorted to the political icon *par excellence*, the figure of Il Duce, whose photographs while harvesting wheat or driving the tractor were often reproduced in their pages.

In a nutshell, the texts promoted the massive use of chemical and mechanical aids in a persuasive way. It must be said, however, that with respect to the effort spent in the name of modernization, many of the images chosen to illustrate the various months of the year used a traditional way of representing the countryside, in which machines were completely absent. The agricultural work of the year continued to be largely represented, even in an almanac of 1935, by men and women reaping and threshing using scythes, sickles and flails – and a plough pulled by oxen. In its static ahistorical image, this model of agriculture, tied almost exclusively to the labour force of humans and animals, ended up relating to one of the most widely disseminated slogans of the regime: 'The weapons of the farmer? The spade, hoe, muscle and patience'.[70]

In addition to messages aimed at strengthening productive power, in the same years the texts were dedicated to the theme of saving, as well as the importance of domestic production. In this case the chosen target were rural housewives,[71] for whom there were specific calendars and almanacs (*Agenda della massaia rurale*, *Almanacco del contadino e delle massaie*) all advocating national self-sufficiency in the consumption of goods and groceries. Suggestions were made that every home should not only be endowed with gardens and cocooneries but also rabbit hutches, chicken coops and pigsties, all of which were to be supplied with feed manufactured by domestic companies, beginning with Phosphorus Ph which was presented as a true panacea to achieve robust and fast growth of chicks. The buildings for the raising of small animals had to be modern and rational, that is, built with asbestos cement. They were to be cleaned regularly but were not fitted with electric lighting.

The autarchic orientation imposed by the Fascist regime on the country's economy is amply evinced in the almanacs. For example, in 1935, the *Agenda dell'agricoltore*, published by the Fascist Confederation of Farmers, addressed the issue of farmer participation in the construction of the corporate state while in 1938 the meanings of terms such as 'self-sufficient consciousness' or 'autarchic mysticism', were explained, adding to explanatory texts photographs of the Duce and senior leaders of the party engaged in inspections of fields and farms. In particular, self-sufficiency in livestock production was advocated using a dialogue based on a series of questions and answers, which explained the need for Italy to catch up, in order to obtain 'independence from others'. This was objective was to be secured through the competition of

[68] T. Saraiva, 'Costruire il fascismo: autarchia e produzione di organismi standardizzati', in *Storia d'Italia. Annali* 26, pp. 203–39.

[69] *Moti celesti dell'astronomo degli Appennini Barbanera* (1926) p. 23.

[70] *Moti celesti dell'astronomo degli Appennini Barbanera* (1933), unnumbered pages.

[71] On female peasants and the regime see P. Willson, *Peasant women and politics in Fascist Italy: the Massaie Rurali* (2002).

large and small farmers who first had to learn the best practices of farming, starting with the use of modern silos to conserve fodder.

The almanacs of organizations and business groups linked to the agricultural sector touted ruralist rhetoric and the value of the countryside as the cradle of Italian civilization.[72] A concrete case was represented in the illustration of the procedures for land improvement. The Pontine Marshes were depicted as a joyful land with:

> ploughed fields, modern, attractive houses, churches, schools and ploughed and fruitful land everywhere filled with crops and harvests. Littoria and Sabaudia are the first rural towns of the Fascist era and others will follow.[73]

Similarly, the rural villages of the Sicilian latifundia were described, on the basis of designs, as material evidence of a new model of rural society built around the post office, the school, the church, the local Fascist centre and the tavern. Texts and drawings were supplemented by short captions, which reminded the readers of the revolutionary nature of the changes made, starting with the provision of running water in rural houses.

IV

The rhetoric of the achievements expected of agriculture disappeared from the almanacs after the end of World War II. Given the dramatic situation the country was in, the editors of almanacs changed their tune, urging readers to engage in reconstruction. Their pages were now marked by an atmosphere of peace and harmony among all Italians, who were called upon to work together in order not to miss the opportunities for social progress that would be opened up by the new Republican government. Aid received from the 'American friends' was explicitly mentioned as the basis of well-being that would surely come if a revival of the primary sector of the economy were to be implemented. Agriculture continued to be described as the main source of wealth in the country.

In terms of technical considerations, after 1945 almanacs continued to insist on the use of chemical fertilizers, the need for cleanliness and the care of plants, all of which were to be achieved with products easily available in the market. There were, however, problematic elements, such as references to the obligatory delivery of grain and oil to the 'barns and olive presses of the people'. Having been imposed by Fascism, these obligations became the source of heated controversy among political forces and unions. More attention was devoted to the presentation of the agricultural policy promoted by the government. Without departing from an ideological approach opposed to violent changes, the almanacs of the early'50s mirrored the general principles of the government. Echoing the usual patronizing tone and invoking the importance of the technical advice of agricultural inspectors, the rural classes of the post-war period were specifically invited to put their trust in men who occupied positions of responsibility, who were presented as the most competent and reliable and able to propose the best technical solutions to the problems of the country in general and agriculture in particular.

[72] V. De Grazia, *Consenso e cultura di massa nell'Italia fascista* (1981), pp. 109–45.

[73] *Moti celesti dell'astronomo degli Appennini Barbanera* (1936), p. 5.

Any political opposition was condemned and readers were urged to seize the opportunity of economic progress and social improvement that the new national and international situation seemed to guarantee.

Responding in large measure to the vision of rural development promoted by Catholic spokesmen, almanacs presented the laws on land reform and the formation of small farmer ownership in detail. They insisted on the necessity of state aid, providing guidance on how to access to loans for the purchase of agricultural machinery, the construction of irrigation systems and the modernization of farm buildings. Aid was given not only to renewing the country's agriculture, but also to curbing the loss of population from the countryside. The rapid and tumultuous transformation of the rural world, brought about by the economic boom, was interpreted in apocalyptic tones, which emphasized the dangers of 'urbanism', presented as a source of a 'moral abyss'. In this framework direct reference to the crisis of metayage (share cropping) – which for centuries had regulated the economic and social relations in the countryside of central Italy and which, in the middle of the twentieth century, was questioned – could not be avoided.[74]

Always faithful expressions of the conservative mentality of the agrarian elite, in the 1950s almanacs tried to oppose the radical changes that were destroying the traditional order of the agricultural world. Reformulating, with a new emphasis, themes dear to the agrarian elite of the late nineteenth century, they became supporters of a system that mediated the instances of a better life, enhanced by peasants, with the continuation of a form of contract that was still considered valid, if only it were updated to meet the needs of the country. Some of these needs were occasioned by bad weather, such as the terrible frost of 1956, which caused huge losses, especially in the oil sector, but others were related to news of a political-institutional nature, such as the birth of the European Union, which took place in 1957. The almanacs presented the signing of the Treaties of Rome in a positive light, as an opportunity to usher in a profound agricultural revolution, since direct competition with other European countries required a change of pace and mentality on the part of Italian farmers. As a result it seemed urgent to proceed decisively in the direction of productivity growth, the technological modernization of production, specialization and the increase in livestock quality, all measures deemed essential to achieving a substantial increase in the income and standard of living of the rural population and thus avoiding the depopulation of the countryside.

It was a moment of great excitement and popular enthusiasm. There was, for example, the first *Piano verde* (green plan), a measure publicized by the almanacs, which succinctly made it comprehensible. The plan is described as a law of the state, which would last for five years, and which was intended to stabilize the prices of agricultural products, to allow family farm enterprises to be established along modern lines, increase productivity and employment and ultimately boost farmers' incomes, as well as build power lines, rural roads and irrigation systems. The detailed analysis of the measure stressed how funds were available to allow farmers to become owners of the land they worked. The most important message was that the law intended to bring about a major improvement 'in the conditions of the people of the

[74] Z. Ciuffoletti and G. Contini, 'Il destino sociale dei contadini toscani dopo la fine della mezzadria', in D'Attorre and De Bernardi (eds), *Studi sull'agricoltura italiana*, pp. 267–82.

fields'.[75] Despite making no direct allusions to the positions of individual parties, in the way in which the almanacs of the post-Second World War period presented the agrarian laws one can see how the Catholic and government forces deliberately used them to secure electoral consent for their policies. Even in the middle of the twentieth century, almanacs were the means by which government could convey its policies to rural society.

V

The agricultural almanac genre proved to be receptive to the many rapid changes that, from the second half of the eighteenth century onwards, took European and particularly Italian agriculture along the road of industrial transformation. With regards to social issues, elements of criticism appear only occasionally in the agricultural almanacs published in Italy, which constantly pursued the goal of preserving the conservative *status quo*. In this way, the causes of backwardness and the limits of expansion disappear behind the mirror of a rhetoric that promoted modernization regardless of the actual living conditions of rural families. Almanacs provide us with a distorted vision of rural life, but, examining them in depth, we find they shed light on one of the major preoccupations of the historiography, the relationship between agricultural progress and economic development.[76] As we have seen, they presented the idea of progress shared by the dominant groups, and yet occupied a crucial space for communication, qualifying themselves, along with other vehicles of technical and cultural dissemination (exhibitions, agricultural colleges, printing[77]) as a useful instrument for the transmission of knowledge as well as a stimulus to the practice of modern agriculture.

Extending the field of observation, the story of the agrarian almanacs should be placed in the broader and more complex context of the relationship between the increase in literacy among the working classes, the formation of human capital and economic development.[78] The theme of popular education is connected, in turn, to another problem, namely their effectiveness in contributing to the adoption of new techniques and economic models. Unfortunately, information on the implementation of the recommendations contained in the almanacs is, for the moment, very scarce. Moreover, the official statistics concerning reading in Italy, such as those produced at the beginning of the twentieth century, took into consideration the reading of books only, and did not give any weight to other types of printed material deemed to be of lesser cultural value.[79] It is difficult, therefore, to understand – quantitatively or qualitatively

[75] *Moti celesti dell'astronomo degli Appennini Barbanera* (1963), p. 7.

[76] T. H. Aston and C. H. E. Philpin (eds), *The Brenner debate. Agrarian class structure and economic development in pre-industrial Europe* (1985). For the Italian case see B. Farolfi and M. Fornasari, '*Agricoltura e sviluppo economico: il caso italiano (secoli XVIII–XX)*', in M. Canali, G. Di Sandro, B. Farolfi, M. Fornasari (eds), *L'agricoltura e gli economisti agrari in Italia dall'Ottocento al Novecento* (2011), pp. 13–70.

[77] On the role of exhibitions as a vehicle of agricultural progress see G. Fumi, 'Emulazione o profitto? L'avvio delle esposizioni agricole nell'Italia preunitaria', in G. Bigatti and S. Onger (eds), *Arti. Tecnologia. Progetto. Le esposizioni d'industria in Italia prima dell'Unità* (2007), pp. 197–240.

[78] For a recent overview of the question see C. Ó Gráda, 'Fame e capitale umano in Inghilterra prima della rivoluzione industriale', in M. Vaquero Piñeiro and M. L. Ferrari (eds), *'Moia la carestia'. Le conseguenze socio-economiche e demografiche della scarsità in età preindustriale* (2015), pp. 92–126.

[79] Forgacs and Gundle, *Cultura di massa*, p. 67.

– the actual extent of the use of almanacs. Some information about it can be found, however, in the investigations that were conducted in the 1920s and 1930s by the Istituto Nazionale di Economia Agraria (National Institute of Agricultural Economics). These attest to the fact that it was not unusual to find families of Lombard peasants who claimed to dedicate some of their spare time to reading the *La domenica dell'agricoltore* (*The Farmer's Sunday*) or *La gazzeta del contadino* (*The Farmer's Journal*) as well as school books, catechism booklets and calendars.[80]

The study of agrarian almanacs obliges us to question to what extent this type of publication was able to modernize the practices of Italian farmers. It would be naive to think that the advice provided by the volumes was enough, by itself, to overturn the cultural knowledge that had been handed down from generation to generation. No doubt this is a complex issue that needs to be investigated further. Ideally we would have diaries and other personal sources to show almanacs being used as a guide, a reference text. For the time being, we can find partial confirmation that the works had the ability to penetrate deeply into the lives of people through the examination of those surviving almanacs that contain annotations on food prices or quantities of crops gathered. Given the importance of the issue, future research will have to be dedicated to this specific aspect, which will also determine the extent to which farms were equipped with the machines and tools advertised in almanacs.

Although in many ways this research is in its infancy and many questions remain unanswered, the lively Italian tradition of agricultural almanacs represents a significant chapter in the contemporary history of Italian agriculture. As communication tools, the assertion of this specific sector of popular publishing invites questions about the different ways in which information on agriculture circulated in Italy and the effectiveness of forms of dissemination among the rural public.[81] The terms of a dialectical relationship between theory and practice can now be articulated as one of the keys to understanding the process of modernization in the Italian countryside from the early nineteenth century onwards.

However, as is shown by the case of the rapid general acceptance of threshing machines, it is clear that Italian agriculture, while following its own path of development, finally overcame the dominance of local elite groups, albeit slowly.[82] In this context, almanacs, in view of their content and their marketing, must be counted among the factors that, over the long term, contributed to the formation of a uniform national agrarian culture.

[80] De Fort, *Scuola e analfabetismo*, p. 267. The surveys conducted by the Istituto Nazionale di Economia Agraria had the objective of gathering information on living conditions of peasant families. The result was the publication of a series of regional monographs of great value on account of their intrinsic quality and of their data, including photographs.

[81] A. Saltini, 'Il sapere agronomico. L'agronomia italiana tra Ottocento e Novecento: dal divorzio all'aggiornamento ai modelli europei', in R. Cianferoni, Z. Ciuffoletti and L. Rombai, *Storia dell'agricoltura italiana*. III. *L'età contemporanea*. 1. *Dalle 'rivoluzioni agronomiche' alle trasformazioni del Novecento* (2002), pp. 333–67.

[82] Della Valentina, *Meccanica agraria*, pp. 409–13.

Between nature and society: the interpretation of an early nineteenth-century Swedish farmer's diary

by Tommy Lennartsson, Anna Westin, Marja Erikson, Iréne A. Flygare, Maths Isacson and Mats Morell*

Abstract

Pre-industrial agriculture was largely based on local natural resources, which needed to be handled together with a variety of societal factors. In this study we use an unusually detailed Swedish farming priest's diary to show interactions between ecology and society at the micro-level, and how they influenced the decisions and actions made by the household. The diary is analysed by using the conceptual framework of social-ecological systems (SES). We focus on years in the 1810s, when extreme weather conditions made the weaknesses and potentials of the agrarian system particularly visible through their impact on the production of hay and pasture.

The working of pre-industrial agriculture was the result of the interaction of different drivers, related to ecosystems, economy, society, and culture. As these interactions changed, so did agriculture itself. Pre-industrial agriculture gradually vanished as a result of the 'agrarian revolution' in Scandinavia between 1750–1850. New agricultural systems, crops, and techniques were introduced.[1] This process has mainly been analysed from a local or regional perspective, in studies addressing, for example, the spread of new technology, the implications of population pressure, reactions to changing market conditions and the adoption of imposed institutional changes in the form of enclosure legislation, falling rents, the spread of new crops and rotations, improved livestock and livestock feeding, and land reclamation.[2] Regional and

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[1] Carl-Johan Gadd, 'The agricultural revolution in Sweden 1700–1870', in J. Myrdal and M. Morell (eds), *The agrarian history of Sweden* (2011), pp. 118–64.

[2] See e.g. Maths Isacson, *Ekonomisk tillväxt och social differentiering, 1680–1860. Bondeklassen i By socken, Kopparbergs län* [*Economic growth and social differentiation 1680–1860 among the farmers' class by parish, Kopparberg County*] (Uppsala Studies in Economic Hist., 18, 1979); Carl-Johan Gadd, *Järn och potatis. Jordbruk, teknik och social omvandling i Skaraborgs län 1750–1860* [*Iron and potatoes: agriculture, technique and social change in the province of Skaraborg 1750–1860*], (Reports from the Dept. of Economic Hist., Univ. of Gothenburg, 53, 1983); id., 'Jordbruksteknisk förändring i Sverige under 1700- och 1800-talen – regionala aspekter' ['Regional aspects of agrarian technical change in Sweden during the eighteenth and nineteenth centuries'], in L. Andersson Palm, C. J. Gadd and L. Nyström (eds), *Ett föränderligt agrarsamhälle, Västsverige i jämförande belysning* (1998); Pablo Wiking Faria, *Freden,*

local studies have laid the ground for syntheses at the national level, of which several have recently been produced.[3] There are, however, considerably fewer studies focusing on the actions and decisions of individual farmers, for example at the household level, or how they coped with local, regional, and national changes.

In addition to the studies mentioned before, some larger Swedish projects have used multidisciplinary approaches to explain the spatio-temporal change of the agriculture in a certain region, for example the Ystad project in southern Sweden, the Barknåre project in central Sweden, and the Ängersjö project in the north.[4] These studies demonstrate the advantages of using interdisciplinary methods for understanding historical agriculture. They also show that there are few methods available for simultaneously studying and integrating multiple variables, of a biophysical and socio-economic nature, which together provided the arena for historical agrarian households.[5]

In this study we make an addition to the small number of studies at the micro-level of the complexity of a pre-industrial farmer's arena. Our approach has been to apply a social-ecological framework to an early nineteenth-century Swedish agrarian household in order to analyse its actions and decisions, and ascertain their causes and effects.[6] We view the agrarian household as being part of a *dynamic social-ecological system* (SES), in which the household needs to manage a number of factors influencing the daily livelihood: ecological, economic, cultural, social and so on. In SES theory, such aspects are denoted *domains*. The SES approach emphasizes the links and interactions between domains, in particular between ecological and

Note 2 *continued*
friköpen och järnplogarna – drivkrafter och förändringsprocesser under den agrara revolutionen i Halland, 1700–1900 [*Peace, freeholding and iron ploughs: Drivers and processes of change during the agricultural revolution in Halland, 1700–1900*] (Department of History, Gothenburg University, 2009); Magnus Bohman, *Bonden, bygden och bördigheten – Produktionsmönster och utvecklingsvägar under jordbruksomvandlingen i Skåne ca 1700–1870* [*Peasants, production patters and paths of development during the agricultural transformation in Scania, Southern Sweden, c.1700–1870*] (Lund Studies in Economic History 52, Lund University, 2009); Aadel Vestbö-Franzén, *Research on rye: Food, humans and structural changes in the agrarian landscape of northern Småland, 1550–1700* (Dept. of Cultural Geography, University of Stockholm, 132, 2004); Anna Dahlström, *Betesmarker, djurantal och betestryck 1620–1850. Naturvårdsaspekter på historisk beteshävd i Syd- och Mellansverige* [*Pastures, livestock numbers and grazing pressure 1620–1850. Ecological aspects of grazing history in Sweden*] (Uppsala, Swedish Biodiversity Centre publications, 13, 2006).

[3] Gadd, 'Agricultural revolution'; Mats Morell, 'Property rights and growth in Swedish agriculture in the late eighteenth and early nineteenth centuries', in G. Beáur, P. R. Schofield, J.-M. Chevet and M.-T. Pérez-Picaso (eds), *Property rights, land markets and economic growth in the European countryside (thirteenth-twentieth centuries)* (2013), pp. 495–514; Mats Morell, 'Ecological constraints and property rights in Swedish agriculture, *c.*1750–1850', in B. van Bavel and E. Thoen (eds), *Rural societies and environments at risk: Ecology, property rights and social organisation in fragile areas (Middle Ages-twentieth century)* (2013), pp. 41–84.

[4] Björn E. Berglund (ed.), 'The cultural landscape during 6000 years in southern Sweden: the Ystad project', *Ecological Bulletins* 41 (1991); Ella Johansson, *Periferins landskap: historiska spår och nutida blickfält i svensk glesbygd* [*Landscape of the periphery: historical traces and present views in a Swedish rural region*] (2002).

[5] E.g. Introduction and Chapter 1 in U. Jansson and E. Mårald (eds), *Bruka, odla, hävda. Odlingssystem och uthålligt jordbruk under 400 år* [*Cultivation systemas and agriculture sustainability during 400 years*] (2005).

[6] Fikret Berkes and Carl Folke, 'Linking social and ecological systems for resilience and sustainability', in F. Berkes and C. Folke (eds), *Linking social and ecological systems* (1998), pp. 1–25; F. Berkes, J. Colding and C. Folke (eds), *Navigating social-ecological systems. Building resilience for complexity and change* (2003), pp. 1–29.

social aspects of subsistence. A historical agrarian SES at the household scale is based on local ecological conditions, traditional knowledge about how to use the ecosystems, and on the social, economic, and cultural properties of the underlying society. Social-ecological theory is often used to analyse how societies deal with ecological or socio-economic change, and how societies can build capacity to adapt to change or to shape change for sustainability. It can be used to analyse how problems and deficits in one domain can be compensated or buffered for by other domains, or, conversely, how problems in one domain can worsen problems in other domains, the latter often referred to as the cascade effect.[7]

We base the study on a detailed diary kept by the vicar and farmer, Johan Fredrik Muncktell (1764–1848).[8] In almost 1500 pages Muncktell describes, among other things, how an agrarian subsistence system worked, how it changed, and how it was perceived by a single household between 1814 and 1829. Through the information it contains we can come close to understanding the decisions and actions taken by an actual land-user. We get an inside perspective on the possibilities and problems encountered by a pre-industrial farmer, and we can see how the preconditions for agriculture *per se* relates to the vicar's economy and social status.

In order to identify the potentials and constraints of the household's agriculture and the constraints placed on it, and to understand the decisions and actions taken, we focus on a number of years in the 1810s, during which the weather was particularly harsh and severely impaired Muncktell's production of hay and pasture.[9] These problems triggered a variety of responses by which the household handled the problems, spanning over several domains in the household SES. Our assumption is that it is unusual or even extreme conditions which make the structure and function of the agrarian SES particularly visible, including its weaknesses, potentials, and capacity for change.

Specifically, we address the following questions:

(i) Which ecological, economic, social, and cultural preconditions were most important for Muncktell's agrarian household, that is, which were the main social-ecological domains of the subsistence system?

(ii) How did the household utilize different social-ecological domains in order to overcome the resource problems that were caused by bad harvest years?

(iii) Were the problems posed by a bad harvest mitigated or worsened by the economic, social, and cultural preconditions of the household, for example its social status?

(iv) Can we, through a social-ecological analysis of the diary, identify areas that were in deficit and unbalanced, or other circumstances that may have been microeconomic drivers for the changes of agriculture that occurred during the agrarian revolution?

[7] A. P. Kinzig, P. Ryan, M. Etienne, H. Allison, T. Elmqvist and B. H. Walker, 'Resilience and regime shifts: Assessing cascading effects', *Ecology and Society* 11 (2006), pp. 1–20.

[8] M. Hellquist (ed.) *Prosten Muncktells dagbok* [Vicar Muncktell's diary] (3 vols, 1979–1995), I, Kärrbo, II, Sevalla, Västerås.

[9] Gustav Utterström, *Jordbrukets arbetare. Levnadsvillkor och arbetsliv på landsbygden från frihetstiden till mitten av 1800-talet* [Rural living and labour conditions, *c.*1720–1850] (2 vols, 1957), I, pp. 199–200.

I

The Muncktell family consisted of himself, his wife Christina Charlotta Nohrborg (1773–1846), four daughters (born 1797–1808) and one son (born in 1805). In addition, the household included a number of maids and farmhands, and one of the tasks of this project has been to quantify them and the other labour resources available to Muncktell.

Muncktell decided to start writing a diary on the day of his fiftieth birthday, 26 September 1814. By then, he was employed as a curate in Kärrbo parish, which was annexed to the neighbouring parish of Kungsåra. In June 1816 he moved to Sevalla vicarage where he was offered a vicar's benefice. Although the position was much coveted by Muncktell, he went through considerable agonies over leaving Kärrbo, conscious that he would lose the fruits of 20 years of improvement of the fields, pastures and meadows of the priest's farm. He stayed in Sevalla until May 1821 when he obtained the benefice of a third, even more attractive parish in the same region, Irsta. This study concentrates on Munkell's time in Kärrbo and Sevalla, 1814–21. Although Kärrbo represents the shortest period in the diary, Muncktell had arrived there in 1795. The diary's description of Kärrbo thus describes Muncktell's longest continuous period of farming activities in its mature phase, and therefore we pay special attention to Kärrbo when describing the dynamics of his farming in the following discussion.

Both parishes are situated in the county of Västmanland in central Sweden (Figure 1). At the time of our study the region in which both parishes were situated was characterized by its proximity to a number of urban centres. There was strong social polarization with both large mansions and an increasingly landless population. The supply of labour was very similar in the two parishes. In both, around 55 per cent of the working population were landless and 30 per cent were farmhands and farm-boys.[10] The agriculture, both Muncktell's and in general, was orientated towards grain production. The landscape was therefore dominated by arable land, with important elements of hay meadows and forest/outland for pasture.[11]

This economy was common to both Kärrbo and Sevalla, but there were also some differences between them. Kärrbo was dominated by large noble estates to a greater degree than Sevalla, which had a larger proportion of freeholder peasants. Sevalla had a larger proportion of forest in its landscape and thus, in theory, a greater potential for pasture. As we shall see, however, Muncktell's concern in both parishes was not so much the area of forest pasture *per se* as its quality and accessibility, in terms of clearing and fencing.

(a) Interpretation of the diary

The income of Swedish rural clergy was based on a mixture of tithes from the parish and the profits of their own agriculture. The priests' farms were managed in the same way as other farms. Although priests rarely performed manual work themselves, they usually planned and led the work. Muncktell spent much of his time in the fields, constantly developing his farms,

[10] Per-Göran Ersson, 'Kulturgeografiska förhållanden i Irsta, Kärrbo och Sevalla under 1810- och 1820-talen' ['Cultural geographic conditions in Irsta, Kärrbo, and Sevalla 1810–1830'], in Hellquist (ed.), *Prosten Muncktells dagbok*, II, pp. xii.

[11] Gadd, 'Jordbruksteknisk förändring'.

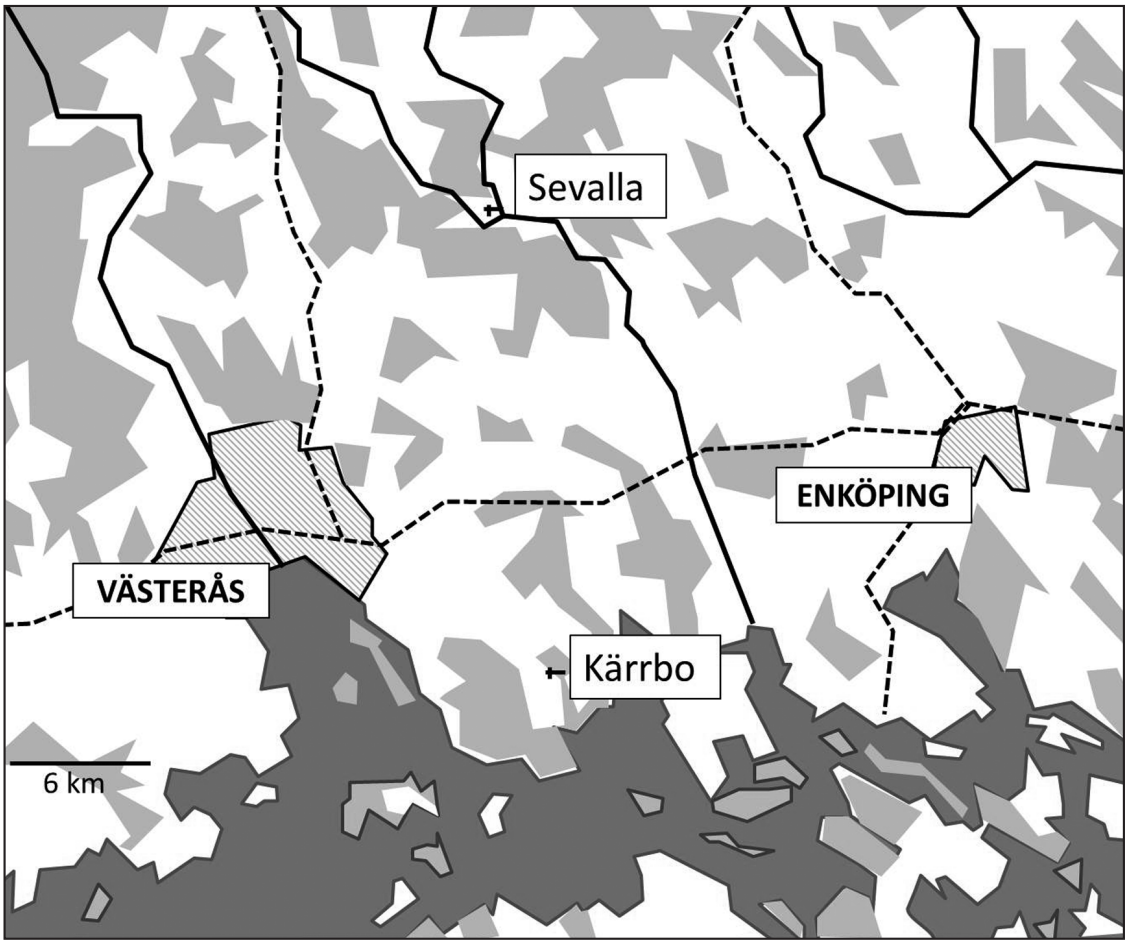


FIGURE 1: Map of the current region around Kärrbo and Sevalla.

Dark grey: Lake Mälaren; Light grey: forest; White: arable land; Solid lines: larger rivers; Dashed lines: main roads. The two towns of Västerås and Enköping are shown. The road passing them both is the highway between Stockholm and Oslo.

both by trying novel techniques invented elsewhere and by experimenting with new methods for shaping, maintaining, and harvesting his resources.

In this study we focus on those diary entries which described the management of the hay and pastures, both of which are strongly weather-dependent. Muncktell wrote about short- and long-term conditions for his farming, about daily activities, and, to some extent, the results of the activities. This enables interpretation of the entries in terms of cause, action, and effect. The entries were also interpreted in terms of which parts of the social-ecological system they related to, for example ecosystem resources and productivity, labour, technique, cost and market, his benefice, his social network, social conditions in the parish, gender relations, property rights, and so on. All these parts of Muncktell's area were listed as potential domains of the social-ecological system.

These tasks required the different disciplines to interpret the entries from their own perspectives. Furthermore, questions were repeatedly asked across the disciplines, and results were fed back into the interpretation process, using a hermeneutic interdisciplinary approach.[12] The interpretation process included shifting between the general and the specific, in which individual entries confirm the whole, and vice versa.[13]

When interpreting the diary we needed to be aware that we apply different perspectives when reading it to those employed by Muncktell when he was writing. For example, the diary provides a day-by-day description which is conditioned by an inherited system, largely lost to us, of social structures, experiences, and beliefs, as well as of inherited ecosystems which were largely formed by earlier generations of farmers. On the other hand, we can read Muncktell's diary entries knowing about the changes of agriculture and society that were to follow, but of which Muncktell was unaware. His diary's perspectives are those of in his world and everyday life, comprising a fine-meshed fabric of social-ecological details. Although his diary is exceptionally rich in reflexions and explanations, we can, 200 years later, only partly understand his world. On the other hand, we can retrospectively place Muncktell's world in a larger context, national and international, societal and economic, more accurately than he was able to do.

(b) Other sources and analytical tools

The evidence of the diary, as well as our interpretations of it, needs to be complemented with other sources of knowledge.

(i) Ecology of ecosystem resources

Muncktell's production system relied on three main types of ecosystem: summer pastures, meadows for the production of winter fodder (hay), and arable land, the last mainly for the production of cereals, vegetables, and flax, but sometimes for fodder production. A large proportion of the diary's entries which concern farming activities describe ecosystem resources and Muncktell's reflections on them. Knowledge of the relations between land-use activities and ecosystem processes and dynamics is necessary for interpreting the diary in an ecosystem resource perspective. Today, Muncktell's arable land and a great deal of his hay-meadows are entirely changed by subsequent cultivation. Most of his pastures, by contrast, can still be studied in the field since they are situated on till ridges in the landscape, which have escaped modern cultivation. We have estimated the productivity and drought-sensitivity of the ground vegetation based on classification of vegetation types.[14]

(ii) Cultural geography of Muncktell's farms

The geography of Muncktell's arena is shown by different types of cadastral maps. There are, however, no maps showing all types of land during the exact period when Muncktell was farming and the areas of his farms can only be approximately estimated by combining maps

[12] Per-Johan Ödman, *Tolkning, förståelse, vetande. Hermeneutik i teori och praktik* [Hermeneutics in theory and practice] (2007).

[13] Ibid., p. 67.

[14] Lars Påhlsson, *Nordic vegetation types* (1994).

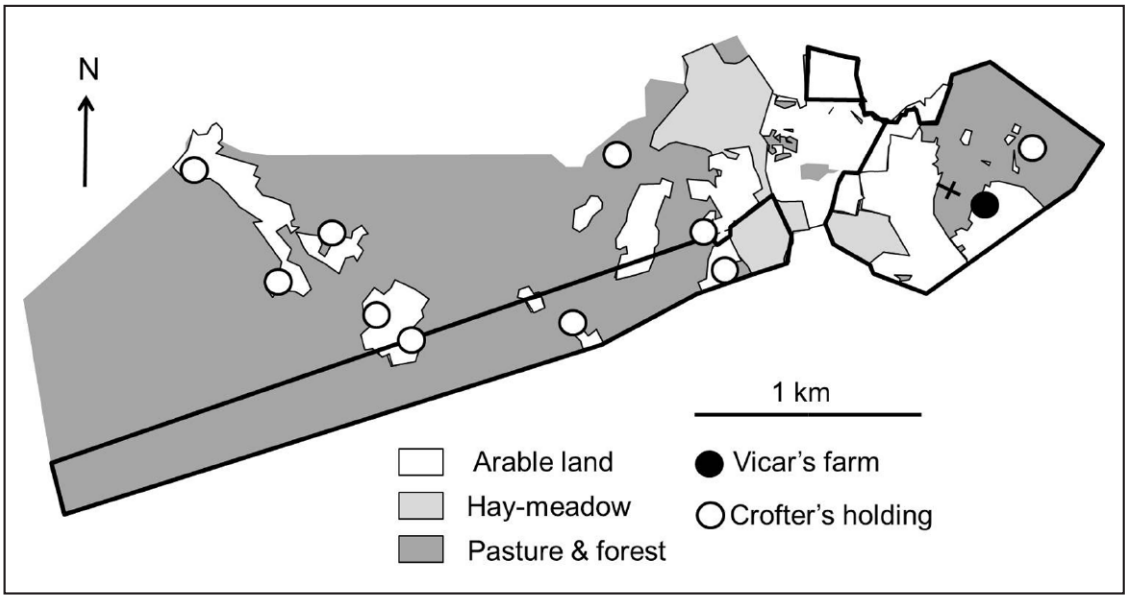


FIGURE 2: Land used by Muncktell at Kärrbo.

Areas delimited by bold lines were entirely the property of Muncktell; of the other areas he had a half share. Of the ten crofter's holdings, six belonged to Muncktell's farms.
Sources: Cadastral maps of Täby, 1728, 1788, Kärrbo 1848.

from different years. The first map covering the vicarage at Kärrbo was made in 1848 as part of the Swedish enclosure process, 35 years after Muncktell left the farm. The adjacent farm of Täby, which he partly used, was mapped somewhat earlier: a forest partition is shown on a map of 1728 while the infields were divided in 1788, at the time of Muncktell's arrival at Kärrbo. In addition, Kärrbo was included in a national initiative to map and describe entire parishes in 1852. In his second benefice, Sevalla, the situation is similar. The forest was mapped in 1741 and all land was mapped during, although not all included in, the enclosure act in 1858. Both processes concerned land division between the vicarage and the neighbouring village, Bro. Two small-scale maps show land-use and ownership structure of both parishes, one from 1905–11 and the other, which is based on an aerial photo, from 1959. Figure 2 shows the land Muncktell used in Kärrbo.

Different maps were made for different purposes, which largely determine how cadastral documents can be used as a source. Cautiously interpreted, cadastral maps provide a spatial background against which the main features of the agriculture, cadastral conditions, activities noted in the diary, social relations, and labour can be understood. The area of different land-use is given, and the productivity is indicated by notes made by the surveyor. Sometimes grain yields (yield to seed ratios), production of hay (number of hay carts), and pasture (number of livestock) are given in text.

We connected people mentioned in the diary to specific locations in the landscape, and estimated the size of the available labour force, by combining maps with the registers of

households maintained by the clergy. The combination of diary notes and place names in the maps enabled us to see where different activities were performed.[15]

(iii) Market and monetary economy

The diary contains numerous entries about selling and buying, prices and markets. We attempted to gather these in order to describe the monetary aspect of Muncktell's subsistence system, both the supply and the demand. This overall view is related to annual market and production conditions in larger geographical and organizational scales, in the parish, county, and nation.[16] Some particularly important sources of data are market prices and governors' reports from the county administration boards.[17]

II

As mentioned, in this paper we use the ecosystem resources of hay and pasture as an entry into Muncktell's farming system and the analysis of it in a social-ecological perspective. The diary provides a wealth of explicit information about activities and conditions more or less directly related to these resources, including both land-use and socio-economic aspects of ecosystem resources. More information of this kind could be implicitly derived from the diary when entries are interpreted in their social-ecological context with the aid of other sources. Individual entries could thereby be readily assigned to different domains and scales in a social-ecological system which gradually became better defined the more we processed the diary.

Initially we identified seven domains which occurred frequently in the diary's accounts of the handling of hay and pasture: (1) 'social relations', (2) ''market and monetary economy', (3) 'labour and technique', (4) 'ecosystems', (5) the benefice, (6) 'culture/local society'. The seventh, 'legislation', appears in the form of entries about the duty of road maintenance and difficulty of travel, and as well as the payment of state taxes. These entries are, however, rare and not linked by Muncktell to problematic weather conditions, and we therefore excluded this domain from the further analyse. The domains 'social relations' and 'culture/local society' appeared closely related and could be merged into one domain: culture and social relations. The benefice proved to be part of two other domains, namely 'culture/social relations' regarding Muncktell's position in the local communities, and 'ecosystem resources' regarding his tithe.

The remaining four domains are described below, followed by some examples of causality chains and relationships in Muncktell's farming, illustrating interactions between domains.

[15] The historical maps can be found at www.lantmateriet.se/Kartor-och-geografisk-information/Historiska-kartor/.

[16] E.g. Kärrbo parish archive, deposited in the Swedish National archive, Uppsala. Statistical tables, G1, ULA. Lennart Jörberg, *A history of prices in Sweden 1732–1914* (2 vols, 1972); id., 'Harvest assessments in Utterström', *Jordbrukets arbetare*, pp. 437–41.

[17] Jörberg, *History of prices*. Kongl. Maj:ts befallningshafvandes femårsberättelser [Governors' five year reports], Bidrag till Sveriges officiella statistik [Sweden's official statistics, BiSOS], Series H.

(a) Social-ecological domains and scales

(i) Ecosystem resources

During period under consideration, 1814–21, Muncktell's household was repeatedly affected by deficits of different ecosystem resources, in particular hay and pasture. In his diary, Muncktell reflected on the causes of his problems. He described various measures for solving the immediate problems as well as for increasing and improving the resources in a longer perspective, to avoid similar situations in the future. These crisis-related entries appear in the diary alongside detailed descriptions of the recurrent and periodic, everyday activities performed in the house as well as in fields, meadows, and pastures.

In both parishes, Muncktell's ecosystem resource was divided between his own land, containing meadows, arable fields and some pastures, and the village territory, containing the common pastures. The land belonging to priest's farm in Kärrbo constituted about 30 ha. of arable land, 20 ha. of hay meadow, and 100 ha. of forest and pasture. In addition, he rented a farm in the adjacent village of Täby which gave him access to another 12 ha. of arable land, eight of meadow, four hectares of unspecified crofters' land, and 70 ha. of forest and pasture. The farm in Sevalla (crofters' holdings included) had about 17 ha. of arable land, 15 ha. of hay meadow, and 30 ha. of forest and pasture.[18] On 8 March 1817 Muncktell bought an additional three ha. of forest from a neighbour, mainly for its timber and fencing wood, but also for its firewood.

In Sevalla, the vicar's benefice was entitled to collect tithe from the parish. If we interpret tithe from an ecosystem resource perspective, it can be regarded as an expansion of Muncktell's 'ecosystem territory' to the entire parish. The tithe, however, varied synchronously with Muncktell's own harvest. Not surprisingly, therefore, the diary shows no signs of parish tithe making up for shortfalls in weather-induced deficits of Muncktell's own production. The making up of shortfalls was instead, as will be described in the following sections, achieved by borrowing and buying cereals and hay cheaply within his social network, mainly consisting of neighbours and acquaintances belonging to the local elite. The social network spanned a larger geographical area than the parish, as well as over more levels of the society. The geographical and social extensions of the network seem to have generated a certain asynchronicity among the network members regarding the effects of biophysical variation. Some of the network members did better than the parish's farmers during the harsh years, and could therefore provide some of the commodities that Muncktell lacked.

We see that Muncktell used four main types of land-use activities to provide the household with the needed ecosystem resources, namely measures for *shaping, transforming, maintaining*, and *sowing/harvesting* the resources. Using this palette of land-use tools, he tried to optimize the type, amount, and stability of supply of various products. Production was however strongly affected by conditions out of the farmer's control, such as weather and soil. Measures of the first three types were used to improve the resources in the medium or longer term, while day-to-day problems were solved using the fourth type, by adapting the harvest methods. As will be described later in this article, the activities for manipulating the ecosystem resources

[18] Arable land from Ersson, 'Kulturgeografiska förhållanden'; meadow, pasture, and forest by combining the forest delineation of 1741 and the enclosure act of 1858.

were constantly combined with activities in the socio-economic domains of Muncktell's subsistence system.

Much of the resource used by pre-industrial agrarian societies was extracted from semi-natural ecosystems shaped by agriculture informed by locally adapted knowledge about ecological and socio-economic conditions.[19] At the time of the diary, most ecosystem resources in Muncktell's region had been created by earlier generations of farmers, but some *shaping* of new pasture resources seems to still have been possible. In Kärrbo, on 15 June 1815, during a severe deficit of summer pasture following a dry autumn, Muncktell decided to clear the forest in order to shape new semi-natural pastures: 'I walked in the forest between Starbo, Tistebo, Munkbo etc. and designated new areas for enclosing pastures for next year, which I will let old Jäderholm clear and cut this summer'. In October 1815 his initiative was rewarded: 'I saw with delight how the cut forest, through fencing and clearing, easily can become a good pasture'. In order to further improve the new pastures, Muncktell experimented with leaving some of the litter from the clearing on the ground, hoping that the nutrients in bark, leaves, and twigs would fertilize the grass.

By using cadastral maps in combination with place-names given in the diary, it is possible to locate Muncktell's pastures in today's landscape. Some of the old forest pasture is still grazed, but most is now ungrazed mixed forest or clearings made for forestry purposes. Field comparisons of currently cut and uncut forest in Kärrbo confirmed that the ground vegetation responds rapidly to the increased light influx following cutting, and, hence, that Muncktell's measures could increase the pasture supply considerably in good years. Field observation also showed that much of the forest was rich in boulders and rocks, with vegetation types characterized by recurrent drought. This indicates that clearing of the forest would have increased the pasture resources in rainy summers but very little so in dry years. A fluctuating resource must be occasionally deficient, unless the demand is based on the bad years.[20] It is possible that Muncktell would still have experienced the 1814 shortage of pasture even if he had had a larger pasture area, since the grass might have been killed by drought before it had time to become feed for the cattle.

Apart from the making of pasture from forest, very little new fodder-producing land was created during the period of the diary. The area of arable land was increased somewhat through the cultivation of hay-meadows, in particular on peaty soils.[21] This represents a *transformation* of one resource into another, and not an increase of the resource in total. Transformation of resources was a dynamic and mostly reversible process in Muncktell's agriculture, used both in shorter and longer time perspectives for adjusting the supply of resources. Some measures could be used with immediate effect, such as letting poorer hay-meadows for pasture. Other measures took longer to influence the resource, for example transformation of cereal fields into hay-meadow or pasture.

Muncktell used his labour to *maintain* ecosystem resources. On his arrival in Sevalla, he

[19] E.g., Fikret Berkes, Carl Folke and Madhav Gadgil, *Traditional ecological knowledge, biodiversity, resilience and sustainability* (Beijer discussion paper series, 31, 1993).

[20] Dahlström, *Pastures*.

[21] Swedish Land Survey Office [Lantmäteriet], Cadastral map T13:81, Forest partition Täby, and *Prosten Muncktells dagbok*, Kärrbo, e.g. pp. 118, 143, 150, 201.

found many of the pastures on his new land were overgrown by juniper and other shrubs. On 10 June 1818 he complained about the unsatisfactory previous management:

> Yesterday I began the clearing of the so-called Hästhagen, to the right of the road by the river. It is a both large and beautiful area, which would have been highly valuable if not being so neglected and overgrown. … It will take 50 days of work at the least, which, at a cost of 32 shilling and a dram per day, will cost me at least 35 riksdaler and 22 shilling.

The diary shows how a farmer could control some aspects of the *harvest* of ecosystem resources, where other aspects were in the hands of environmental factors out of his control. The yield of meadow hay was determined by summer growth and the success of harvest, i.e. of mowing and drying. Muncktell could only influence the harvest, which he attempted to optimize by utilizing the days with good weather if possible, and by procuring equipment for easier drying of the hay during rainy summers. The pasture resource, in contrast, can be assumed to be independent of the harvest success since the grazing animals can acquire the available fodder. Muncktell attempted to improve the summer growth by delaying the onset of grazing in some pastures.

(ii) Market and monetary economy

Muncktell's household was involved in a monetary economy at different levels, mainly for consumption and salaries. Although his own production provided a subsistence base in terms of cereals, potatoes, vegetables, dairy products, meat, alcohol, and textile fibres, the household's social position created a need for purchased products, some of them produced far away from the farm and parish. The household normally purchased one or two oxen for meat, pigs, poultry, meat products, fish, butter, cheese, syrup, sugar, salt, lemons, raisins, prunes, coffee, tea, red wine, hops, snuff, and tobacco. The household's labour was paid in both cash and kind, so its costs varied with the market-dependent salaries.

Muncktell's main source of income was rye, which he sold into a cereal market that he followed carefully to secure the best prices, and which was already internationally integrated. This implies that the ecosystem resource, i.e. the growth and supply of rye at the small scale, on Muncktell's farm, did not necessarily match the demand and prices at markets at larger scales. For example, in the two bad years of 1814 and 1815 Muncktell's harvest was poor, as was the local rye output in general in the parish of Kärrbo, with output as low as five harvested grains per sown seed.[22] However, neither the average Swedish harvest assessments, nor the price records indicate crop failure in a wider region.[23] Instead, rye prices at the northern European market were relatively low, and Muncktell thus suffered both from low production and low market prices.

Muncktell frequently complained about his inadequate hay supply, caused both by poor harvests and by the highly volatile price of hay. Since hay could not be transported long distances at a fair cost, the hay market was poorly integrated. For example, the price variation

[22] Kärrbo Parish archive, Statistical tables G1, ULA. Even worse harvests were to come 1818 and 1820.

[23] Harvest assessments: Utterström, *Jordbrukets arbetare*, pp. 437–41. Prices: Jörberg, *History of prices*, p. 142.

coefficient for the province of Västmanland 1803–20 was 42.7 for hay, compared to 29.6 for rye.[24] Therefore, shortages of hay were mainly solved by reducing the number of animals and via the 'semi-monetary' social network, as described in the previous section, rather than by purchasing more hay. Reduction of the number of animals was a simple and logical solution to the hay problem from an ecosystem perspective, but more complicated from an economic point of view. Muncktell was often forced to sell animals in the winter (when prices were low) and buy again in the spring (when prices were higher). Sometimes the high prices on hay coincided with low prices on Muncktell's cash crops. For example, when the price on potatoes was low in the autumn of 1815, Muncktell sold only six barrels of potatoes to Stockholm, compared to around 30 barrels a normal year. Instead, he considered feeding the pigs and cattle with potatoes and even thought about buying in potatoes for the animals.

The pasture resource, which, similar to the hay, was often in deficit for Muncktell, but there was no local market in pasture.

(iii) Labour and technique

The Kärrbo part of the diary provides details of the number of day-works available to Muncktell and their cost. At the priest's farm in Kärrbo, the permanent labour force consisted of three maids, two farmhands and one boy, all of whom were paid in kind. Then there were six crofters (tenants on very small plots of untaxed land) with their wives on the farm's land. Each of the crofters had to undertake two days of work per week, except for the inhabitants of the tenant croft Trångan, who worked a single day. Each crofter's family was annually paid 12 barrels of cereals, two carts of hay, and 6 pounds of meat by Muncktell. In addition, the crofters worked additional days for Muncktell, which he paid for in cash. From September 1814 to September 1815, the five male crofters together were employed for 350 extra day-works, and so about 920 days were worked in total by the crofters.

In Sevalla, the diary shows that Muncktell employed four maids and three farmhands, at least during his first years when there was much work to do improving the land, buildings and garden at the new farm. Three crofts belonged to the priest's farm, but the Sevalla part of the diary does not allow analysis of the number of day-works by them.

Beside this permanent labour staff, Muncktell hired extra labour when needed, both men and women, and often drawn from amongst 'the poor'. For example, on 30 January 1819 he noted: 'By the end of the week I let some poor clear for pasture in my home forest, and gave them 24 shillings in cereals a day'.

In general, Muncktell's farming was based on extensive manual labour with a low level of expertise. He experimented with some technical developments, but often discovered their disadvantages in the consumption of time or ecosystem resources. One example is his attempt to replace manual threshing using flails with ox-driven machine threshing. On 30 September 1814 he observed: 'Through the machine threshing more hay is needed for the oxen, which yet grow thin by the doubled work'. And further on 31 January 1815:

In general I have had little gain of the threshing machine. In all, each barrel of rye threshed

[24] Jörberg, *History of prices*, pp. 142, 206.

using machine this winter has cost me 2 riksdaler. Even worse, the straw becomes too damaged to be useful as roofing material. As I need much roof-straw I will now thresh one barn of rye manually, which I think will cost no more than 1.5 riksdaler.

(iv) Social relations

Muncktell was a man of the church, and also one of the larger farmers in his parish. In Kärrbo the priest's farm was larger, 150 ha., than any of the peasant farms, but smaller than the nobles' (200–800 ha.).[25] Like the manorial domains, his farm included several crofters' holdings, of which he had six where the peasant farms had no more than three.[26] Unlike the manors, he had no permanent staff but relied on a few maids and farmhands, crofters and casual day-workers. He was a considerable employer of labour from the lower social strata. The social stratification in the region created a supply of cheap labour, which was, conversely, a prerequisite for much of Muncktell's agricultural activities. Muncktell explicitly noted on 15 June 1819 that his extensive clearing of forest for pasture in Sevalla had only been possible because of the surprisingly low cost of labour, 30 days for one barrel of rye.

The tight connection between social stratification and Muncktell's need for labour is also shown by his handling of the vicar's social duties towards the poor. He tried to find arrangements for taking care of single mothers in ways that fitted into his own agricultural activities, for example on 13 October 1815:

> I finally finished the cottage of Wooden-legged Stina for Nettle-Anna and her children, in which I built double floor and mended the stove etc., so that neither vapour from the soil, nor draught, gas from the stove etc., that ended the previous poor woman, may harm this now hard-working maid and her little children. She is now living well, to earn herself with caring for my oxen, having her boy in school, and as a maid earn some further support etc., which pleases me in my heart since it cost me more than 25 labour days.

At a larger scale, Muncktell's social network, particularly among the higher classes in the parish, fellow vicars and relatives, was vast. The network functioned as a safety net that gave him access to loans, provided him with produce below the market price and other solutions to temporary problems, as on 2 May 1816:

> At Lindö Manor I also met Baron Cronstedt who yesterday had written to invite me and Mother [his wife] to Geddeholm … After lamenting over my hay which is all used up I was soon promised to send for a small cart of hay from Geddeholm.

The network, however, was not free. As Muncktell was expected to assist in return, the network made him part of a reciprocal system of favours. Furthermore, maintaining his network and social status was costly in terms of both money and ecosystem resources. Membership required the purchase of a variety of luxury foodstuffs, which was an important reason for the household's need for cash and cash-crop production. Pork or ox steak was served on the

[25] Kärrbo parish map 1853, Swedish land survey office.
[26] Ibid.

banquets. The cost of keeping pigs concerned Muncktell since they required more resources than the grazing livestock:

> Neither can the distillation in the summer be enough to sufficiently feed them with draff, nor can they be let in the pastures as the grass is tiny and in deficit. … in the summer the fallows become too dry and scanty for their living.[27]

In general, Muncktell describes his duties of being a good host to people from his own social stratum as an economic burden. A typical diary entry was made on 27 August 1817:

> At lunch Nohrforsson's girls arrived and Mother [his wife] had to cook her last chicken. Even more, in the afternoon Mrs Prinzensköld came with her two daughters, using Capt. Leijonflyckt's horses; all of which needed to be treated. The horses were let to nibble in a pasture and brought their ladies home by the evening – poor Mother who frequently must host guests in this meagre time of the year.

At the smallest organizational scale, the agrarian household of Munktell had, for its time, a typical division into male and female working spheres. In simplified terms grain production and use of land for fodder, grazing, and forest were responsibilities of the men, while milk production and food processing were the women's responsibilities.[28] Women took care of the animals except for the horses and oxen, control of which fell within the male sphere. A certain competition for resources between the spheres can be assumed, as well as some diverging choices and priorities, but the diary rarely mentions this. One implicit example is when Muncktell and his wife, Christina, came to different conclusions regarding the rationale of producing flax. Christina questioned the profitability, but Muncktell could change the equation by lending 12 days' of 'his' labour to Christina for the processing of flax. He found the cost of this work to be low since it could be performed at a time of the year (November) when the workers had few other duties.[29]

The differences between the male and female spheres present a methodological problem since the diary often mentions only half of the problems and solutions. For example, the motive Muncktell gives for improving the pastures was the lack of hay for oxen and horses whereas any corresponding problem for the cows and sheep is never mentioned. The lack of any female perspective may on the one hand make the household look more homogenous than it was, but may on the other hand hide a degree of interconnection between the two spheres. Although not mentioned in the diary, the drought was naturally a problem also for the cows and his wife's milk production, and, conversely, Muncktell's actions to overcome the deficit of pasture and hay also benefited 'his wife's' dairy cows.

(b) Interactions between social-ecological domains and scales

Muncktell's detailed diary provides several examples of how different domains of the household's social-ecological arena interacted. Below we describe two examples starting from the harsh weather's effects on the supply of pasture and hay. The background to both examples

[27] 15 June 1819.

[28] Martine Segalen, *Love and power in the peasant family: rural France in the nineteenth century* (1983).

[29] *Prosten Muncktells dagbok*, I, pp. 188, 196.

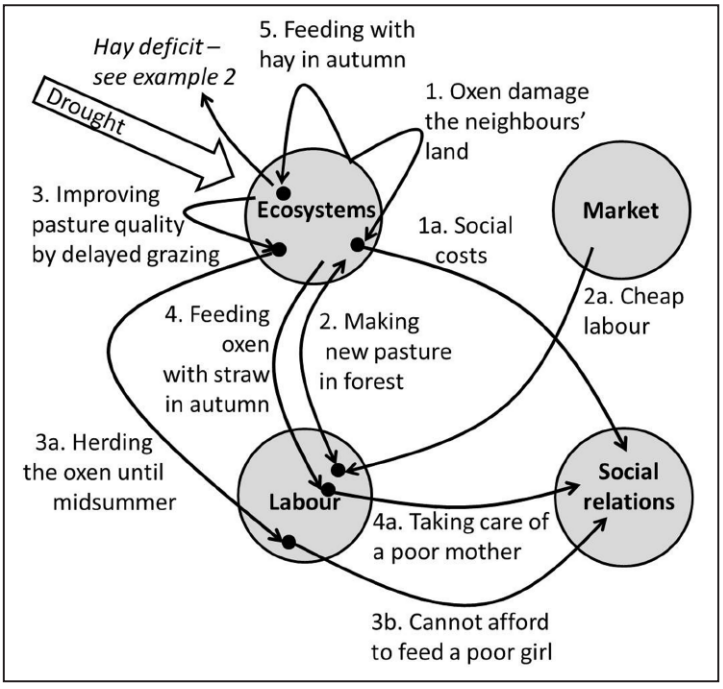


FIGURE 3: Some activities, and their effects, performed by Muncktell's household in order to handle the pasture deficit in dry years during the period 1814–1821.

The grey circles represent domains in a social-ecological system, see the text for explanation. Black dots represent nodes at which one domain is linked to an activity or effect in another domain.

is the social-ecological system surrounding Muncktell's extensive cultivation of cash crops, in particularly rye. This SES can be described as follows. The cultivation of rye was motivated by the household's high costs for labour and consumption, the latter in turn largely necessary for the household's social status. The rye cultivation required many oxen and horses for traction power. Muncktell had as many as 12 oxen and 4 or 5 horses, with which he cultivated *c.*50 ha. of arable land per year. The animals required large quantities of hay and large areas of pasture, but the rye cultivation decreased the supply of hay since rye was favoured on arable land at the expense of hay production. In all, the system had become vulnerable to years with low grass production.

(i) Pasture deficit

In Sevalla, the forests did not provide enough pasture for Muncktell's oxen, which therefore tended to break through fences to graze on the meadows and fields of other villagers (1 in Figure 3). The pasture deficit is an ecosystem issue and so is the oxen's behaviour in the pasture, hence an arrow entirely within the ecosystem domain. Muncktell's oxen caused problems for the neighbours and thus for Muncktell's relations to them (1a). In this case, a problem in the ecosystem domain gave rise to a problem in the social relations domain, which is illustrated with an arrow from ecosystems to social relations in Figure 3. Muncktell tried several ways to overcome the pasture deficit. He created new pastures in the forest (2), which was possible because of the cheapness of labour (2a). The supply of labour (as previously described in the section 'Labour and technique') was used to improve the ecosystem resource, shown by the arrow from labour to ecosystem. But Muncktell's hiring of labour for clearing the forest pasture can, conversely, be assumed to have been a significant

part of the local labour market, hence an arrow from ecosystem to labour. The amount of labour which Muncktell could afford was increased by the low wages (arrow from market to labour). Muncktell also experimented with delayed grazing and other means to increase the grass production in the new pastures (3). Delayed grazing required herding of the cattle in the forest until the new fenced pastures were ready, and to do this job he employed a herder (3a). The diary shows an unexpected social effect of this measure. Muncktell sometimes took care of poor children: he hosted them and sent them to school, but when he took on a herder he could no longer afford to care for the poor girl he had at the moment (3b). On 25 May 1819 he notes that 'she will regrettably be back in the pack of beggars'. We interpret this sequence of events as follows: that a measure within the ecosystem domain (delayed grazing) affected the social domain (Muncktell had to give up one of his social commitments), via the labour domain (employing a herder). When the pasture became scarce in the autumn, the oxen were fed with supplementary straw at night (4). For this task, Muncktell employed the poor mother Nettle-Anna for whom he had refurbished a cottage (4a). As an emergency measure in Kärrbo, Muncktell even used hay in the autumn (5), which enhanced the deficit of hay, see the next example.

(ii) Hay shortages

Muncktell seems to have regularly suffered from a shortage of hay in the late winter, a problem that was particularly pronounced in years of drought (poor growth) or rain (difficult harvest). He combined different measures to solve the problem. One was to use arable land for hay production (1, Figure 4), either by sowing clover or timothy or by allowing natural grass growth. This is a transformation of ecosystem resources, as illustrated by an arrow within the ecosystem domain. This measure reduced the area available for production of rye and thus the production of rye for sale (1a). Thus, the arrow indicates that the ecosystem measure had an effect on the market domain. Another possibility was to sell a horse in the autumn, and buy one back in the spring, however usually at a higher price (2). The most important measure was to borrow or buy hay from friends and neighbours within his social network (3). This created social debts (3a) and Muncktell was expected to give favours in return, for example to provide cheap (below market price) rye when requested (3b). When the hay prices were high and prices on cereals low, Muncktell chose to feed the animals with cereals (4), which reduced the amount he could sell (4b). Finally, Muncktell used the boys he was catechising as labour for collecting leaf fodder to supplement the hay (5).

(iii) Further activities related to deficit of pasture and hay

Both examples above show five chains of interactions between activities, causes, and effects. In this way we identified all activities trigged by the shortfall in hay or pasture during 1814–21, and traced them through the diary to identify chains of interactions. All identified activities and chains of interactions we found in the diary are illustrated in Figure 5.

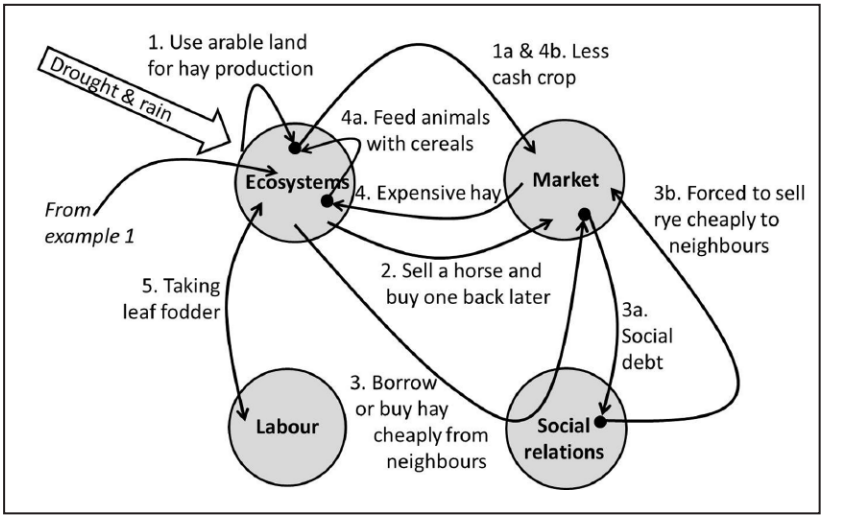
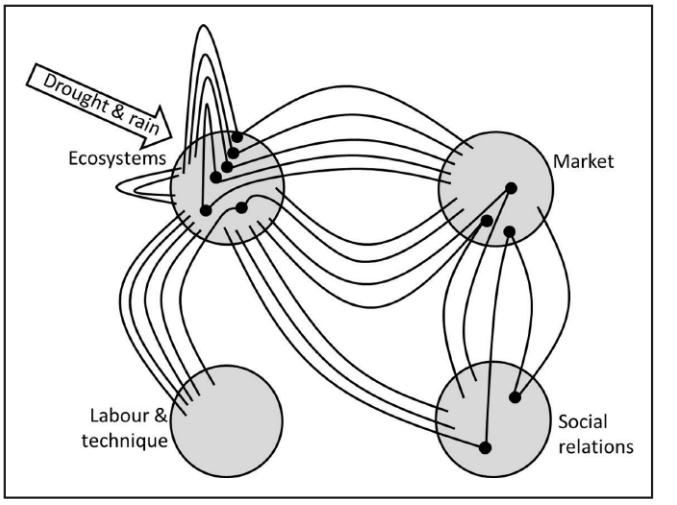


FIGURE 4: Some activities, and their effects, performed by Muncktell's household related to hay deficit during the period 1814–1821, see the text for explanation.

The grey circles represent domains in a social-ecological system, see the text for explanation. Black dots represent nodes at which one domain is linked to an activity or effect in another domain.



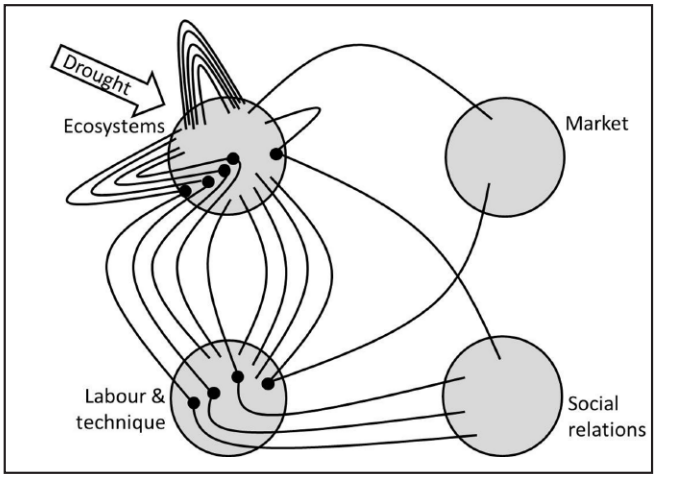


FIGURE 5: Graphic representation of all activities, and their effects, performed by Muncktell's household for handling the deficit of pasture (above) and hay (right) 1814–21. The graphs are made as described in the examples in the text and Figures 3 and 4. For simplicity, the lines show only the interactions between domains, not the direction of the interactions.

III

Muncktell's diary is considerably richer in detail than most Swedish farmers' diaries, particularly in his observations and reflections. Although farming activities were not systematically noted, the wealth of information about other aspects of the household and society makes it a rich source for our knowledge of pre-industrial agriculture, in many aspects richer than archival records bearing directly on farming such as accounts.[30] The social-ecological framework has proved to be a useful tool for sorting and analysing the immense amount of information provided by Muncktell's diary, and, in particular, for understanding how a pre-industrial agrarian household depended on interactions between the socio-economic and biophysical environments.

Most of Muncktell's diary entries describe *conditions*, good and bad, for the household, the *activities* performed to handle the conditions, some *effects* of the activities, and his *reflections* about all this, including on short-term and long-term needs, expected effects of conditions and activities, and potential problems and possibilities. When interpreting the diary from a social-ecological perspective, a general methodological conclusion can be made: it is obvious that the entries in the diary about conditions largely describe the *state of the domains* of the system, including variation and change. The activities, in contrast, appear to constitute *interactions between domains*, and can thus be seen as the glue that keeps the domains together.

We would not have been able to draw this conclusion without Muncktell's own thoughts, which provide a necessary micro-economic background and explain the activities in terms of causes, mechanisms, and effects. Other Swedish farmer's diaries usually describe the activities performed, but rarely other conditions than the weather. Perhaps, our contextualizing of Muncktell's rich additional information can be a tool for interpreting other, more taciturn, farmer's diaries.

(a) The household arena: the scale of social-ecological domains

When categorizing the information, a majority of the diary entries could be assigned to one or other of the four domains (ecosystem resources, labour, market, or social/cultural relations). When interpreting the entries in order to understand problems, constraints, and possibilities of importance for Muncktell's subsistence system, the four domains together provide a very useful blueprint of the household's social-ecological arena. They are explicitly mentioned by Muncktell throughout the diary, and could also be implicitly discerned in our interpretation of his diary.

The range of scales at which the household manoeuvred differed between the domains. The *ecosystem resource domain* was mainly restricted to Muncktell's own farms, with some spatial extensions to the village through common pastures, to the larger neighbourhood via borrowing or purchasing products from neighbours, and the entire parish in Sevalla through the tithe. The *labour and technique domain* was based on labour for help in the house, crofters inhabiting the crofts at Muncktell's farms, and casual labour, mainly poor people from the

[30] Cf. R. W. Hoyle, 'Farmer, nonconformist minister and diarist: the world of Peter Walkden of Thornley in Lancashire, 1733–34', *Northern Hist.*, 48 (2011), p. 294. Hoyle came to a similar conclusion regarding accounts.

parish. In the *social and cultural relations domain*, the household's social network spanned from the internal household relations to a geographically spread network of relatives, clerical colleagues, and upper-class acquaintances. Most of the household's social relations, however, occurred within the parish or its close neighbourhood, either with persons of Muncktell's own social status, or with the poor, who laboured on his farm. The *market and monetary economy domain*, finally, ranged from trade of products and labour within the parish, to sale of crops into northern European markets.

(b) The household's activities: interactions between social-ecological domains

In some years during the study period, bad weather and poor harvest caused resource problems, which Muncktell frequently described in terms of crises. For example on 25 February 1815: 'I have now farmed this land for 19 years, and this is the worst failure of crops I have experienced. … How I will be able to manage this year passes my comprehension'. The direct problem, thus emerging in the ecosystem domain as deficit of resources, can be analysed in the context of other domains, both regarding its causes and how it was handled.

The analysis shows interesting differences between how the pasture deficit and the hay deficit was handled. As seen in Figures 3 and 5, the *pasture deficit* initiated labour-intense actions that were possible because of the availability of cheap labour, which arose as a result of the social stratification in the society and of Muncktell's relations to the lowest social groups in the parish. Most of the actions were aimed at extending and improving the farm's own pasture, i.e. at *increasing* the resource, both to overcome the immediate problem and for reducing the risk of future pasture deficit. Other options for overcoming temporary deficits of pasture were few and really restricted to making more use of the common pastures by herding. Here we see strong social-ecological interactions between the pasture resource, labour, and social stratification, and that fluctuations of the pasture resource could hardly be compensated for.

The *deficit of hay* was, in contrast, handled mainly through Muncktell's relations to the higher social groups, from whom he could borrow or cheaply buy hay (Figures 4 and 5). Muncktell's actions were thus mainly aimed at accommodating shortfalls of the hay supply, rather than to increasing his own supply. Some measures were taken for improving the drying of hay, i.e. for reducing the fluctuations, but hardly any significant actions were taken to increase the total hay resource.

The relationship between the labour for agriculture and social stratification has been studied at regional and national levels.[31] The analysis of Muncktell's diary illustrates this relationship at a micro-level. Labour was needed as result of ecological pressure, either for larger works such as clearing of forest for pasture, or for special tasks such as herding of oxen. In some cases, poor people were employed on a casual basis, but to a considerable extent Muncktell obtained labour by providing socio-economic positions for landless persons, in return for accommodation, i.e. cottages and crofts. Many different tasks on Muncktell's farm conferred some social and economic security, not the least shelter for the winter.

The analysis also suggests an interesting link between the social organization of agrarian labour and the utilization of ecosystem resources. Information about the geography of

[31] E.g. Utterström, *Jordbrukets arbetare*.

Muncktell's crofts and cottages can be used to study the old croft sites in the field in order to estimate their resource potential. In both Kärrbo and Sevalla, the croft-holders were located on small, fragmented, low-productive, usually distant, pockets of meadow and arable land. It is likely that these factors would have made it difficult for the main farm to utilize this marginal and distant land without help from crofters settled there. Conversely, payment to the crofters in kind or cash was a necessary complement to the crofters' subsistence. The crofter's system may therefore be regarded as an expansion of the total ecosystem to areas and resources which otherwise would probably have remained unused. It is significant that most of the crofters' land is now abandoned.

Problems in one domain may exacerbate problems in other domains. Such so-called cascade effects[32] were not found by our analysis of Muncktell's agrarian household, apart from a negative feedback loop connecting rye cultivation, winter fodder, and monetary loss, which is discussed in the next section.

(c) Occasional catastrophe or unbalanced agriculture?

In this study, we have in particular looked for effects of the bad weather years in the early nineteenth century. Drought, frost, and rain forced Muncktell to take drastic actions, often in ways that caused him new problems later. He sold horses in the autumn only to buy new ones in the spring. On 3 October 1814, he had to begin feeding his oxen with hay before the end of the grazing season: 'Now all the pasture is consumed. … I had no other way out than to use the spring barn, which, thus, in the spring will need to be filled with purchased hay'. Measures like these may have served as emergency solutions to problems. They may have caused new and temporary problems later, but without affecting the subsistence in the long run. There are, however, signs of more permanent, or at least regular, imbalance between supply and demand. Muncktell complained about a constant hay shortage, as on 4 March 1816: 'The usual problem with hay deficit, also this year seems to fall to me'. Also there seems to have been a recurrent shortage of pasture, triggered by even relatively moderate drought. It appears that for both hay and pasture, stock numbers had reached a critical maximum threshold, with little margin for years with lower fodder production – years that would inevitably come.

Muncktell's heavy demand for fodder was a result of his large stock of oxen, which was necessary for working the large rye fields. From a social-ecological perspective, Muncktell's extensive rye cultivation had generated a feedback loop that leaked nutrients and monetary resources in every turn. Large areas of rye reduced the area for hay and pasture and required many oxen to work the fields. The oxen needed hay (even in the summer because of pasture deficit), which partly had to be bought with money from the selling of rye. Increased costs of hay required a greater cultivation of rye.

Muncktell sometimes tried new strategies in order to break out of this loop, for example by feeding the animals directly with potatoes and cereals instead of selling them and buying hay. Such actions, however, carried costs in the market and ecosystem domains of the SES: it reduced Muncktell's income and it reduced the nutrient status of the fields because the manure-producing livestock were fed with crops produced on manure-fertilized fields.

[32] Kinzig *et al.*, 'Resilience'.

The negative feedback loop illustrates, at the micro-level, the so-called dilemma of reclamation, describing how increasing the area of cultivated arable land leads to an imbalance in the proportions of arable fields, hay-meadow, and pasture in the production system.[33] Interestingly, Muncktell's diary shows that he could well have chosen a more balanced proportion of the fields for production of hay and pasture instead of rye, and that the transformation of meadows and pastures to arable fields was thus not irreversible. He cultivated small quantities of hay – for example, timothy – and in emergency situations he could convert arable land to pasture. On 19 June 1815 Muncktell:

> decided to transform both fields at Tistebo to pastures. … As I don't have manure at Tistebo, and the fields at home need all the manure that can be gathered, I find this measure wise, especially since there is now so unusually little pasture.

We can therefore conclude that Muncktell's problems with the fodder supply was mainly a question of too high a demand, not too little production capacity on his farms, and that the reasons for his unbalanced field-meadow-pasture ratio were socio-economic rather than ecological. Probably, Muncktell's expensive social status also forced or tempted him to cultivate cash crops on land he would have been better using for production of fodder. Muncktell seems to be approaching a monetized agriculture, but based on natural resources that were still largely in the hands of variable weather and ecological processes, which were out of his control. We don't know whether this situation was specific to Muncktell or whether it applied to other representatives of the local elite too, as well as to the peasants. As mentioned in the introduction, however, the agriculture of the whole region had a strong focus on the production of rye for sale, driven by a strong demand from the towns and the iron-producing industrial regions to the north. We might therefore suspect that the signs of an unbalanced agriculture which we can discern in Muncktell's diary, represent a more general regional trend.

No doubt the negative loop described above, together with the focus on one major crop, would have increased the sensitivity of the system to both environmental and socio-economic perturbation. Seen from a social-ecological perspective, Muncktell's diary becomes a description of a household's struggle to reconcile a changing society with an uncompromising natural environment.

[33] Gadd, 'Agricultural revolution', p. 235.

New men of wealth and the purchase of land in Great Britain and Ireland, 1780 to 1879*

by David Brown

Abstract

Of all the indicators of the integration of the bourgeoisie class and the aristocracy, the most important was the purchase of a residence and a landed estate by 'new men of wealth'. In new research, 2566 new men of wealth have been identified who purchased estates of over 1000 acres and a rental of £1000 in Great Britain and Ireland between 1780 and 1879. Of those, 1439 purchased estates of over 2000 acres in extent and £2000 in rental, which represents an estimated turnover of over 38 per cent over the century. Although there is no consensus about what level of upward mobility is required for an elite to be 'open', these figures demonstrates that there were sufficient purchasers to sustain the contemporary belief that Britain's elite was indeed open.

The relationship between plutocratic and aristocratic elites in the century of the classic Industrial Revolution has been a topic of great interest to historians. For example, Avner Offer has explored the development of the ideology of a 'free trade in land' to break the aristocratic dominance achieved through the use of strict settlement. R. J. Morris has considered the strategies adopted by middle-class families to succeed in a period where landed wealth still dominated.[1] The most divisive, and arguably the key issue about this relationship, arising from the Marxist model of conflict between the rising bourgeois elite and the declining aristocratic elite, has been the tendency of 'new wealth' to join the ranks of landowners. Time has now passed since the 1980s and 1990s when this issue excited exchanges in a range of journals such as *Albion*, *Social History* and the *Economic History Review*.[2] Two key players in the debate, Bill

* I would like to thank all those innumerable persons who have helped me in this enterprise but especially the late Sir John Habakkuk who first suggested this research to me, and Michael Thompson and Peter Dewey for their support and loyalty. I would also like to thank the two anonymous referees, Richard Hoyle for his kindness, patience and assistance, and Catherine Glover for copy-editing.

[1] A. Offer, *Property and politics, 1870–1914: landownership, law, ideology and urban development in England* (1981); R. J. Morris, *Men, women and property* (2005).

[2] E. Spring and D. Spring, 'The English landed elite, 1540–1879: a review', *Albion* 17 (1985), pp. 149–66; L. Stone, 'Spring back', *Albion* 17 (1985), pp. 167–80; R. Pahl, 'New rich, old rich, stinking rich?' *Social Hist.* 15 (1990), pp. 229–39; W. D. Rubinstein, '"Stinking rich": a response', *Social Hist.* 16 (1991), pp. 359–65; R. Pahl, 'A further comment on Mr Rubinstein's claims', *Social Hist.* 17 (1992), p. 99. F. M. L. Thompson, 'Life after death: how successful nineteenth-century businessmen disposed of their fortunes', *EcHR* 43 (1990), pp. 40–61; W. D. Rubinstein, 'Cutting up rich; a reply to F. M. L. Thompson', *EcHR* 45 (1992), pp. 350–61; F. M. L. Thompson, 'Stitching it together again', *EcHR* 45 (1992), pp. 362–75; T. Nicholas, 'Businessmen and landownership in the late nineteenth century', *EcHR* 52

Rubinstein and Michael Thompson, have published further contributions, which have carried the debate into the twentieth-first century. A few local studies – most notably of Oxfordshire and Berkshire by Michael Havinden and Ted Collins – have been undertaken.[3]

To some, the relationship between old and new wealth was characterized by a rivalry based upon distinct cultural identities; to others, it was marked by growing cooperation and eventual merger into a single elite. Despite these differences, the significance of this relationship in the development of Britain's society, politics and economy has been agreed by all parties. The alleged receptivity of the landed elite to new men of wealth and its encouragement of economic development through the acceptance of bourgeois values in 'gentlemanly capitalism' has been proposed as a cultural explanation for Britain's success after 1688. The absence of political revolution in Britain after 1745 has been attributed both to the growing class solidarity of the aristocracy and conversely to its openness as an elite.[4]

There are many problems to be overcome in trying to assess the actual level of class antagonism or cooperation. Any work based on a qualitative balance of historic views could be accused of lacking tangible evidence. It is relatively easy to counter Hippolyte Taine's view of easy upward mobility with Maria Edgeworth's observations on the London middle class.[5] Therefore there have been a series of empirical studies based upon a wide range of behavioural yardsticks including the infiltration of the *nouveaux riches* into the public schools, directories of social leaders like Burke's *Landed gentry* or Walford's *County families*, the ranks of landowners, the county magistracy, the Commons and the Lords, the ranks of armigers and even the wedding beds of aristocratic families.[6] All of these strategies raise difficulties as absolute measures of social relations. For example, while substantial bourgeois penetration into the Commons is certainly impressive evidence of the openness of British society, it does not demonstrate necessarily that the bourgeoisie accepted landed culture and norms or that British landed society was more 'open' than its European counterparts.[7]

To counter such criticisms, some studies have looked in detail at various aspects of the behaviour of a small number of businessmen either based on an area or a set of towns,[8] or a

Note 2 *continued*
(1999), pp. 27–44; Julia A. Smith, 'Land, ownership and social change in late nineteenth-century Britain, *EcHR* 53 (2000), pp. 767–76; Nicholas, 'Businessmen and landownership in the late nineteenth century revisited', *EcHR* 53 (2000), pp. 777–82.

[3] W. D. Rubinstein, *Men of Property* (1981; revised edn, 2006); F. M. L. Thompson, 'Business and landed elites in the nineteenth century', in F. M. L. Thompson (ed.), *Landowners, capitalists and entrepreneurs* (1994), pp. 139–70; id., *Gentrification and the enterprise culture: Britain 1780–1980* (2001); E. J. T. Collins and M. Havinden, 'Long term trends in landownership, 1500–1914: Berkshire and Oxfordshire', *Oxoniensia* 70 (2006), pp. 27–49.

[4] P. J. Cain and A. G. Hopkins, *British imperialism: innovation and expansion, 1688–1914* (1993); L. Colley, *Britons: forging the nation, 1707–1837* (1992), p. 164; *cf.* G. Mingay, *English landed society in the eighteenth century* (1963), pp. 92–103.

[5] Hippolyte Taine, *Notes on England*, transl. E. Hyams (New Jersey, 1958), p. 190; Julie Nash, *Servants and paternalism in the works of Maria Edgeworth and Elizabeth Gaskell* (2013), pp. 4–5.

[6] E. Walford, *The county families of the United Kingdom* (first published 1860, and then annually: the editions for 1880 and 1881 were used here).

[7] Y. Cassis, 'Bankers in English society in the late nineteenth century', *EcHR* 38 (1985), pp. 210–29.

[8] P. Ballard, 'A commercial and industrial elite: a study of Birmingham's upper middle class, 1780–1914' (unpubl. Ph.D thesis, University of Reading, 1983); G. Sheeran, *Brass Castles: West Yorkshire new rich and their houses, 1800–1914* (1993); T. Koditschek, *Class formation and urban industrial society: Bradford, 1750–1850* (1990).

trade, or a combination of the two.[9] Others have tried to compare the behaviour of British and European entrepreneurs especially in their purchase of landed estates.[10] One major problem with such studies has been the selection of businessmen. In some cases, no criteria have been used apart from those businessmen whom the researcher has happened upon. Two studies have used trade directories and the *Dictionary of business biography* more systematically but both of these sources are flawed if used to measure the numbers of purchasers. Businessmen who adopt an aristocratic lifestyle may abandon direct involvement in business activities and therefore may not continue to be listed in trade directories. Similarly, the *Dictionary of business biography* is a retrospective study of leading entrepreneurs, the primary criteria for selection being 'business achievement' within its period of study,[11] but this only starts in 1860 and included the first half of the twentieth century when most authorities agree that the proportion of businessmen who bought large estates declined. Its selection criteria tend to exclude those businessmen who made their money and then decamped into landed society. Moreover, it does not include 'new wealth' generated in other ways, the most important of which were urban development, law and military service.[12]

One behavioural measure which has received considerable attention has been the penetration of the landowning elite by men of new wealth generally from whatever source. These studies have given rise to their own methodological problems. One is establishing the criteria for selection of the 'new men'. Both Bill Rubinstein and Michael Thompson used probate returns; this necessarily overlooks businessmen who made inter-vivos gifts for a variety of legal, family and business reasons or those whose efforts in penetrating the landed elite left them relatively bereft of personalty, as in the case of Sir George Philips.[13] There is also the difficulty of assessing who actually counts as a new-wealth purchaser; sometimes it is not the wealth creators but their heirs or the husbands of their heiresses who purchased landed estates. Furthermore, there are differences in the use of probate material; Rubinstein used a lower 'cut off point' than Thompson and sampled for particular decades or individual years. Thompson, by choosing a higher cut off point, was able to consider a longer period of time. Then there is the question of what criteria to use when turning to any landed acquisitions made by new men. The Stones chose the size of the mansion acquired to support a large landed estate whereas Thompson and Rubinstein have looked at the amount of land acquired.[14] Many disagreements have arisen on the issue of size, how large a mansion or how many acres to use as a measure. Another complication is that landed society had its own gradations – the gentry, the squirearchy and

[9] D. Gutzke, 'The social status of landed brewers in Britain since 1840', *Histoire Sociale/Social History* 17 (1984), pp. 93–113; A. Howe, *The cotton masters, 1830–1860* (1984); T. Devine, *The tobacco lords: a study of the tobacco merchants of Glasgow and their trading activities, c.1740–90* (1975, 1992); R. G. Wilson, *Gentlemen merchants: the merchant community in Leeds, 1700–1830* (1971).

[10] H. Berghoff and R. Möller, 'Tired pioneers and dynamic newcomers? A comparative essay in German and English entrepreneurial history, 1870–1914', *EcHR* 47 (1994), pp. 262–87; D. Lieven, *The aristocracy in Europe, 1815–1914* (1992); G. Gill, *Bourgeoisie, state and democracy: Russia, Britain, France, Germany, and the USA* (2008).

[11] D. J. Jeremy (ed.), *Dictionary of business biography* (5 vols, 1985).

[12] Nicholas, 'Businessmen and landownership'.

[13] D. Brown, 'From "Cotton Lord" to landed aristocrat: the rise of Sir George Philips Bart., 1766–1847', *Historical Res.* 69 (1996) pp. 62–81.

[14] L. Stone and J. C. F. Stone, *An open elite? England, 1540–1880* (1984).

the aristocracy; for historians like Rick Trainor who used the Black Country as an example, businessmen made a limited entry into the landed elite. They were often gentrified but very few were ever 'squirified' or 'aristocrafied'.[15] Furthermore the whole basis of using land as a criterion has been questioned as new men could have invested in land as a diversification or as speculation. Nevertheless the most difficult problem to overcome is how to establish the timing, size and cost of landed acquisitions. There was no national land registry in Great Britain at this time. The *Return of owners of land*, compiled by the government between 1873 and 1876 to give details of ownership, acreage and rentals of all land in the counties of the United Kingdom outside London is a very useful tool but is only a snapshot at a particular point during the period.[16]

Any historian able to overcome these problems and produce a list of newly wealthy purchasers of landed estates would then have to decide what level of penetration would represent an open landed elite. So far as the author is aware, no hard and fast measure has even been suggested for this in any study of social mobility. One possible reason is that upward social mobility can be expressed either as 'inflow' figures (which represent the number of movers as a proportion of their new group) and 'outflow' figures (which represent the number of movers as a proportion of their old group). As the group the upwardly mobile leave is much bigger than the group they enter, such figures give a very different impression of the level of social mobility. Furthermore, the historian must be able to establish the total population of landowners falling into each category as a yardstick against which these new entrants could be measured.

Finally there is the problem that although the level of penetration of the landed elite may be calculated, what value has this statistic? Contemporaries would only have had an impression of the level of social mobility and so the actual level would not have directly influenced their social, economic or political behaviour.

In short, there seem to be many difficulties in the way of any quantitative study of the upward social mobility of new men. These can be reduced to the following seven questions:

(i) What weight should be given to the various measures of upward social mobility?

(ii) If land acquisition is the most important criterion, what amount of land would be needed to enter a particular echelon of landed society?

(iii) How can a list of 'new-money' purchasers of land be constructed?

(iv) How can the total population of owners in each echelon of British landed society be calculated?

(v) In what way should the rate of social mobility be expressed?

[15] R. Trainor, 'The gentrification of Victorian and Edwardian industrialists', in A. L. Beier and D. Cannadine (eds), *The first modern society* (1989), pp.167–97.

[16] The return was published in three stages; England and Wales in 1873, Scotland separately in 1874 and Ireland in 1876. It formed the basis for John Bateman's handlists of landowners in the United Kingdom, culminating in his *Great landowners of Great Britain and Ireland* (1883). BPP, 1873, LXXII, Parts 1 and 2, *Return of owners of land in England and Wales*; BPP, 1874, LXXII, Part 3, *Return of owners of land in Scotland*; BPP, 1876, LXXX, *Return of owners of land in Ireland*; Brown, 'Philips'.

(vi) What level of landed penetration by the newly wealthy would enable the British aristocracy to be considered an 'open elite'?

(vii) Does the lack of contemporary awareness of the precise level of such upward mobility render the statistics of interest only to economic historians and historical sociologists?

In attempting to answer these questions, much will be revealed about the nature of the land market in this period and the motivation of purchasers.

I

Each of the potential yardsticks is a useful indicator to the historian but equally each is flawed as an absolute arbiter of levels of either upward social mobility or rapprochement of aristocratic and bourgeois elites. However, for entry into an aristocratic elite, the most important criterion must, by definition, be the acquisition of land. Nobility usually went hand-in-hand with ownership of land – Bateman in his G*reat landowners of Great Britain and Ireland* (1883), identified 459 peers, out of a total of 585, as having estates of over 2000 acres and £2000 – just under 79 per cent.[17] This relatively small number of peers makes measuring the admission of the newly wealthy into their number a severe measure of mobility.[18] The infiltration of new wealth into the lower chamber was measured by Ellis Wasson; while this is a very useful indicator of the openness of the House of Commons to the *nouveaux riches*, it obviously cannot comprehend those socially ambitious members of the bourgeoisie with no interest in politics.[19] Another technique was entry into handbooks of the social elite such as Burke's *Landed gentry*. Thompson reckoned that roughly a fifth to a quarter of its over 5000 entries in 1906 were new men who acquired their estates in the nineteenth century.[20] Burke however, particularly in his earlier editions, might have given a misleadingly large representation of new money. As a reviewer of its second edition in 1847 commented, Burke was over-reliant upon contributions from *novi homines* for 'it is to the upward strugglers that such an opportunity of display offers peculiar temptations'.[21] Such men were often willing to create false ancestries; Professor Freeman commented at the time that many ancient pedigrees were 'the work of deliberate invention'. Furthermore there were no specific entry criteria for inclusion in the handlists.[22] Thus when John Beckett calculated from Walford's *County families of the United Kingdom* of 1895 that there were 8945 individuals listed for England and Wales, he acknowledged that such listings are imperfect measures of social distinction.[23]

[17] Bateman, *Great landowners*, pp. 499–515. This was a distillation of the *Return of owners of land*.

[18] F. M. L. Thompson, *English landed society in the nineteenth century* (1963), pp. 294, 299; R. E. Pumphrey, 'The introduction of industrialists into the British peerage: a study of the adaptation of a social institution', *American Historical Rev.* 65 (1959), pp. 1–16.

[19] E. A. Wasson, 'New wealth and the English governing class', *EcHR* 51 (1998), pp. 25–48.

[20] F. M. L. Thompson, 'Britain', in D. Spring (ed.), *European landed elites in the nineteenth century* (1977), p. 30 and p. 43, n. 21.

[21] *Gentleman's Magazine*, 1847, I, pp. 49–51; E. A. Freeman, 'Pedigrees and pedigree makers', *Contemporary Rev.* 30 (1877), pp. 12, 39.

[22] *Cf.* J. Scott, *The upper class: property and privilege in Britain* (1982), p. 91, who reckons that ownership of an estate of over 2000 acres was required for inclusion in Burke's; he may be confusing Burke with Bateman.

[23] J. V. Beckett, *The aristocracy in England, 1660–1914* (1986), Table 1.1 (pp. 36–8); Bateman, *Great landowners*

Land was necessary for many of the trappings of the elite throughout the period, such as entry into the magistracy and hence county administration. Although a few men with little property were invited to join the bench, particularly in urbanized or industrial hundreds where it was difficult to find landed magistrates to serve, such appointments were unusual until the latter part of the period. While the shrievalty was an expensive duty that many existing owners avoided, there were few sheriffs who were not also substantial landowners.[24] Moving from the local to the national political scene, property ownership was an advantage in securing election to parliament through influence on tenants and tradesmen, especially if one wanted to secure a prestigious seat as a 'knight of the shire'. Ownership of manorial rights was necessary to kill game, although game could be legally bought after 1829.

Land purchase is not a perfect measure because it can have motives other than status acquisition, such as long-term investment, diversification, speculation or the avoidance of death duties. Richard Morris argues that the middle class often used land to diversify their assets – a secure 'store of value' to provide an income in retirement. Land was increasingly a poor investment for these purposes, returning 2·5 to 3 per cent at best in the nineteenth century. Both Palmer the biscuit maker and Dalgety the merchant banker found that their agricultural investments were unprofitable.[25] Richard Lambert, a London lawyer, complained to Peel that the repeal of the Corn Laws meant that his speculative purchase of a 271-acre farm no longer paid.[26] In addition, as Morris's two examples show, such 'business' purchases tended to be small but valuable urban properties. This kind of investment can be excluded by setting a sufficiently large acreage baseline for the total purchases of any individual.[27] Ireland after the 1849 Encumbered Estates Act presents some problems to this strategy. Some large purchases were speculative, either exploiting the very low prices when the market was saturated immediately after the passing of the act or depending on replacing cottagers by sheep farms or game reserves. By comparison, large-scale speculators in England often faced problems as the nineteenth century wore on because the market was less remunerative; William Garbutt, a land dealer, went bankrupt in 1880 owing £130,000.[28] The only purchases of land that could pay very handsomely were those with mineral or urban development potential. However, purchases of the former were increasingly rare – entrepreneurs increasingly preferred to form companies, and lease mineral rights – and the same applied to the latter to a certain extent. Purchases of farms present a particularly difficult problem. Some were sufficiently large for their new owners to qualify as members of the squirearchy, but the purchase may have had more of the character of a business investment in a working farm, funded perhaps by loans and mortgages. John Rowles bought a 1028-acre estate in Berkshire in 1857 but in the 1881 census he was described

Note 23 *continued*
(1883 edn), p. xv, attacked the criteria adopted by his fellow 'collaborateurs' such as Burke, Shirley and Walford for inclusion in their lists.

[24] *Gentleman's Magazine,* 1811, I, pp. 122 and 336; *Jackson's Oxford Journal,* 3 Sept. 1774, p. 3, a letter re the appointment of a brewer as sheriff: 'had you a freehold in the county when you were set over the heads of all the gentlemen of property in it to be made a pocket sheriff? And have you anything more than an ale-house in the county now?'

[25] Jeremy (ed.), *Dictionary of business biography*, iv, p. 523; M. J. Daunton, *State and market in Victorian Britain: war welfare and capitalism* (2008), p. 209.

[26] BL, Add. Mss 40603, pp. 226–7.

[27] R. J. Morris, *Class, sect and party. The making of the British middle class, 1820–50* (1990), p. 322.

[28] *Estates Gazette*, 1880, p. 57

as a 'farmer and landowner' and only employed one domestic servant.[29] The influence of such business-based motives can be limited by excluding purchases without a residence or of minimal duration – like William James Goulton who bought Massingham Parva in Norfolk in 1872 only to resell quickly to William Walker.[30] By such filtering, genuine buyers can be separated from the residue. The next problem is how to categorize the buyers precisely.

II

The amount of land required to enter particular echelons of the landed elite has been the subject of some debate but the views of contemporary observers and modern historians, together with some consideration about what certain levels of landownership meant in terms of prestige and authority, can establish a secure definition of different grades of the landed elite. Rubinstein employed a benchmark of 5000 acres (without consideration of rental) for entry into the landed elite, which brought him into sharp disagreement with historians of landownership, particularly Thompson (who chose a threshold of 2000 acres) and the Springs.[31] However to employ a single entry point overlooks the existence of distinct bands within the landed elite identified by John Bateman in 1876: the 'nobility/peerage', the 'aristocracy', the 'squirearchy' and the 'gentry'. The two most successful attempts to produce a profile of these gradations have been those of Gordon Mingay and John Beckett; for Mingay, the rental value of land was the key factor conferring status; for Beckett, who used Bateman's categorization, this had to be matched by a commensurate acreage.[32] The gradations adopted by Bateman and Beckett form the basis of Tables 1 and 2. What is noticeable is that Rubinstein's baseline of 5000 acres appears too high; someone who purchased that much was entering into the higher levels of the aristocracy. To illustrate the point, a squire was the dominant landowner in a parish and would normally be a lord of the manor. The average size of parishes in England and Wales in 1811 was 3340 acres,[33] and a parish often contained several manors. Therefore a person could become a manorial squire by purchasing a manor with 1000 acres, or perhaps much less.

III

The creation of a list of purchasers is a difficult and lengthy task. While the *Return of owners* is the single most useful source to the historian, simple reliance on its entries and acreages can be misleading in several ways. As Bateman recognized, there were errors in transcription both in terms of acreage and in names as well as multiple entries for the same estate. Furthermore there were additions and omissions in the return; for example, neither the census nor the Warwickshire Record Office name index records a Mr Howard of Birmingham who in the return owned 1798 acres and £3183 rent; the Earl of Derby found that the *Return* omitted nearly

[29] *VCH Berkshire,* IV, p. 224; 1881 census.

[30] *Estates Gazette,* 1872, p. 473.

[31] W. D. Rubinstein, 'New men of wealth and the purchase of land in nineteenth-century Britain', *Past & Present* 92 (1981), p. 136 Table 2; Thompson, 'Life after death', pp. 40–61; E. Spring, 'Businessmen and landowners re-engaged' *Historical Res.* 72 (1999), p. 80.

[32] Mingay, *English landed society,* p. 26; Beckett, *Aristocracy*, pp. 50–2.

[33] A. D. Gilbert, *Religion and society in industrial England. Church, chapel and social change, 1740–1914* (1976), pp. 100–02.

10,000 acres of his Lancashire estate which he included in his entry in Bateman's handlist of 'great landowners' of over 2000 acres and £2000 rental published in 1883.[34]

Another major problem with the *Return of owners* was the source from which it was compiled. It was based on the valuation of estates as compiled by parish officials for rating purposes. In industrial areas like the Black Country, these officials often only recorded the rental value, not the acreage. This has led many historians to underestimate the acreage owned by landowners – often newcomers – in industrial areas. For example, Sir Horace St Paul is recorded as owning only 40 acres in Staffordshire, worth £6978 per year. Comparison with tithe commutation surveys show that a generation earlier he already owned 772 acres in Staffordshire. When this is added to his 1332-acre estate in Northumberland, he should have qualified for inclusion by Bateman: however he is omitted from the book.[35]

Reliance on Bateman's handlist of 1883 can mislead historians in other ways. For example Rubinstein discounts several new men of wealth as non-landed – Crawshay the ironmaster, MacCalmont the stockbroker and Gretton the brewer – because their names were not listed by Bateman.[36] Discounting individuals on this score takes no account of heirs of different names who purchased land. Benjamin Hall, a son-in-law of the first Crawshay, used his inheritance to buy an aristocratic estate from 1808 onwards. Purchases after Bateman's book was published are also ignored. MacCalmont's heir bought 7041 acres in the six years after his uncle's death in 1887 largely at Cheveley in Cambridgeshire. Gretton himself bought 4600 acres at Stapleford for £150,000 in 1894.[37] In another instance, Rubinstein attacks Daunton's statement that the merchant banker Dalgety invested heavily in land. Rubinstein based this on the fact that Dalgety's purchases before 1872 were only 1195 acres, insufficient to gain entry into Bateman. However, the *Victoria County History (VCH)* of Hampshire reveals that in 1879, Dalgety bought Goldsmid's estate at East Tytherley, which in 1873 had been measured at 1607 acres and rented at £1295. Before 1878 he had also bought at least 200 acres at Gambledown from W. M. Harvey. Therefore by 1879 Dalgety owned at least 3000 acres with a rental of £3500 and possibly more, which would have secured his entry into Bateman's book. Certainly his spending of £172,006 on Hampshire land by 1884 would equate to an estate of roughly 6000 acres. Dalgety had simply not bothered to inform Bateman of his purchases.[38]

The *Return of owners* must be augmented by additional sources not only to identify the extent of the purchases but also further details such as the source of a purchaser's wealth. Even where available, estate papers are time-consuming to use. The Stones suggested that *VCH Warwickshire*, one of the few of the series to have been completed, could be trawled to

[34] J. Vincent (ed.), *A selection from the diaries of Edward Henry Stanley, 15th Earl of Derby (1826–93): between September 1869 and March 1878* (Camden fifth ser. 4 (1994), pp. 276, 379 and 436.

[35] Birmingham Reference Library, B/A/15, tithe awards for Wednesbury, Tipton and West Bromwich.

[36] Rubinstein, *Men of Property*, pp. 134–5.

[37] West Suffolk RO, hb 510/2/9, Sale of Cheveley estate, 1893 to H. L. B. McCalmont. *Estates Gazette*, 1894, p. 522.

[38] M. J. Daunton, 'Firm and family in the city of London in the nineteenth century: the case of F. G. Dalgety', *Historical Res.* 72 (1989), pp. 154–77; *VCH Hampshire,* IV, pp. 501–2, 506–7; *Hampshire Advertiser*, 24 Aug. 1872 and 6 Apr. 1878. This disregards other purchases for which no date is known. M. J. Daunton, '"Gentlemanly capitalism" and British industry, 1820–1914', *Past & Present* 122 (1989), pp. 119–158; W. D. Rubinstein, '"Gentlemanly capitalism" and British industry, 1820–1914: comment', *Past & Present* 132 (1991), p. 153; M. J. Daunton, 'Reply', *Past & Present* 132 (1991), pp. 170–87.

provide a full county list of new-wealth purchasers to add to the three they had studied in other ways.[39] This strategy obviously could only be employed in a few counties and, in its early days, the *VCH* was largely a manorial history, which excluded some large landed estates. In the nineteenth century, manors were often bought separately from their demesne either to lease game rights or enfranchise copyholds.[40] Furthermore the names of purchasers are often supplied without any statement of their occupation, and purchases after about 1700 lack precise dating, restricting proper analysis. *VCH Sussex* IX gave full details of the descent of the Fullers' estate at Rose Hill until about 1790 but ignored its purchase around 1877 by the banker, Percy Tew.[41] Nevertheless by combining the *VCH* information with data from other sources – existing research, parish histories, architectural studies, deeds, trade directories and listings of businessmen, county families and the landed gentry – a nearly full study is possible. These methods in Warwickshire alone between 1780 and 1879 yielded 28 new men of wealth with their main home in the county who had purchased estates of over 1000 acres or rental value of £1000, including 12 manufacturers and 10 merchants or bankers.[42]

The problem remains of those English counties not fully covered by the *VCH* or those counties in Wales, Scotland and Ireland that lie beyond its remit. Fortunately many counties in England and Wales have antiquarian studies to serve as a substitute, and the land market has interested historians of landlord-tenant relations in the more socially antagonistic Celtic fringe of the British Isles. These sources supplemented with others – Burke's *Landed gentry*, Walford's *County families*, the obituaries in the *Gentleman's Magazine*, newspapers and journals (particularly the *Estates Gazette* after 1858) can allow the diligent historian to discover most large-scale purchases of land which took place between 1780 and 1880; a full list, particularly of purchases of gentry estates, would require an enormous research effort, even with the emergence of searchable resources via the internet. However, it is hoped that the overwhelming majority of major purchases between 1780 and 1880 have been caught.

There are several other complications to bear in mind. Precise dating of purchases is difficult because it could take several years to sort out problems over title or completion of the payment. Actual purchase could follow months or even years after newspaper reports of a contract to purchase being agreed. Furthermore secondary sources can be unreliable because some new men rented estates before buying them and the change in status might not always be obvious. Another difficulty is the treatment of those whose purchases straddled either 1780 or 1880. In such cases, the deciding factor was when the bulk of purchases and a mansion were acquired; thus Samuel Cunliffe Lister had only assembled an estate of 300+ acres/rent before 1880,

[39] Stone, 'Spring back', p. 70.

[40] As two examples, *VCH Cambridgeshire,* IX, p. 246; *VCH Huntingdonshire,* II, p. 225.

[41] *VCH Sussex,* IX, p. 227.

[42] Stone 'Spring Back', p. 170. Stone believed that Warwickshire would probably have few newcomers to the elite because he was informed by Professor Mandler that 'no man with vaguely commercial or industrial connections represented either division of the county as MP before 1857'. In this he was misinformed: apart from the landowner/industrialist Sir William Dugdale (MP North Warwickshire, 1832–46), there was Sir George Philips, a new-wealth purchaser (MP South Warwickshire 1833–35, Brown, 'Philips'), Richard Spooner, the banker (MP North Warwickshire, 1847–64, *Gentleman's Magazine*, 1865 (i), pp. 240–2) and Edward Greaves, banker and new-wealth purchaser (MP Warwickshire, 1852–65 and 1868–74, Burke's *Landed gentry,* 1937 edn, pp. 965–6).

although in 1882 he bought the 22,678-acre Swinton Park estate for £457,000. He is therefore excluded. Robert Harvey, the Norwich banker, was included because, although Thorpe Lodge was bought in 1779, the bulk of his landed purchases were after 1780. With more difficulty, Samuel Whitbread was included because of the size of his purchases after 1780 and the acquisition of a mansion; the nabob, James Alexander of Caledon, however, was excluded as his mansion and some of his large estates were bought before 1780. Similarly there are 24 families in the database who make a secondary rise through new wealth. The goldsmith Francis Tyssen invested much of his profits in buying Hackney manor; his heiress married John Amherst, who bought Foulden Hall – under 2000 acres – in Norfolk in 1754. However the family's substantial purchases of land occurred in the 1850s when their descendant used the wealth gained from the development of Hackney to buy over 7000 acres based on Didlington Hall. In such cases, only the purchases made after 1780 are counted in determining the notional status acquired.

Then there is the problem of how to classify purchases by the heirs of wealth creators; these fall into three categories. First, in many cases, an estate was bought for an heir through a trust, showing the new man's clear intention to establish a landed dynasty. Second, in others, where the heirs themselves decided to buy estates, they were rejecting the option of using their inherited capital in business. These can be difficult to determine where the heir marries an independently wealthy man or woman. For example, the wealthy Rothschild heiress married the Earl of Rosebery, who soon bought the Malleny estate, seemingly with Rothschild wealth but in the absence of proof, this case was excluded.[43] Third, there are the purchases of estates in trust for female heirs. Some married non-landed gentlemen like the Brownes of Newcastle-upon-Tyne who married the heiress of the Forman family of ironmasters who were thereby catapulted into the landed elite. Others married persons who were already landed but who were propelled by the marriage into a much higher echelon of landed society. In all cases the purchases were made by new wealth and so fall within the remit of the research; the contribution of men like the ironmaster and financier William Thompson (1793–1854) to the estate of someone like his son-in-law the Marquess of Headfort should be disaggregated from Headfort's lineal estate and ascribed to the wealth creator.[44]

Short-term owners of estates present another set of problems. It is true that some 'birds of passage' were simply speculators often in mineral or urban estates; even mansion house estates could be an investment as they had an economic value; however maintenance costs meant that such purchases were inevitably short-lived. Obvious speculators can be excluded but there were those who acquired landed estates only to resell after a short period of time due to financial difficulties. For example, those shooting stars of the railway mania, Betts,

[43] For an alternative view, see W. D. Rubinstein, 'Businessmen into landowners', in Negley Harte and Roland Quinault (eds), *Land and society in Britain, 1700–1914: essays in honour of F. M. L. Thompson* (1996), pp. 96–7.

[44] William Thompson was an ironmaster and financier whose only child was a daughter, Amelia. She married the Earl of Bective, the son of the Marquess of Headfort, already a landowner in Ireland. Thompson came from the Lake District and spent the latter years of his life acquiring a landed estate based in that area, spending at least £218,000. He then established a trust to purchase more estates. By 1888 Thompson and his trustees had bought 25,000 acres of land in 226 individual purchases. Clearly new wealth was being used to acquire land on a massive scale and an estate separate from Headfort's had been established. BPP, 1888, Select Committee on Agriculture, Evidence of F. Punchard.

Peto and Hudson were forced to liquidate their country estates within two decades in order to satisfy their creditors. Such men seem to deserve inclusion because their intention was to establish themselves as landowners and they lived as such for a period. Perhaps the most debatable inclusions on this score are John Farquhar and Albert Grant. Farquhar (1751–1826), the notorious miser and government contractor, seems to have had no dynastic motive. He left no will, so his estate was divided equally among nephews and nieces. Furthermore he retained Fonthill Abbey for just four years. Nevertheless he did reside there and only rid himself of his bargain when its tower collapsed.[45] Albert Grant (1831–99) owned Horstead in Norfolk for only a few months in 1872 and was a great speculator in fraudulent companies – was Horstead yet another of his speculations? This disregards his vanity and financial circumstances. 'Baron Grant' was really Albert Gottheimer, the son of a Jewish pedlar turned London merchant, who ruined himself in attempts to acquire social standing through a massive London townhouse and conspicuous philanthropy. It was mounting financial pressures that obliged him to re-sell his landed estate as the first of his fruitless attempts to avert bankruptcy.[46]

There were more complicated ways that new money could find its way into land. Gladstone made himself a landed gentleman by buying out the heir in tail of the Glynne estate with Gladstone's share of his father's mercantile wealth. While Gladstone is included, examples of the infusion of new wealth through marriage to prevent the destruction of estates are excluded because this motive would be impossible to demonstrate. Some cases almost defy classification. The Tierney brothers, a lawyer and a society doctor, lent money to the Earl of Egmont and gradually secured a stranglehold over his affairs; he arranged that he should leave them his Irish estates, seemingly in settlement of his debts. The Tierneys enjoyed these estates (worth over £12,000 a year in Cork) for 22 years until Chancery overturned the will. Thomas Pemberton, another lawyer, developed his own estate but was given a life interest in another as a reward for legal services. Pemberton has been counted as a buyer but the Tierneys have been excluded both because of their fragile claim to ownership and the question over whether they acquired the estate through loans or inheritance.

Difficulties in counting purchasers can also arise. Richard Arkwright II and David Ricardo bought respectively around 25,000 and 10,000 acres to provide landed estates for their sons – should these be counted as one large purchase or several? In these cases, if the estates were bought as separate estates in which to install progeny they are counted severally; if however they were bought and enjoyed by the wealth holder and then divided they are counted to full size by him and then separately among others. On those occasions when estates were created but then were added to others through marriage or inheritance, they are labelled 'subsumed'.

The need to have a commensurate rental component causes a difficulty as rental details are only available for 1873 and there was considerable inflation especially over the early part of the century. To allow proper comparison, 1873 rentals are used as a standard where possible or the average rental of the area estimated at 1873 levels.

A final problem is to define a 'new-wealth' purchaser, a question perhaps most clearly

[45] For Farquhar see ODNB.

[46] For Grant see ODNB. His failed landed ambitions were satirized by Trollope in the personality of Augustus Melmotte, the villain of *The way we live now* (1874).

illustrated by Arthur Wellesley. The future Duke of Wellington was the fourth son of an Irish nobleman and his properties were either bought by a parliamentary commission or were the gifts of grateful rulers. Nevertheless while he was of an 'old' family, his money was 'new' and 'earned' through conspicuous military service. Moreover his acquisition of money was considerable, and he left over £500,000. This problem applies to perhaps ten of the 'new-wealth' purchasers.[47]

Turning to the source of new wealth, this is often difficult to identify. The newly rich were often at pains to obscure the source of its wealth in publications like Burke's *Landed gentry,* preferring to stress its aristocratic connections and ancestry. Others (such as George Addison Cox, the Dundee jute and linen manufacturer) preferred to describe themselves as merchants when in reality their business was based upon manufacturing and they were only merchants inasmuch as they bought raw materials and sold finished products. In this context it is worth remembering that the organizers of the domestic system of manufacture were described as merchants.[48] Indeed many individuals diversified their interests into a variety of remunerative employments and so are very hard to categorize. For example, many early manufacturers like Sir Robert Peel became bankers in order to obtain capital for their concerns. Sir George Philips' contribution to the manufacturing concern of Philips and Lee was buying and selling and so he became involved in peripheral mercantile and banking activities; nevertheless the bedrock of his wealth was manufacturing.

IV

The results of this research has been organized into a database. After a preliminary examination of existing studies and volumes selected effectively at random largely from the *VCH*,[49] the precise dates at which 352 new men of wealth acquired, in a single acquisition, an estate of over 1000 acres/£1000 rental value (in 1873 terms) in England between 1780 and 1879 were established. The results (see Figure 1) clearly show a marked increase in the number of purchases of landed estates in the 1850s and 1860s, roughly corresponding to the 'Equipoise decades' of Burn. Although Burn did not subscribe to the theory of an 'open elite', the figures strongly suggest that if the period was one of relative social stability, the opportunities for new wealth to acquire landed status contributed in some measure to it. It also conforms to Beckett's impression that 'property accumulation was taking place more successfully in the nineteenth century than in the eighteenth'.[50]

Other trends emerge from a more detailed study of the 'Equipoise' period. Further research identified a group of 423 new-wealth purchasers during the years 1850 to 1869.[51] A study of

[47] Rubinstein, *Men of property*, p. 72.

[48] Walford, *County families* (1880 edn), sub George Addison Cox.

[49] The effective randomness being the product of whatever volumes happened to be available at those libraries accessible to the researcher. For more detail see D. Brown, 'Equipoise and the myth of an open elite. New men of wealth and the purchase of land in the equipoise decades 1850–1869', in Martin Hewitt (ed.), *An age of equipoise? Reassessing mid-Victorian Britain* (2000), Appendix.

[50] W. L. Burn, *The age of equipoise* (1964), pp. 8, 253, 303–7, 314, 317–8, 322–3; J. V. Beckett, 'The pattern of landownership in England and Wales, 1660–1880', *EcHR* 37 (1984), p. 22.

[51] Brown, 'Equipoise'.



FIGURE 1: Numbers of estates purchased by new men of wealth in the United Kingdom, 1780–1879

Source: Author's database.

the source of their wealth, broken down into four general areas produces the result shown in Figure 2. The figures show that individuals whose trade and finance formed just over a third of the group identified, much smaller than might have been anticipated from the work of Rubinstein. The size of estate acquired varied a good deal but there was no apparent correlation between the size of the estate and the source of the purchaser's wealth.

Turning now to the century under study, we find that the motivation of the purchasers varied. After 1845, some wanted to prove that they could make agriculture pay in a free-trade environment, and William Hanbury Sparrow, especially, entered into large-scale farming with an element of class rivalry. A few tried to run their estates as industrial concerns – most famously in the case of Robert Campbell who established an 'industrial farm' at Buscot, whose losses obliged the estate's eventual sale.[52] In some cases, the impulse to purchase a landed estate owed much to health considerations, obliging purchasers to go ever further afield. In the 1790s, Matthew Boulton invited a friend to his new mansion only three miles from Birmingham, saying that 'the quietude and fresh air of Soho will do you more good than ye smoak and Noise of Birmingham'. His son, Matthew Robinson Boulton bought Great Tew in Oxfordshire in 1815 while retaining Soho; but Robinson Boulton also established a trust so that his own son could abandon Soho for one of the largest estates in Oxfordshire. In the case of James Tertius Dugdale, it was his wife who persuaded him to buy Sezincote in Gloucestershire in 1884 to escape the smoke around his cotton factory.[53] Wives often had social ambitions that could drive their husbands to disaster. In the opinion of his banking partners, the nagging of his wife helped to drive William George Prescott to commit suicide as he could not face assuming the life of a landed gentleman. After his death in 1865, his wealth was used to establish his son-in-law Decie as a landed gentleman in Worcestershire.[54] A variety of motives could apply

[52] J. R. Gray, 'An industrial farm estate in Berkshire', *Industrial Arch.* 8 (1971), pp. 171–83.

[53] William Salt Library, SMS 478, Matthew Boulton to Mrs. Dibbs (undated); B. Hall, *Lower House and the Dugdales* (1976), p. 25.

[54] *VCH Worcestershire,* IV, p. 243; D. Kynaston, *The City of London, 1815–1890,* I, *A world of its own, 1815–1890* (1994), pp. 61, 232–3, 381.

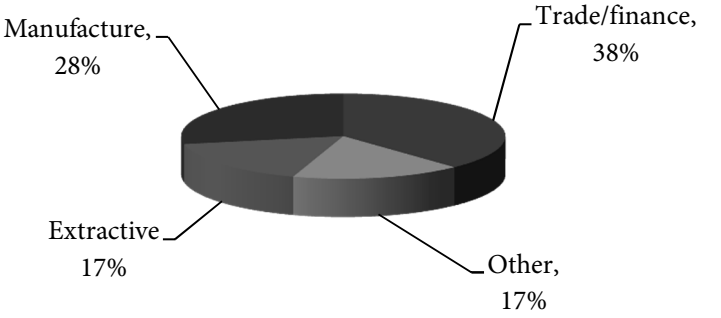


FIGURE 2: Sources of wealth of *nouveau riche* land purchasers (1850–69)

in some individual cases; for the cloth merchant Dearman Birchall, aesthetic and social considerations for himself and his daughter led to his purchase in 1868 of Bowden House, which gradually grew into a gentry estate.[55]

The two most prominent of all motives were the acquisition of status and dynastic ambition. For example, Sir George Philips expended £700,000 in his desire to become a landed gentleman and as the result of his inter-vivos gifts he died 'insolvent' for probate purposes.[56] Significantly, men acquiring land with this ambition in mind were often eager to restore their families' landed status that had been lost over time, like the Hanburys of Ilam Hall.[57] Many who did not themselves buy established trusts to purchase landed estates for their heirs. In the view of one such purchaser, the possession of a large landed estate 'is with a view to the permanent settlement and position of the family. The safest and best investment a man can make is in the land of his own country; this being so, he desires to accumulate land and as far as he can continue in his family'.[58] In his opinion, economic advantage and social position went hand in hand.

How far men of new wealth had ambitions to buy land has been questioned by Tom Nicholas. He based his analysis on those 26 businessmen in the *Dictionary of business biography* born between 1790 and 1840 who owned landed estates, including those with inherited aristocratic estates. He compared their probate wealth with the value of their landholdings in Bateman (calculated by using 20, 30 and 40 years' purchase as multipliers of the rental value) to show their landed assets represented a relatively small proportion of their wealth; at 20 years' purchase they represented only 18 per cent of their personalty. He argues that Thompson's estimate for the purchase of a landed estate of £100,000 is too large, mainly by applying a 20-year purchase multiplier to the rental value of their estates. Nicholas's analysis tends to understate the commitment of new men to landed status in four ways. Firstly 20 years' purchase is far too low a figure for estates with mansions or the potential to build a mansion house: estates of this quality often commanded over 30 years' purchase. Some sale prices reveal

[55] D. Verey (ed.), *Diary of a Victorian Squire. Extracts from the diaries and letters of Dearman and Emily Birchall* (1983), *passim*.

[56] Brown, 'Philips', pp. 79–81.

[57] D. Brown, 'The motives for business enterprise: the Hanburys of Norton Canes', *Staffordshire Stud.* 6 (1994), pp. 45–71. For an earlier example, re the Fynneys of Fulshaw, see J. P. Earwaker, *East Cheshire past and present* (2 vols, 1877–80), I, pp. 142, 154.

[58] Royal Commission on Agriculture (PP 1882, XV), Evidence of Henry Ray Freshfield, q. 58149.

the scale of investment put into buying landed estates. In the early 1870s, the cotton manufacturers John Fielden and Abraham Foster paid nearly 40 and 45 years' purchase respectively to buy aristocratic estates costing over £200,000.[59] Second, the rental value in the *Return of owners* often seems to exclude the value of the mansion; in most cases the owner lived in the mansion and so either a notional rental value or no rental value at all was given for it. As Wilson and Mackay have shown, the cost of house building (and, by extension, of buying the house) amounted to £7000 on average for a 3–5000 acre estate between 1770 and 1880. This cost was increasing by the 1870s, Nicholas's period of interest; Franklin found that £7–10,000 was a minimum price between 1835 and 1914, and many mansions cost between £50,000 and £100,000.[60] Moreover the mansion would need to be furnished, and surrounding it with a park would probably cost a third of the price of the house. Third, as Nicholas is aware, in many cases the Bateman entry understates the total *lifetime* acquisition of land by individuals: it catches them only part way through the acquisitive period of their lives. A businessman born in 1840 would almost certainly not have had the time to accumulate the profits with which to purchase a landed estate by 1873 – when he might have been in business for only a decade. Bateman understates the total landed acquisitions of at least seven of the 26 businessmen.[61] For example, George Palmer, the biscuit manufacturer, is credited by both Bateman and Nicholas as having purchased only 2001 acres; already by 1880 he owned over 3000 acres and by his death owned nearly 5000. Altogether the 'non-counted' landed purchases by these seven men amounts to roughly 70,000 acres costing some £1.5 million. Finally, as the case study of Sir George Philips illustrated, the cost of entering landed society could include more ephemeral investments such as the provision of large dowries to promote social integration.

To get a clearer view of the motives of purchasers, it is worth considering the behaviour and motivation of wealthy non-purchasers. Some wished to acquire status but achieved it through domination of their industry. Richard Crawshay argued when his son William built Cyfarthfa House that it would prevent his family achieving the goal of being 'the head of the iron trade … A great house and expensive establishment will not fight our battle in trade'. Nevertheless the Crawshay Empire gave rise to five aristocratic estates. For Titus Salt, the decision was more difficult: when asked why he did not retire to a country estate at the age of 50 instead of establishing his Saltaire factory, he replied:

> I had made up my mind to do this very thing, but on reflection I determined otherwise. In the first place, I thought that by the concentration of my works in one locality I might provide occupations for my sons. Moreover as a landed proprietor I should be out of my element … outside of my business I am nothing. In it, I have considerable influence. By the opening of Saltaire I also hope to do good to my fellow men.

It was conspicuous that Salt chose to commemorate his name by philanthropy. Indeed, Saltaire, like Hartshill of the Mintons and Bournville of the Cadbury family, could be seen as an urban

[59] *Leeds Mercury,* 6 July 1872; *Tamworth Herald,* 26 Oct. 1872; *Estates Gazette*, 1875 p. 297.

[60] R. G. Wilson and A. L. Mackley, 'How much did the English country house cost to build, 1660–1880?', *EcHR* 52 (1999), pp. 436–68; J. Franklin, *The gentleman's country house and its plan, 1835–1914* (1981), p. 124.

[61] W. G. Armstrong, Samuel Courtauld, Cunliffe Lister, Lord Overstone (as well as overlooking his purchases for his son-in-law), Sir Charles Mark Palmer, George Palmer and Lord Nunburnholme.

landed estate, with the factory owner fulfilling many of the functions of a paternalist squire in return for deference and status. Put crudely, their ambitions were similar to those who bought landed estates; they were simply adapted to an urbanizing and industrial society.[62] Others responded to change by a deliberate political rejection of landed for civic status. Joseph Chamberlain rejected the advice to buy a landed estate and bought a 20-acre suburban estate near Birmingham, feeling that 'he wanted to dwell among his own people' because 'his political fortunes were linked to the city and his animosity to the landed aristocracy'.[63] Prominent critics of the landed interest could hardly buy themselves a landed estate.

For others the sheer enjoyment and challenge of making money predominated over any dynastic instinct and so they often allowed their wealth to be scattered by partible inheritance. Sometimes this was forced on the wealth-holder by the lack of a direct male heir. The dynastically ambitious could overcome this by leaving their money and land to a protégé on condition he took his name. This was the case with Albany Wallis the lawyer and his heir Captain Lewis Bayly.[64] Others chose to commemorate themselves through charitable foundations. William Richard Sutton[65] and the merchant George Peabody established housing trusts.[66] John Rylands' cotton wealth established the John Rylands Library and a large public park.[67] Others like John Owens,[68] Henry Robinson Hartley[69] and Josiah Mason[70] founded colleges that grew into universities. From this research a trend emerges; many of the super-wealthy who failed to buy land lacked a close male heir to succeed them. This tends to confirm the opinion that dynastic motives were crucial in the decision whether or not to purchase land.

Turning from the purchasers to their purchases, other patterns emerge. The typical 'Equipoise' buyer (based on the median) was spending £53,760 on acquiring an estate of 1285 acres, so joining the squirearchy. There was also a tendency over the whole century for the same mansions to change hands multiple times; in the case of Hylands in Essex, the house was sold four times, forming the nucleus of an estate that varied from 436 to 4289 acres. Each successive purchaser intended to make it his long-term residence but business fortunes led to its sale either to pay creditors or to help fund a larger purchase. One owner in particular illustrates some of the problems encountered by newcomers in maintaining a permanent presence in landed society. John Attwood lost the £600,000 allegedly tricked from the British Iron Company who had purchased his extensive Black Country industrial interests on unwise political, landed and stock market investments. He was forced to sell Hylands within fifteen years of its purchase. Apart from the rapid turnover of some estates, others had to be assembled

[62] J. Reynolds, *The great paternalist* (1983), p. 432; P. Booth, 'Herbert Minton', *Staffordshire Stud.* 3 (1990), pp. 163–84.

[63] G. L. Garvin and J. Amory, *Life of Joseph Chamberlain* (6 vols, 1932–69), I, p. 311. See also Maureen Perrie, 'Hobby farming among the Birmingham bourgeoise: the Cadburys and Chamberlains on their suburban estates, *c.*1880–1914', *AgHR* 61 (2013), pp. 111–34.

[64] *Gentleman's Magazine*, 1800, II, pp. 908–9, 917, 1000; F. Jones, *Historic Carmarthenshire houses and their families* (1987), p. 156; R. J. Moore-Colyer (ed.), *A land of pure delight: selections from the letters of Thomas Johnes of Hafod, 1748–1816* (1992), p. 206. Jones E. Inglis, 'Derry Ormond', *Ceredigion* 2 (1952–5), p. 132.

[65] P. L. Garside, *William Sutton* (1999).

[66] Kynaston, *City of London,* I, pp. 116–17, 187–8, 196–7, 216–17, 226.

[67] D. A. Farnie, 'John Rylands of Manchester', *Bull. John Rylands Library* 56 (1973), pp. 93–129.

[68] *Gentleman's Magazine*, 1846, II, p. 662.

[69] *Gentleman's Magazine*, 1850, II, p. 331.

[70] J. T. Bunce, *Sir Josiah Mason, a biography* (1882).

piecemeal, with either a mansion then being erected upon the estate or an old mansion being refurbished. These two trends seem to reflect the hunger for such estates and the success of strict settlement in preserving landed estates,[71] which restricted the availability for purchase of large 'ready-made' estates. Encumbered tenants for life could only obtain estate acts to allow sales with the compliance of the tenants in tail and were often obliged to make economies, marry well or sell properties out of settlement (which were often smaller and distant from the main estate) to cope. In Ireland, the Encumbered Estates Act of 1849 shows what could happen when there was free trade in land: over a quarter of the country changed hands in the 30 years thereafter.[72]

Ireland and Scotland probably saw greater social mobility than England during the period of study, in part because the replacement of crofting by sheep farming encouraged land sales. Although in Ireland many of the purchases were speculative and were often by Irish people themselves, the sales of estates sufficiently large to merit mention in Bateman were often to British buyers or Irishmen who had made their money in England. A common feature was that junior branches of impoverished Irish and Scottish families sometimes bought back their estates from senior branches with money made through business. In Ireland an additional impetus to the purchase of estates was the 1778 Papists Act, which allowed Catholics once again to own land. By 1825 it was claimed by knowledgeable witnesses that Catholic merchants and professionals had bought a substantial number of estates in southern Ireland since the Act of Union of 1801, so much so that in Galway they formed 'a new race of landed proprietors'.[73]

The number of these purchases in Scotland and Ireland is probably under-represented in this research for several reasons. One is the relative lack of evidence in both countries. In the case of Ireland, this was partly because such land transfers were rarely recorded publicly. As Wakefield noted in 1814:

> What transfers take place are generally made by private bargain, as Irish gentlemen have a particular aversion to advertise their estate for sale by private auction. In this respect, the difference between England and Ireland is particularly striking.[74]

A second problem is that in Ireland, the rental values given in the 1876 *Return of owners* actually used the rateable value in 1852, which was based on the low agricultural prices of the time: 'consequently the valuation cannot be compared in any way with the "gross estimated rental" given in the return for England and Wales'. For the purposes of this study, the 1876 figures have been used.[75]

[71] Thompson, *Landed society,* p. 68, suggests that nearly half the area of England was subject to settlement at this time.

[72] J. S. Donnelly jun., *Landlord and tenant in nineteenth-century Ireland* (1973), pp. 50–1.

[73] BP 1825, VIII. SC to inquire into the state of Ireland, evidence of Daniel O'Connell, pp. 523, 525 and 535; Hugh O'Connor, p. 294 and John Dunn, p. 43.

[74] E. Wakefield, *An account of Ireland, statistical and political* (1812), pp. 307–8.

[75] *The Standard*, 22 June 1876, p. 3.

V

Altogether at least 2556 estates of over 1000 acres/£1000 were bought by men of new wealth in the United Kingdom between 1780 and 1879. This begs the question: why have some historians been persuaded that there was little upward social mobility? Two explanations suggest themselves. For reasons already stated, many Victorian antiquarians, upon whom some modern studies rely, concentrated on land transfers of earlier centuries than their own. Further, those 'new men of wealth' who bought land often left their own districts and so did not leave long traditions of their activities; those who stayed behind and remained active in business and the locality tend to be the ones recorded in newspapers and local histories. Thus Trainor's otherwise excellent studies of Black Country businessmen tend to overlook those families who bought estates outside the immediate area. These men were very substantial in their time. George Jones and James Foster were co-founders of the massive Chillington Ironworks; William Hanbury Sparrow was the largest local coalmaster of his time; Thomas Walker, the owner of the Patent Shaft and Axle Tree Works, which produced many of the bogies used in Victorian railways; Benjamin Gibbons a leading banker with an excellent reputation. Their reputation diminished as a consequence of their moving away. An obituarist reported that the death of Thomas Walker:

> removes another of the old Staffordshire princes of commerce, who in the palmy days of the South Staffordshire iron trade and the ten-yard coal did so much to make the Black Country famous. To the rising generation of Wednesbury he has perhaps been little more than a name, he having for many years been living away from the town, and in comparative retirement, very largely leaving the management of the great concern which he, mainly, had built up into the hands of others; but 40 years ago or so, his wide-reaching aims, bold enterprises and, for those days, astounding development of trade, necessitating continual enlargement of his works, made him somewhat of a marvel to the quiet plodding manufacturers by whom he was surrounded.[76]

This problem is compounded by changes of name. Although the name Perry is virtually forgotten in the Black Country now, they were the wealthiest bourgeois family of the area in the early 1800s eclipsing even the Boultons and Watts. They had invested the proceeds of transatlantic trade in promoting the canal system, the arteries of West Midlands industry until the Railway age. Their heir, Thomas Perry, was an odd mixture: while having a large landed estate in Herefordshire, where he was a dutiful landlord and served as sheriff in 1820, he also lived in a bad house in a second-rate street in Wolverhampton. Their estates and huge wealth (estimated by one knowledgeable party at £2.5 million) were inherited in 1853 by a member of the minor but long-established gentry family, the Herricks of Beaumanor, who used this enormous inheritance to further augment his own estate.[77]

[76] *Staffordshire Advertiser*, 17 Dec. 1887, p. 4.

[77] W. White, *Leicestershire* (1863 edn), p. 646 and (1877 edn), p. 142. Walford, *County families* (1881 edn), p. 700; *Estates Gazette*, 1860, p. 108; C. Hadfield, *Canals of the West Midlands* (1985), pp. 28, 50 and 53; Staffordshire RO, D260/M/F/5/26/13, 1 Oct. 1836; *Gentleman's Magazine*, 1853 (i), p. 553; C. J. Robinson, *History of the castles of Herefordshire and their lords* (1869), p. 48;

Having identified a list of new-wealth buyers of land and explored some trends among them and their purchases, it is necessary to try to relate their numbers to the total population of persons in each social category.

VI

When John Bright used the occupational descriptions in the 1861 census returns to claim that England was owned by only 30,000 persons, it prompted the Earl of Derby to call for a modern Domesday to refute it. The resultant *Return of owners* allowed John Bateman to estimate the total population of owners in each echelon of the landed society of England and Wales. The *Return* is not without its flaws. It omits London but also land of unascertainable value such as wastes. Further, the method of compiling the *Return* led to multiple entries. Parishes were responsible for providing lists of their owners, which were then combined at a county level. Many parishes returned all individuals with interests in an estate – widows, heirs, trustees and so on – and made separate entries for business premises. At the county level, individual parishes often made slightly different entries for the same owner – perhaps a misspelling of the surname or using initials instead of a single Christian name – which led to further duplication. Finally the county basis of the return meant that owners with property in different counties had several entries. When *The Times* tried to compile a list of large landowners, its figures were compromised by the failure to take any account of these problems.[78] Bateman on the other hand recognized these difficulties but only countered them to a certain extent. Moreover his calculation for the acreage owned by each social group is based upon a multiplier whose basis is unclear. Further, Bateman did not include a rental equivalent for each of his categories although he certainly did so for his 3000-acres category. A simple sum illustrates this. In his calculation of 'noble' estates, Bateman reckoned that there were 400 individuals in England and Wales who owned over 10,000 acres; however, if the number of 10,000-acre/£10,000 estates in England and Wales is counted in his handlist, the number reduces to 347.[79] This exercise has been repeated for estates whose acreage and rental exceeded 3000 and 2000.[80] All these points suggest that Bateman's 1876 figures overestimate the total number of landowners and therefore underestimate the total acreage held by individual owners. Indeed Lord Derby was surprised not only by the high concentration of land in the possession of large landowners but also that his entry grossly understated his estate. Although further research to correct Bateman's figures is still in progress, they largely form the basis for Tables 1 and 2.[81]

Note 77 *continued*
Bodleian Library, Oxford, Mss Eng. History b 216, c 474–84; *Staffordshire Advertiser,* 19 Mar. 1853, p. 5, 'Death of a millionaire'.

[78] *The Times,* 7 Apr. 1876.

[79] Thompson, *Landed society,* pp. 28–9 calculates 363 but seems to exclude a rental equivalent.

[80] This includes those owners with over 10,000 acres/£10,000 with estates elsewhere in Britain, which are counted as 'mixed' in Table 2. Bateman's handlist figures for England and Wales are 347 10,000+ acres/rental, 1150 3000+ acres/rental, 736 2000+ acres/rental. The additions to 3000+ are 14 (7 enlargements and 7 omissions) and 2000+, 9 (16 additions minus the 7 enlargements). The 300–999 figures are Bateman's and the 1000+ figures represent Bateman's estimate of 1000 to 2999 minus my figures for 2000+.

[81] Vincent (ed.), *Derby diaries,* pp. 276, 379 and 436. Derby's Lancashire acreage was increased from 47,269 to 57,000 acres in Bateman; there is no hidden entry for Derby in the county.

TABLE 1: Penetration of the landed elite in England and Wales, 1780–1879

Social category	*% of land owned*	*Size of estate acres/rental*	*Total population*[a]	*New rich entrants*[b]		*New rich as % of total*[b]	
Nobility/peerage	16.5	10,000+	347	49	(56)	14	(16)
Aristocracy	24.5	3000+	1160	344	(447)	30	(39)
Squirearchy	13.0	2000–2999	746	301	(420)	40	(56)
		1000–1999	1886	495	(754)	26	(40)
Landed elite	54.0	Total 1000+	4139	1190	(1677)	29	(41)
Gentry	14.5	300 to 999	9589	914	(1284)	9	(12)
Landed society	68.5	Total 300+	13,728	2104	(2961)	15	(22)

Notes:
[a] According to Bateman's calculation; the total population figures represent the total numbers in 1873.
[b] Figures in ( ) include dispersals and subsumed.
Sources: BPP, 1874, LXXII Parts 1 and 2, *Return of owners of land in England and Wales*; J. Bateman, *The great landowners of Great Britain and Ireland* (1883); author's database.

TABLE 2: Penetration of the landed elite in the United Kingdom, 1780–1879

Size of estate acres/rental	*Location of estates*								*Total number of estates*	*New rich entrants*	*New rich as % of total*
	England and Wales		*Scotland*		*Ireland*		*Mixed*				
	a	b	a	b	a	b	a	b			
10,000+	297	*51*	86	*26*	99	*10*	129	*8*	611	*95*	16
3000 to 9999	1094	*448*	293	*145*	387	*113*	132	*10*	1906	*716*	38
2000 to 2999	739	*421*	199	*110*	316	*85*	37	*12*	1291	*628*	49
Total 2000+	2130	*920*	578	*281*	802	*208*	298	*30*	3808	*1439*	38
1000 to 1999	1886	*759*		*207*	938	*155*		*6*		*1127*	
Total 1000+	4016	*1679*		*488*	1740	*363*		*36*		*2566*	

Notes:
[a] Total numbers in 1873.
[b] Numbers of newcomers, including dispersals and subsumed.
Sources: Author's own database based on J. Bateman, *Great landowners of Great Britain and Ireland* (1883) and U. H. Hussey de Burgh, *The landowners of Ireland: an alphabetical list of the owners of estates of 500 acres or 500 pounds valuation and upwards in Ireland, with the acreage and valuation in each county* (*c.*1878).

Bateman then turned from England and Wales to the entire United Kingdom to compile his handlist of landowners, categorizing major landowners as either 3000+ acres/rental and 2000+ acres/rental. The research for this study has uncovered several omissions, with a variety of reasons. Once they have been added, it has been possible to count the total

number of landowners in each category in the United Kingdom. Furthermore, in conformity with the 10,000+ category used elsewhere by Bateman, these 'aristocratic' owners have been disaggregated for the purposes of this research. These owners were then further subdivided into those in England and Wales, Scotland and Ireland and those who owned estates in more than one country. The calculations for England and Wales form the basis for Table 1, which presents figures for the total population in each category for 1873, including the squirearchy. Table 2 represents figures for the whole United Kingdom, excluding the squirearchy. The differences between the 'England and Wales figures' in the two tables is because, in Table 2, some are counted as 'mixed'; for example, Guest's purchase of Canford in 1846 catapulted him into the 10,000+ category for England and Wales alone; however his descendant's subsequent purchase of immense deer forests in Ross render his a truly 'mixed' estate.

VII

The choice of either outflow or inflow figures to express social mobility can have a dramatic effect on the appearance of the level of mobility. Howe in his study of a sample of 351 'leading Lancashire cotton masters' between 1830 and 1860 chose the former. Thus Howe's figures of 39 of 351 cotton masters gaining estates of over 1000 acres seems a small proportion, only 11 per cent, especially as there was no consideration of rental. The research for this paper indicates that 70 Lancashire cotton masters (excluding purely cotton merchants) gained estates of over 1000 acres/£1000 between 1780 and 1879, most of whom were active businessmen during Howe's period of study. Moreover Howe's presentation of his results reduces the purchasing tendencies of successful cotton manufacturers. Only 207 of his subjects had traceable descendants and so the 'outflow' figures should have been presented as a proportion of these masters – which produces a more substantial return of 19 per cent. Thompson selected a much narrower sample of the upper middle class, those who left estates probated for over £1 million between 1809 and 1893 and over £500,000 between 1809 and 1860. A study of this elite group produced a much larger proportion; over 76 per cent of his subjects dying between 1809 and 1879 either bought landed estates themselves of over 1000 acres/£1000 or their heirs used their wealth to do so. Indeed, the research for this study shows that this figure should be increased to 81 per cent. Furthermore it can take no account of men like George Philips who expended nearly £700,000 on founding a landed family and made inter-vivos gifts of the rest of his non-landed interests and who therefore appeared as 'insolvent' in the probate returns.[82] As the prime consideration here is the permeability of the landed elite, inflow figures form the basis of Tables 1 and 2, although it is noticeable that when the recruitment is restricted to the super-wealthy, outflow figures are also impressive.

A further consideration is the length of time over which this mobility occurred. The figures presented here cover a century. Sociologists often consider mobility in terms of a single generation; if this period is subdivided into five generations the rate of inflow reduces to a seeming trickle. Nevertheless if a longer view is taken, the trickle swells to a flood. In East

[82] Howe, *Cotton masters,* pp. 29–30; Thompson, 'Life after death', pp. 59–60. For details of the corrections to Thompson's figures, see Brown, 'Equipoise'; id., 'Philips', pp. 62–82.

Yorkshire, Barbara English found an almost total change among its leading ten landowners and an even faster turnover among the lower levels of its elite during the Stones's period of study (1540–1880). The recent *Historical atlas of Staffordshire*, reveals a similar pattern of transition since 1660.[83]

VIII

The main results of the 20 years of research that underpin this paper have been reduced to two simple tables for convenience. Table 1 deals solely with purchases of estates in England and Wales and shows that between 1780 and 1879 a considerable turnover of landed estates occurred. Nearly half of the membership of the 'squirearchy' had changed over the century. This should be treated as a minimum figure as more research would probably establish further changes, especially at the lower end. Even though the rank of a 'noble' estate was clearly harder to reach – simply because more resources would be required to do so – 16 per cent of these estates moved into the hands of the newly wealthy. This indicates very strongly the existence of an 'open elite' in English and Welsh society.

Turning to Table 2, which looks across both Great Britain and Ireland, similar results are obtained. Although figures for the total population of groups below 2000 acres/£2000 outside England, Wales and Ireland have never been calculated, the remaining figures are of a similar order across the board. Scotland is particularly noticeable for its permeability, with 30 per cent of its 'nobility/peerage' estates, 49 per cent of its 'aristocratic' estates and 55 per cent of its larger 'squirearchy' estates being transferred to 'new men'. This reflects the research of Tom Devine, who identified a turnover of 60 per cent of estates of over 3000 acres in the west Highlands outside of Sutherland. English buyers figured largely amongst the new purchasers although there were large-scale purchases by many Scots families like the Bairds, Mathesons, and the Jardines.[84] The purchase of such estates for game may lead some to question whether this represents true social mobility as many were not intended as permanent residences. However the estates would usually include a well-appointed hunting lodge and the pursuit of game was in itself a mark of a landed gentleman. The proportions of Irish estate purchases are lower than the rest of the British Isles but the problems of identifying Irish sales have already been commented on. While perhaps a quarter of Ireland changed hands in the 30 years after the passing of the Encumbered Estates Act of 1849, many properties were sold to tenants. This in itself represented a huge rise of social mobility but into the yeomanry rather than the landed elite. Potential purchasers from abroad had a powerful disincentive to buy from the regular reports of outrages and murders of landlords.[85]

Despite these caveats, taken as a whole, the two tables indicate that throughout the United Kingdom there was a large-scale transfer of large landed estates into the hands of 'new-wealth' purchasers. This would have enormous social consequences.

[83] B. English, *The great landowners of East Yorkshire* (1990), pp. 36–7, 55; A. D. M. Phillips and C. B. Phillips, *An historical atlas of Staffordshire* (2011), pp. 130–1.

[84] T. M. Devine, 'The emergence of the new elite in the western Highlands and Islands, 1800–60', in T. M. Devine (ed.), *Improvement and enlightenment* (1989), pp. 108–42.

[85] S. Clark, *Social origins of the Irish Land War* (1979, repr. 2014), pp. 171–2.

Nevertheless, the level of circulation of membership of the landed elite in England and Wales is the equivalent of a complete change over 250 years and the 'nobility/peerage' over 625 years; it is worth noting that the Havinden and Collins figures would constitute a turnover in 166 years. Put another way, during the period of study covered by the Stones's book, the equivalent of roughly half of the 'nobility/peerage' and all of landed elite of England and Wales would be replaced. However, these figures are only minima, and in the case of the gentry and of Scotland and Ireland, they are probably far below the actual totals. Thus it seems hard to sustain the view of a closed British elite either during the Stones's or Rubinstein's periods of study. While such mobility was greater towards the lower end of the landed elite, this is a natural result of the level of resources required to enter the topmost echelons and also reflects the findings of Wasson about the social origins of MPs.[86]

IX

These figures have been very difficult to produce even with modern facilities like large public libraries and the Internet. Contemporaries could only have had a general impression of the level of social mobility. That being the case, are the figures generated here simply of interest to historical economists and sociologists seeking to understand the nature of the nineteenth-century economy and social structure?

There are two strong reasons to suggest that they are also of interest to those seeking to understand the mindset of people in the classic Industrial Revolution. First, the figures reveal much about the aspirations of many new men of wealth. Second, they show that the general impression of contemporaries was founded on fact – Britain did enjoy a relatively open elite. While there were contradictory views, the balance of qualitative evidence suggests that contemporaries believed it to be the case and indeed that there was a fusion – indeed a confusion – of classes. Let one literary example suffice: in Jane Austen's *Mansfield Park*, on the one hand Sir Thomas Bertram, who appeared to be a country gentleman, was also a colonial sugar proprietor; on the other hand the Crawfords, with their urbanized, metropolitan ways, had wealth based on Norfolk land.[87] This admixture would have fundamental consequences for British economic, social and political development and may have contributed profoundly to the relative stability that Britain enjoyed compared to our continental neighbours.

X

Myths fulfil an important function in sustaining social cohesion; 'the myth of the open elite' as the Stones put it, played such a role in British society. Most myths are founded on an element of truth; otherwise they are fatally undermined. In nineteenth-century Britain this myth had a substantial basis. Far from the caste-like appearance it is given by the Stones and Rubinstein,[88] the landed elite was open to newcomers despite the effects of strict

[86] Collins and Havinden, 'Berkshire and Oxfordshire', p. 47; Wasson 'Governing class', p. 44.

[87] For more examples, see R. Williams, *The country and the city* (1985), pp. 113–15.

[88] Stones, *Open elite?*, pp. 220–1; Rubinstein, 'New men of wealth', pp. 127 and 147.

settlement. As a character in an 1867 play said, 'Caste is a good thing if it's not carried too far. It shuts the door on the pretentious and the vulgar; but it should open the door very wide to exceptional merit'.[89]

While many new landowners continued their business activities, so too did many old-established families. Small landowners had for generations supplemented their landed income by positions in the army, church, land agency, the law, and more occasionally brewing, mining or banking. Others had to engage actively in estate management, buying and selling properties, developing urban properties and moving their money between various securities to sustain their lifestyle. Families, through accident of marriage or death of elder sons, combined landownership and business activities without contemporary surprise. Admiral Smith Child combined a naval career with running a pottery, and his descendant also acquired a landed estate – all through accident of marriage. In Ireland and Scotland, in particular, several old families restored their dynastic fortunes through commerce. Some families like the Hanburys of Staffordshire see-sawed between the bourgeoisie and landed gentility, rising on the tide of woollen trade and coal mining and falling as their resources ebbed away through over-expenditure.[90] Indeed this mutability is reflected in the difficulty of definition, as in the case of the Duke of Wellington or that of the Montagus of Ingmanthorpe cited by Richard Wilson.[91] A virtually seamless transition occurred at the bottom end of landed society – what Thompson has called an aristocratic-bourgeois fusion.[92] Echoes of this can be found in the alliance of land and business forged during the later part of the period by the Conservative party. In short, there seems to have been a continuum – not a chasm – between landed society and the upper middle class in the century of the classic Industrial Revolution. This would have profound implications for the development of Britain's society, culture, politics and economy.

Appendix

Here we offer a brief note of clarification about the dataset, which has over 16,500 entries, and explain the reason for the two sets of figures, for England and Wales and for the United Kingdom and Ireland.

The remit of the research was the whole of the United Kingdom and Ireland from 1780 to 1880. The dataset contains entries for purchasers before and after these dates and for wealthy individuals who did not purchase estates, so that some trends might emerge about the characteristics of non-buyers.

It became clear during the research that there were a fair number of individuals who made their wealth in one part of the United Kingdom and invested it in another part – in the earlier period this tended to be Scottish wealth into English estates whereas the opening up of the Highlands for game by improved transport reversed this process. Thus it was necessary to consider the United Kingdom as a whole, particularly as it was effectively a single state over the

[89] Robertson, 'The outsider', quoted by G. Best, *Mid-Victorian Britain, 1851–75* (1973 edn), p. 274.

[90] Brown, 'Hanburys', pp. 45–71.

[91] R. G. Wilson, review of L. and J. C. F. Stone, 'An open elite?', *Social Hist.* 11 (1986), pp. 107–8.

[92] Thompson, 'Life after death', p. 41.

period. Table 2 reflects this national picture, although local trends emerged from the research and these are briefly mentioned.

It also became clear during the research that the greater wealth of sources, the greater number of suitable residential estates and existing figures for the total population of the gentry in England and Wales made some analysis of 'gentry' estates in this part of the kingdom feasible on some sort of reasonable scale, although a comprehensive study of nearly 10,000 estates was not possible.

For a journal article, it was not possible to develop all the possibilities of the dataset; however the significance of the main statistics drawn from the data seemed to make the article important to offer for publication.

Drainage and the town plough*

by William Franklin

Abstract

From Cambridgeshire west to Herefordshire and north to Yorkshire there are references in seventeenth-century visitation records and manorial court rolls to 'town ploughs' or 'common ploughs'. Such references in manorial court records usually occur in relation to the customary duties of the commoners regarding drainage. In a few instances other documentary sources of the seventeenth and eighteenth centuries describe in more detail such implements, but there appears to be only one place in England, Caxton, Cambridgeshire where there are all three record sources and a contemporary drawing to enlighten us about the implement known as the 'town plow' and its use.

While researching court rolls and other documentary evidence for a number of parishes across Cambridgeshire and Northamptonshire, the term 'town plow' or 'common plow' was noted. Further research indicated that such references were generally absent or rare in Fenland parishes and rarer still in those parishes with sandy soils as are found in Norfolk and Suffolk, but references to this implement occur in Northamptonshire, Bedfordshire, Leicestershire and other Midland counties and as far north as Yorkshire, generally where there is a preponderance of heavier clay soils. Such references, most of which date from the seventeenth century, occur either in conjunction with the duties of manorial tenants and other people in a parish in respect of drainage of the land, or they are found in the records of episcopal visitations. References in visitations exist in sufficient numbers to demonstrate that the town or common plough was often kept in the parish church. Further detail regarding this implement was noted from Mortimer's *The whole art of Husbandry* (1708), which describes, with a sketch, such a plough used at Caxton, Cambridgeshire, and Mastin's history of Naseby in Northamptonshire of 1792.[1]

I

In pre-enclosure fields the use of ridge and furrow following the contours of the land ensured that whenever possible water ran off each strip. Where this run-off was on to a meadow there was no problem. Where however the strips lay against a joint or the headland of another

* My thanks to the staff at Cambridgeshire Archives and Cambridge University Manuscript and Rare Books Rooms for their invaluable help.

[1] J. Mortimer, *The whole art of husbandry; Or the way of managing and improving of land* (sec. edn, 1708); Rev. J. Mastin, *The history and antiquities of Naseby in the county of Northampton* (1792), p. 18.

furlong, problems could occur as the bank of soil prevented the further run-off of the water. It is clear therefore that ridge and furrow alone could not provide complete drainage and the tenacity of the soil meant that drainage was a constant problem. Regulation by the manorial courts and communal effort often ensured that drains and gutters were dug to carry water away, over the headlands and other obstacles to local streams. These needed to be kept clear by all those farming the land, and manorial court records often show occasions where the court required tenants to scour these ditches, often at fixed times during the year, usually after Michaelmas. October and November were the months of choice in most manors; for instance, Hemington and Lamport in Northamptonshire, and Longstanton and Caxton in Cambridgeshire.[2]

Many authors, including Darby, and Cook and Williamson, have considered the drainage of particular landscapes, such as clay lands, fields, marshes and meadows, without reference to drainage ploughs.[3] Newman considered an example of such a plough, which he noted in the records relating to Moor Monkton in North Yorkshire.[4] He noted the representations to commissioners regarding the drainage of the land in that and the surrounding parishes. Where examples of descriptions of the use of drainage ploughs exist, it is clear that effective drainage was a communal issue both for the occupiers of land in individual parishes and sometimes between parishes.

A review of court rolls of manors in East Anglia, including those with lighter sandy soils and those on the fen edge where references to drainage ploughs are scarce, shows that even here drainage was a communal responsibility enforced by the manorial courts. For example, in the Cambridgeshire manor of Soham, the manorial court required its tenants to scour both the main stream running through the town and particular drainage ditches, as was the case in 1708 when particular tenants were singled out to scour various watercourses:[5]

> We present Henry Swener and Samuel Kid for a water course at the ends of the lands at Butchers Causeway that if it be not well and infrequently scoured between this and the twentieth day of this instant January then the said Henry and Samuel shall pay the lady of the manor the sum of five shillings.

Whilst drainage was an issue in some areas where there were lighter soils, the clay lands clearly needed much more effort in terms of drainage to ensure the land remained productive. The classic Midland ridge and furrow is testament to this. Ridge and furrow as a means of surface drainage clearly had some benefit, as the practice was widespread over a large area of the Midlands: from Cambridge west to Herefordshire and from Somerset north to Northumberland.[6] However, surface water running off the fields had to go somewhere and the by-laws of manorial courts were designed to ensure it did not flood the lands of others.

It was usual for the water to be carried from the furrows and over the headland and at

[2] D. N. Hall, 'Drainage of arable land in medieval England', in H. Cook and T. Williamson (eds), *Water management in the English landscape, field, marsh and fen* (1999), p. 34; Cambridgeshire Archives (hereafter CA), L1/112, L88/4.

[3] H. C. Darby, 'The draining of the English clay-lands', *Geographische Zeitschrift*, 52 (1964), pp. 190–201.

[4] P. R. Newman, 'A mid seventeenth-century trench plough from Moor Monkton, North Yorkshire', *Yorkshire Archaeological J.* 55 (1983), pp. 169–71.

[5] CA, L1/136, fo. 94

[6] D. N. Hall, *The open fields of England* (2014), p. 5.

the sides of fields by means of gutters and cross-gutters. Manorial courts often ruled on the communal responsibility of maintaining these gutters or common drains; for example, the manorial court at Longstanton, Cambridgeshire, in 1640 ruled:

> that all common draines shall be done by the commoners and all other drains by them whome they doe concerne and they are to doe them when the ffieldreeves give them warning upon pain to forfeit to the lady of the mannor, 3*s*. 4*d*.[7]

Such orders given by manorial courts for guttering, gripping, scouring and trenching in the common fields commonly occur from the fifteenth century, and are very frequent by the seventeenth century.[8] Occasionally additional detail is given, for instance, the court rolls of Stanground near Peterborough state, 'that every man shall drayne his arrable lande where needed is as deepe as the furrowes'.[9] Such work imposed considerable effort both upon the community and individuals as the example from Longstanton shows. In parishes such as Caxton, Cambridgeshire, as we shall see from the following example, this was expected of every man in the parish who worked land as well as the parish labourers.

II

In addition to the references to the duty of individuals and the community regarding drainage in the court rolls, we occasionally find references to the use of the town or common plough. Seventeenth-century episcopal visitations record the presence of such ploughs in churches, and usually require the parish to remove the implement from the place of worship. For a late example, at Orwell in Cambridgeshire, the episcopal visitor in 1783 noted, 'The church is not kept [in] that neat and decent manner it ought to be, there being bricks and lime and other materials for repairing the church, also a large Town-Plough lying in the body of the church in the sight of all the congregation'.[10]

Some local historians studying individual parishes have made assumptions regarding such town or common ploughs. These range from the opinion that it was a ceremonial plough used in Plough Monday celebrations (a point of view I discuss in Appendix A), or that it was a normal plough, used on the arable fields, of the sort pulled by three or four horses, and provided by the parish for those who could not afford a plough of their own. While a few sixteenth- and seventeenth-century wills do suggest that ordinary ploughs were held in common for the poorer members of a parish, the small number of references to such ploughs

[7] CA, L1/112.

[8] TNA, SC 2/179/74, m. 3. In Graveley (Cambs., formerly Hunts.) the manorial court regularly required repairs to roads and the scouring of ditches from at least 1490. This was a practice which continued well into the seventeenth century, for in about 1620 each landholder was required to send a labourer every November to accompany the common plough. Jesus College Cambridge muniments, 2, court rolls 16, 20 James I; cf Cambridge University Library, Ely Diocesan Records (hereafter CUL, EDR), B 2/59A, fo. 38.

[9] Northamptonshire Archives, Westmorland Coll., box 5, parcel v, no. 1.

[10] CUl, EDR, Ely Diocesan Records, B 7/1, fo. 156. Other similar visitation records show ploughs in the churches at Longstowe, Kingston and Caxton (CUL, EDR, B3, fos. 35v, 36v, 37v), Comberton and Willingham (W. M. Palmer [ed.], *Episcopal visitation returns for Cambridgeshire: Matthew Wren, Bishop of Ely, 1638–1665* [1930], pp. 131–2); Dry Drayton and Elsworth (both *Lincolnshire Chronicle*, 29 May 1903, p. 6).

in wills and so on suggests that this was unlikely to be universal. A further review of court rolls and other documents of the seventeenth and eighteenth centuries identifies the Town or Common plough as a special plough held by the parish for draining land.

Hoskins noted an example at Ashby Magna, Leicestershire. The plough here was made by the folk of the parish and it was their responsibility for its upkeep and repair.[11] Similarly, at Loughborough, Leicestershire, the parish had a town plough, which was repaired at the expense of Burton's Charity in that town. The charity accounts recorded the repair of the town plough in 1642, when 6*s*. 6*d*., was spent on it.[12]

In Naseby, Northamptonshire, the town plough was still in use in 1792 when the Reverend Mastin wrote his history of the village in which he records:

> The[y] practice a mode of draining with a large plow, called the town plow, made exceedingly strong in every part, having two coulters: it cuts a drain one foot both deep and wide, and throws out the earth the same distance from the side to the right hand. This plow is drawn by ten or twelve horses, a team made by as many farmers contributing each his horse. But this scheme, from the obstinacy and perverseness of some, is often rendered abortive. They put back into the drain the earth thrown out, to prevent they say, its lying in the way of the scythe at hay time.[13]

Mastin's description relates to land taken out of arable production and put down to sheep husbandry, which, without adequate drainage, would have lessened the amount of good grass for the sheep and caused diseases such as 'spring or summer rot' in those sheep. However, there were clearly some in Naseby who did not see the need to drain such former arable lands.

An earlier account of such a town plough is to be found in the *Faithfull Surveyour* of 1658, which states:

> In some parishes they have a town-plow, that will hold eight or nine yolk of oxen, and a couple of horses afore for boys to ride on to guide them, and three or four horses with drivers on them, others to hold the plow (one one while another another while) booted up the middle, others following with bills, forks, spades, scopets, shovels, that if any grass, or turf-ground fall in after the plow, some may cut it to pieces with their bills, and other throw it out with their forks; but in plowed grounds with spades, scopets and shovels: thus yearly'.[14]

In some villages the failure to provide either horse or labourer resulted in a fine; for example, on the manor of Elton near Peterborough the court rolls for the 10 October 1672 record, 'Robert Hanson did not go with the inhabitants of the vill aforesaid for the comon plowing against the order made 1*s*. Also George Sherman, Henry Kingston, William Snow, Thomas Reeve, John Samson, Thomas Parrish, John Parrish, Richard Noble offended in like manner each forfeit 1*s*.'[15] A similarly forfeit awaited those failing to go with the common plough in Longstanton, Cambridgeshire.[16]

[11] W. G. Hoskins, *Essays in Leicestershire history* (1950), p. 149.

[12] W. G. Dimock Fletcher, *Chapters in the history of Loughborough* (1883), p. 46.

[13] Mastin, *Naseby*, p. 18.

[14] G. Attwell, *The faithfull surveyour* (1658), pp. 88–9.

[15] A. G. Clark, *A village on the Nene. Aspects of the social and economic history of the village of Elton from Domesday Book to the Great War* (2007), I, p. 84.

[16] CA, L1/112.

With virtually all the men in the parish turning out, this was clearly a large event held over many days, usually in November, although examples of this activity taking place in the springtime exist. In some parishes bread and beer was provided for those turning out with the town plough on the first day, for example at Loughborough in 1641 it is recorded 'Item. Paid to the field masters when they went with the comon plow the first day, bread and bere, 3*s*. 6*d*.', similarly in 1691 'Given the men to drink that went with the comon plow 2*s*. 6*d*.'.[17] It is unclear whether bread and beer was given on subsequent days.

In North Yorkshire we find a somewhat different story. Water draining into watercourses was an issue across a number of parishes, including Moor Monkton and Hessay and in 1638 a Commission of Sewers was set up to deal with the issue. This was to be one of many commissions that inspected the ditches and coerced landowners to ensure they were scoured effectively. The commissioners required the landowners to allow workmen onto their land to be 'diked with spaids half foote broade and 2 foote depth'. One landowner, Sir Thomas Slingsby refused to have the commission's workmen on his land, instead he informed the commissioners' jury that he scoured the fosse with, 'a plough drawne with 28 yoke of oxen which make a furr[ow] of above 6 foote broade and half yeard debth, sufficient to carry the water in reasonable time through the same'. The surviving documentation describes the Moor Monkton drainage plough as 'an engine like a plow', made of 'the boale of an oake about 4 yeards in length and with winges'.[18]

III

Caxton, a small village to the west of Cambridge, provides a good example of the practice of drainage and the use of such a town plough in the seventeenth century. The Caxton example is probably unique in that there are three completely separate pieces of documentary evidence relating to Caxton's town plough and its use, one of which is a drawing of Caxton's 'Towne Plow'. The sources relating to the plough kept by the parishioners of Caxton are the manorial court rolls (1659–65, 1696), the episcopal visitation of 1665 and a book on husbandry of 1708, which describes the Caxton plough in detail, with a sketch drawing (Figure 1). Each of these will now be considered.

The 1665 visitation tells us little about the Caxton town plough, other than that it was kept in the parish church, in full view of the congregation.[19] The manorial court records contain a number of orders to the parishioners regarding their duties. From a court leet and baron held in 1663 we learn that the hayward was the elected official tasked with overseeing draining by the people of the parish.[20] The parish constables accounted to the overseers for any expenditure and in 1663 were ordered to tell the overseers of any charges within two or three days so that, if their account was approved, it might be properly chargeable on the constables' rate. For his work the hayward was to receive £8 per year in 'quarteridges'. The court ordered the town plough to be repaired in 1663, 'That ye towne plow be repaired at the parish expense, the money

[17] Dimock Fletcher, *History of Loughborough,* pp. 46, 48.

[18] Newman, 'Mid-seventeenth century trench plough'.

[19] CUL, EDR, B 3, fo. 36v.

[20] CA, L88/4.

to be expended by the constable, and allowed him upon his rate' and the cost to be met by the constables from their rate. We are not told the cost of the repair, but if the cost were similar to that of Loughborough, previously referred to, then the cost of repairs and overseeing the process, including any charges made by the constables was about £9.

As at Naseby, Elton, Longstanton and other places, the men of Caxton had to turn out with their horses as ordered by the manorial court. An order from a 1666 court leet and baron describes the requirement and the fine for failing to do so:

> That every man that holdeth or telleth a plow land in the comman feld of Caxton shall bringe his horsse or horsses accordinge to their eacquall perpotions [proportions] to draw the comman plow & that every laboringe man shall com in p[er]sion upon lawfull warninge by the Constable uppon paine of every defalte for both horsse & man one shelline [shilling].

The court ordered that all the land to be sown was to be water-furrowed and that every man is to 'cross furrow by drawing theire plowes over theire respective lands soone after they are sowne soe as the hayward may make the water trenches accordingly'. The digging of the water trenches, also referred to as 'grips' under the control of the hayward, was what he received payment for, 'And that he shall receive £8 for his wages dooing ye grips above mentioned on his part to be done'. Failure on the part of the hayward resulted in a fine, and the court noted that he should also not neglect his other duties. The residents of Caxton holding land in the parish in 1666 were also ordered, 'We ordayne that every man shall scower by his comman draynes betwex this and ye 5 day of November next upon paine of every defalt ~~3*s*. 4*d*.~~ 10*d*.'. (The fine for failure appears to have originally been 3*s*. 4*d*., or mistakenly written as such, but this was corrected or reduced to 10*d*., for every offence.)

Unlike any of the other parishes where such ploughs are known to have existed, that of Caxton is both described in detail, and drawn (Figure 1), in Mortimer's *Whole art of husbandry* (1708), where he states:

> About Caxton in Cambridgeshire they have a very miry stiff clay with small rising grounds, the upper part of which they sow with corn, and the lower valleys, because of the poachiness of them, they keep for grass, which never the less in wet winters are so spuy [sic], that they know not how to seed them, and to cut drains with spades, they thought would be very chargeable, and so they invented a plough to do it with; which they made much like, another plough, only much stronger and bigger, and from the beam stands out a piece of wood at A, in which is a coulter set at B, and another set in the beam at C, which two coulters stand bending inwards as at D, to cut each side of the trench. The share is very broad and flat, and cuts off the bottom of the trench. The mould board is three times the length of other ploughs, to cast the turf a great way off of the trench. This plough cuts a trench a foot wide at the bottom, a foot and a half broad at the top, and a foot deep. It was drawn with twenty horses and cost three pounds to make, but the dispatch it made answered the charge.[21]

Mortimer believed this to be an invention of the men of Caxton. However, as we have seen, other accounts, both earlier and of the same period, suggest that other places at considerable

[21] Mortimer, *Whole art of husbandry,* pp. 42–3.

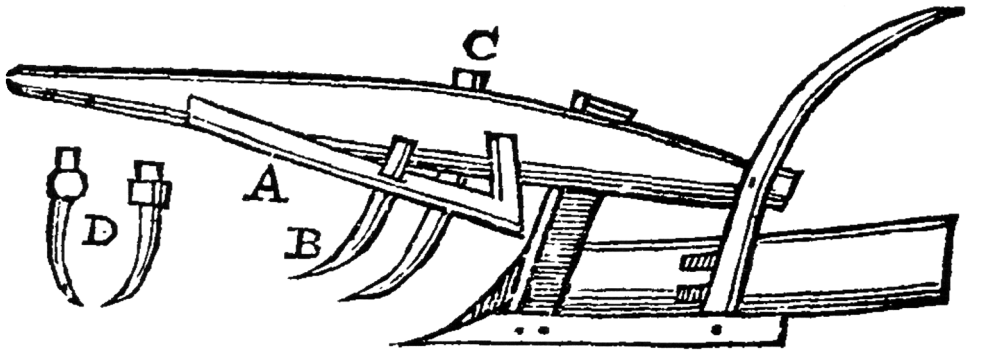


FIGURE 1: The Caxton 'Town Plough' as drawn by Mortimer.

Source: J. Mortimer, *The whole art of husbandry: or the way of improving of land* (sec. edn, 1708), p. 42.

distance from Caxton had similar ploughs for creating drainage ditches. Some of these, such as that at Moor Monkton, were clearly much larger than the Caxton example and required many more animals to pull them. There were also other drainage ploughs of a smaller nature at this time, including hand ploughs as shown by the drawings and descriptions in Walter Blith's *English improver improved* of 1653.[22]

Attwell, writing in 1658, advised that for deeper ditches a normal plough pulled by a single row of horse be placed in the ditch newly created by such a drainage plough, to plough down further. The men were then to throw out the soil and repeat the process until the required depth was achieved. He notes that a landowner at Apsley Bury, in Shillington parish in Bedfordshire dug a large moat using this method.[23]

The Caxton plough, like that described by Mastin had two coulters, probably these were the items referred to as 'winges' in the description of the Moor Monkton plough. References to such 'wings' have also been noted in the churchwardens' accounts of the parish of Norton by Daventry, Northamptonshire, where in 1548 new wings and a share were ordered for the town's plough.[24]

IV

A number of the parishes discussed had manorial courts, which continued to operate after the fields in those parishes had been enclosed, whether by private agreement or parliamentary enclosure. Of those examined, none required tenants to turn out *en masse* to scour drains and gutters after enclosure. Enclosure of the lands of a parish usually meant that each owner's lands were grouped together in blocks and where leased often rented in blocks. Where strips were occupied by multiple tenants, it was no longer necessary to compel them to scour drains that

[22] W. Blith, *The English improver improved, or The survey of husbandry surveyed discovering the improveableness of all lands some to be under a double and treble, others under a five or six fould* (1653), p. 202.

[23] G. Attwell, *The faithfull surveyour* (1658), p. 89.

[24] Northamptonshire RO, 243p/309, Norton churchwardens' accounts, vol. 1.

provided water run-off from furlongs. Manorial courts, where they continued to exist, were therefore reduced to dealing with admissions and surrenders. Individual tenancy agreements required the tenant to be responsible for the land in their occupation, including draining and improving that land. In addition, by the eighteenth century much more was known and understood about drainage, and the science of drainage continued to develop in the nineteenth century by which time most of the country had been enclosed. With these changes the communal town plough became obsolete.

Appendix A
The town plough and Plough Monday

In conducting this research I have attempted to identify whether there is any link between the drainage ploughs described in the paper and Plough Monday celebrations.

Plough lights, plough guilds and donations are known to have existed from at least the late fifteenth century. Numerous examples are known from across the country; for example, Leverton (Lincolnshire) 1498–1559, Warmington (Northamptonshire) 1532 and Luton (Bedfordshire) 1511.[25] Similarly, on the evidence of churchwardens' accounts, Plough Monday celebrations are known to have existed from around the same time; for example, Leverton (Lincolnshire) from 1498 and Cratfield (Suffolk) from 1491.[26]

Accounts of such events usually involve boys dressing up and pulling a plough from house to house. Hutton describes a plough race held from the thirteenth century onwards at Carlton in Lindrick (Nottinghamshire).[27] He also notes examples where a plough was held communally, and cites examples from churchwardens' and other ecclesiastical accounts where ploughs were kept in churches, which he interprets as either communal or processional ploughs.

The question is, were all the ploughs kept in churches either communal or processional ploughs? From the evidence given above and that found in the literature, there may have been three types of plough kept in churches, communal ploughs, given by a benefactor for the use of the poorer members of the community who could not afford a plough of their own, processional ploughs like one at Cratfield, made for eight pence, specifically for Plough Monday celebrations,[28] and clearly no use as an implement for ploughing, and the drainage plough, a plough of such size and weight that it would have been too heavy to have been pulled by young men and taken from house to house or along the community streets in merriment. In 1852, a correspondent writing in *Notes & Queries* said

> Not ten years since there was in the belfry of Castor church, Northamptonshire, a large clumsy looking instrument, the use of which was not apparent at first sight, being a number of rough pieces of timber put together as roughly. On nearer inspection, however, it turned out to be a plough, roughly made, worm-eaten and decayed, I should think at least three

[25] T. Davidson, 'Plough rituals in England and Scotland', *AgHR* 7 (1959), p. 35.

[26] J. Charles Cox, *Churchwardens' accounts* (1913), p. 248.

[27] R. Hutton, *The stations of the sun: a history of the ritual year in Britain* (1996), p. 124.

[28] Cox, *Churchwardens' accounts*, p. 248.

> times as large and as heavy as the common ploughs of the time when I first saw the one in question.

The writer went on to query whether it was ever used for ceremonial purposes and taken on a circuit of the village on Plough Monday.[29] Hutton picks up on this and describes it as 'probably the last of these old-style ceremonial ploughs'.[30] However, a plough three times larger than a normal plough and kept in a church is clearly reminiscent of the drainage ploughs described above, in other words, an implement pulled by many animals for the very practical use of digging or scouring out ditches.

Two pieces of further evidence for these large town ploughs not being the same as those used in the Plough Sunday blessing and the Plough Monday celebration need to be considered. The first lies in their use. Plough Sunday was the Sunday after Epiphany Sunday (7–13 January) when a plough was blessed. On Plough Monday the plough was processed. Hutton informs us that Plough Sunday was the day before the commencement of the formal ploughing season.[31] The ploughs blessed on this Sunday and then used to plough the fields would have been much smaller than the drainage ploughs previously described and used at a different time in the agricultural year. From various surviving court rolls ditching took place between the end of October and early January, when the ploughing of the fields commenced. The second relates to the ploughs lying in the churches. Hutton and others note that the Plough Monday celebrations, in most places, ended in the sixteenth century. However town ploughs are noted in churches right up to the end of the eighteenth century, with, as I have suggested, the decomposing remains of them still present in Castor church in the second quarter of the nineteenth century. The evidence from Mastin[32] and others presented above shows that town (drainage) ploughs continued in use by communities well into the late eighteenth century and were probably only made redundant by new agricultural techniques and enclosure. Therefore the town plough so often described in churchwardens' accounts and visitation records are unlikely to be the ploughs used in Plough Monday celebrations. The ploughs used in those celebrations were either purpose-built ceremonial ploughs like the one at Cratfield or those described by Hutton as standing on plinths in the churches of Great Yarmouth and Holbeach.[33] Alternatively, they might be ordinary ploughs belonging either to the community or to a farmer within the community, which were chosen for use in the celebrations that year.

The last item for consideration is, 'Why were ploughs kept in the parish church?' Prior to the dissolution of guilds, chantries and other such establishments many parishes had a guildhall or sometimes a parish or town house such as that at Morebath (Devon), Norton, Burton Latimer and Culworth (all in Northamptonshire).[34] Such parish or town houses appear to have had a number of functions, including acting as a parish social centre and storehouse. The Reformation eliminated all religious guilds and Plough Plays, and most, if not

[29] *Notes and Queries*, 7 (1853), p. 339.

[30] Hutton, *Stations of the sun*, p. 126.

[31] R. Hutton, *The rise and fall of merry England: the ritual year, 1400–1700* (1994), p. 17.

[32] Mastin, *Naseby*, p. 18.

[33] Hutton, *Stations of the sun*, p. 124.

[34] E. Duffy, *Voices of Morebath: reformation and rebellion in an English village* (2001); W. Franklin, 'Three Tudor churchwardens' accounts', *Northamptonshire Past and Present* (2015), pp. 17–30.

all, ceremonial occasions were abolished. The churchwardens' accounts for Holme Pierrepont in Nottinghamshire show clearly the effect of this step. In 1552 the parishioners had to pay an assessment tax annually to the church stock because the usual collections 'with hobby horse and light' were now prohibited.[35] Such ceremonies, and the income from church ales and so on, funded the upkeep of the parish or town house, and in those parishes that owned such a house the option was to rent it out as a dwelling, such as happened at Morebath and Burton Latimer. In those parishes where the parish or town house was owned by the religious guilds, the community lost their communal facility, which was closed and most likely sold with their dissolution. The loss of such a building therefore left the parish church as the only suitable premises for both worship and storage of communal property.

The nineteenth century saw the revival of some celebrations including the Plough Monday procession. A plough was brought into the church on Plough Sunday and blessed so that the new year's labour might prosper. On Plough Monday the plough was drawn through the community, led by the vicar and the altar servers. Such modern ceremonies appear to have had the effect of leading some historians to assume that references to a 'Town' or 'Common' plough referred to a ceremonial implement for use on that day.

[35] Davidson, 'Plough rituals', p. 36.

Book Reviews

DEBBY BANHAM and ROSAMOND FAITH, *Anglo-Saxon farms and farming* (OUP, 2014). xii + 336pp., 64 illus. £65.

Debby Banham and Rosamond Faith's long-awaited book on Anglo-Saxon farming fills – as the authors point out – a crucial gap in the economic and social history of the period, for which there has until now been no textbook, despite the central role of agricultural production in that period. Their volume covers the practicalities and technological development of arable cultivation and pastoral husbandry, and the practical implications for farming of landscapes with widely varying combinations of topography, drainage and soils. The authors are satisfyingly eclectic in the plurality of their sources. Documentary evidence of laws, charters and (eventually) farming handbooks and calendars tends to become available only from about the middle of their period and it is even then often sparse and ambiguous. It has properly been augmented with archaeological evidence from pollen, seeds and bones, artefacts and earthworks, as well as with the evidence of place-names and the practical experience of farmers, both modern and historical.

The book is made up of two interrelated, independently authored sections. In the four chapters of Part I Debby Banham undertakes an authoritative and wide-ranging review across the Anglo-Saxon period of evidence for older and new species of crops; the tools and techniques for their production; different species of livestock, poultry and bees; and of animal products and methods for their production. Part II, by Rosamond Faith, is largely devoted to exploring the demands made on early medieval farmers in attempting the exploitation of different environmental and ecological contexts by focusing, in individual chapters, on coasts, woodland, downland, moorland and wolds. It ends with an overview of the implications of agricultural change for writing the social and economic history of the period.

Of the two parts, the second is, perhaps, the less complete. The focus on landscape variation offers an important perspective. Yet that vision is largely one of environmental determinism, which needs a more critical approach given current debates about the relative influences of environment, lordship and community on landscape change and the emergence of *pays*. The landscape-specific chapters in Part II might also be set within an overarching vision of chronological development in agricultural organization and its social implications across the period, despite the difficulties of regional variability in both the pace and the direction of agricultural change. That vision is hinted at in the brief concluding chapter which, for example, includes the suggestion that collective organization in the form of the *tunscipe* (township or vill) emerged in the later Anglo-Saxon period because, the authors argue, collective organization and the moral economy gained social significance. This is one of the most innovative arguments in the book and needs much more than the two paragraphs allotted to it (pp. 296–7). There needs to be more detail supporting the ascription of such change to the tenth and eleventh centuries, and more explanation. Was this because resources were now under more pressure? Or was it a response to increasing social and/or economic complexity?

Banham and Faith accept the shift to a more pastoral economy in the fifth and sixth centuries – a process they call 'abatement' – and the intensification of agricultural production in the middle Anglo-Saxon period with the introduction of new cereal crops, the extension of arable cultivation and specialist centres for the production of livestock. They accept that early Anglo-Saxon changes in agricultural focus were likely to have had little impact on landscape layout since grazing by growing herds of cattle and sheep inhibited widespread woodland regeneration on fields no longer being ploughed. It is an acknowledged puzzle that the innovations in agricultural production of the middle Anglo-Saxon period do not appear to have had very much impact on landscape layout. Instead, Faith argues that the two most significant changes to layout seem to have been later Anglo-Saxon: the introduction of small-scale strip fields, communally worked by small groups of farmers; and the emergence of dispersed farmsteads in single ownership whose land was enclosed

within a substantial curvilinear boundary, and located near large areas of open grazing; for example, *wereds* on the salt marshes of the Thames estuary and *worthys* on Dartmoor, Exmoor and Bodmin uplands.

This is an exceptional volume which will retain its freshness for many years. It seems likely, too, that it will in years to come be seen as a marker stimulating entirely new directions for research on economy and society in Anglo-Saxon England.

SUSAN OOSTHUIZEN
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MARGARET MURPHY and MATTHEW STOUT (eds), *Agriculture and settlement in Ireland* (Four Courts Press, 2015). 256 pp., 69 illus. £45.

Agriculture and rural settlement has been a particularly active area of research in Ireland in the last decade or so. Before this our interpretation had not advanced far beyond the picture established by Otway-Ruthven in the 1950s and 1960s. The current wave of studies has been driven by four factors. The first has been the archaeological excavations associated with development in Ireland during the years of the 'Celtic Tiger'. These were not confined to the towns, but covered almost all parts of the island. The second important step was the government-funded Discovery Programme, which included a study of rural settlement in the later Middle Ages. Though not all the results of this are yet available, the work on the Dublin area co-authored by one of the editors of the present volume, Margaret Murphy, has been particularly significant in casting light on that most commercialized region with its strong emphasis on arable cultivation. Third, has been the emergence of a particularly active cohort of postgraduate research students, mostly historians, but also archaeologists. They have undertaken much of the fundamental work which was necessary to clarify the character of the Irish countryside. The final factor has been the re-vitalization of the work of the Group for the Study of Irish Historical Settlement, which has enabled an exchange of ideas through conferences and a series of volumes, of which this is the latest.

The most coherent papers in this volume are those covering the rural economy of the late medieval period. In the first of these Geraldine Stout examines the Cistercian grange in Ireland. The documentary record for grange farms, particularly those outside the area of Anglo-Irish control, is much more limited than that for England, but she is able to draw upon post-Dissolution records, topographical evidence and some archaeological fieldwork to identify the area of lands held by Cistercians and establish the character of grange farmsteads. These seem to have been comparable to those in contemporary England and Wales, though they were often secured by substantial gatehouses or even towerhouses to provide the security necessary in a comparatively lawless country. The theme of demesne farmsteads is developed in the study of manorial centres by Margaret Murphy. In a systematic survey of the late thirteenth- and early fourteenth-century evidence, she draws together the evidence from accounts and extents. Inevitably, this study is limited to the area under Anglo-Irish control. Comparison of those areas with other maps in this volume shows that her manors were located in the agriculturally richest and most commercialized parts of Ireland. Building on her earlier work on the Dublin area, Murphy has now provided a comprehensive account of the agriculture in the colony at its peak, yet even in this period there were problems with the burning of granges and theft of grain by 'Irish felons'. Banks and ditches around the farmsteads and even moats were for rather more than symbolic purposes.

The third of the late medieval studies by Katherine Simms picks up a subject which she first tackled in 1986, the 'creaght'. In the earlier work she showed that this term referred to a herd of cattle which grazed on others' lands, either because the herders lacked land themselves or as an aggressive act of depasturing. Creaghts are referred to in the increasingly unsettled period of the fifteenth and sixteenth centuries, and Simms links these to the growing demand for meat throughout Europe and to the continuing struggles between Irish lords which could leave a chief and his followers without lands and forced to wander the waste. Yet, in a period of rising livestock prices and shortage of labour, the rental of poor land to creaghts could prove to be an effective means of exploiting otherwise unused lands. A system of payment developed in the sixteenth century under the O'Neills in which pastoral lands in Ulster were rented to herds under a leader of the creaght.

Like many volumes that originate in conferences, this book is something of a mixed bag, both in the quality of contributions and the subject matter. The seven papers are book-ended by an introduction and concluding chapter which seem to have been aimed at readers with a limited understanding of Irish rural history. Other papers, particularly the well-considered and very informative study by Katherine Simms, assume some knowledge of the earlier literature. The scope of the papers range from the very useful summary of Irish agriculture in the seventeenth-century by Raymond Gillespie to a study of the single estate at Collon, County Louth, in the later eighteenth century by Matthew Stout and his six co-authors. It is not clear with this range of

contributions whether there was a particular audience for whom this book was intended – the general reader, the committed medievalist or even the local historian. However, many readers will find something of interest and value amongst the papers here.

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JONATHAN HEALEY, *The first century of welfare. Poverty and poor relief in Lancashire, 1620–1730* (Boydell and Brewer, 2014). xvi + 319 pp., 31 figs, 10 tabs. £17.99 p/b

The Old Poor Law was relatively slow to be adopted in the North West of England, and, despite snippets of disparate evidence, the evolution of welfare is poorly documented in this region. As a consequence, our understanding of the extent of poverty and the nature of the welfare regime in this stereotypically poor region has hitherto been grossly inadequate. Healey's own previous work forms the bedrock of existing knowledge along with notable contributions from others, but this pioneering book sets a new standard against which future regional studies will undoubtedly be measured.

Healey's evidential base circumvents the near total absence of parochial Poor Law records for this period by making full use of a rich vein of evidence, the analysis of which is long overdue. Between 1626 and 1710 Lancashire Quarter Sessions received around 3000 first petitions for poor relief. Although these petitions only represent a very small proportion of all those who received relief – and an even smaller proportion of those who applied for relief – they are undoubtedly representative of the experience of the poor. As Healey is at pains to point out, the biographical information that these petitions contain provides unique evidence about the causes of poverty and, even allowing for exaggeration, omission and distortion in the claims of the petitioners, provide insights into the 'cultural conception of deservingness which petitioners believed was held by magistrates' (p. 107). One sub-theme of Healey's work, therefore, is power, authority and the negotiation between pauper, parochial officers and magistrate. Indeed, the analysis presented of the conflict between townships and parishes is highly instructive, and shares some characteristics with subsequent disputes that occurred in Poor Law Unions in this region after 1837.

The evidence provides remarkable insights into the lives of the marginal poor, as well as those suffering due to broader economic circumstances. Some petitioners were undoubtedly marginal families who spent extended periods at risk of destitution. Others, however, were less marginal and some had been relatively prosperous, but a series or coincidence of events had seen them descend into poverty. Such detail is not revealed by overseers' accounts and it is clear that the true value of the pauper petitions lies in the 'startlingly evocative *qualitative* picture they present of the lives of the poor' (p. 109).

The book is divided into three sections. Section 1 sets the scene with a summary of Lancashire's economic development in the period, a highly readable retelling of the arrival and development of poor relief in the North West, and a detailed discussion of the major sources utilized. Although this section is essential to the book, it does lead to one of my major criticisms. Despite Healey's account of the diverse economy, landscape and demography of the North West, this does not explicitly underpin his analysis of the Poor Law petitions in a significant way. Of course, Healey's introduction is broad-brush background context and not intended as an analytical framework at the sub-regional level, but local variations in the economic, demographic, religious, administrative and political culture might be expected to form part of the analysis in what was a turbulent period in this complex region. Healey's previous publications show that he understands well the northern part of the region, and the nature of its economy, topography and society. However, for elsewhere in the county he too frequently relies on stereotypes and generalizations. Lancashire is described as a 'harsh landscape' with 'one of the wettest climates' amongst English counties (p. 34). Such a description fails to do justice to the extremely fertile Lancashire plain with its low rainfall and deep soils, which was undergoing significant improvements during Healey's period. His four pages on Lancashire agriculture need not detain readers of the *Review*. Healey's assertion that there is evidence of backwardness here until 'long into the eighteenth century', citing Holt's 1795 observation of the relative absence of turnips as evidence to support that claim, suggests a misreading of the nature of Lancashire's dynamic, adaptable and highly productive rural economy.

Section 2 looks at the marginal poor and their survival strategies while Section 3 focuses on endemic poverty and crisis poverty. This discussion forms the bulk of the work, and it is here that the authority of Healey's work is most evident. Indeed, the biographical detail presented here, despite its slightly anecdotal nature, reveals the complex and diverse lives of the Lancashire poor, illustrating their resourcefulness and helplessness in equal measure. But the interventions of the Poor Law – very new at the start of the period and firmly established by the end – provided welfare for those experiencing the most common and persistent causes of descending into poverty: old age, sickness

and nuclear household failure. Yet the Poor Law also acted as a broader safety net enabling individuals, families and communities to cope with the impact of trade depression, harvest failures and epidemics. It is rare for a pioneering book to become the definitive account, but if the definitive book on Lancashire's *First century of welfare* remains to be written, then this is a very worthy pioneer study that deserves a wide audience.

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CHRIS BRIGGS, P. M. KITSON and S. J. THOMPSON (eds), *Population, welfare and economic change in Britain, 1290–1834* (People, Markets, Goods: Economies and Societies in History, 5, Woodbridge, 2014). xvi+346pp., £25.

This splendid collection originated in a conference to celebrate the career of Professor Richard Smith, and it highlights some fascinating and important recent research broadly within his own diverse interests. The focus is on demographic history and the history of poverty and poor relief. English history is at the fore, but the wider perspective is never far away.

Much of the collection is given to high-quality empirical studies, but there is also room for a number of wider-ranging, discursive chapters. Wrigley, for example, revisits John Hajnal's classic article on the north-west European marriage pattern and thinks about some of its demographic and economic implications. Late marriage, he suggests, must have increased the contribution of women to the market economy, given how marriage tended to bring partial withdrawal from wage earning. This not only meant women enjoyed a stronger economic position in north-west Europe, but it also created greater potential for wealth-generation overall. The strength of the preventative check, meanwhile, meant that the region managed to maintain an equilibrium of population at a higher level of real wages than other regimes, especially once the late-sixteenth-century peak had passed. Both factors helped north-west Europe develop unusual levels of wealth and consumerism: marriage patterns aided development. Nonetheless, as Wrigley emphasizes, the availability of land remained as a brake on economic growth: it was only when England in particular began to harness the banks of energy contained in coal that the economy achieved take-off. Similarly wide-ranging in scope, Dennison offers some very interesting thoughts on the similarities and differences between Medieval English serfdom and that found in nineteenth-century Russia. She suggests that one of the most important contrasts lay in the nature of community: in Russia, the commune was a collective and formally corporate institution; in England, peasants were part of overlapping communities, including the manor and the parish, and had tenurial and customary rights that were not collectivized. This meant that the power of the village elites to regulate the behaviour of their neighbours was much greater in Russia. Another difference was the existence of manorial courts in medieval England, providing cheap and accessible dispute resolution – even to women and the relatively poor – on an individual basis. English medieval communities, meanwhile, were in close contact with the state, through their engagement with royal law, again in sharp contrast to Russia, where public law had little or no influence on serf estates. Also taking a broad view, Ogilvie tackles the balance of 'choice' and 'constraint' amongst pre-modern peasants. She points out that recent scholarship has found – from eighth-century Italy right through to nineteenth-century Russia – even the most marginalized peasants making choices. But at the same time she cautions strongly against ignoring institutions: rules, even if lightly enforced, made an important difference to the choices made by peasants.

These excellent and thought-provoking chapters all provide useful opportunities for reflection, but it is the closer, empirical case studies which really stand out. Oakes, for example, looks at the demography of scholars at Winchester College, finding that those who came from urban areas were less likely to die while at the school, presumably because they were used to the disease environment they would encounter in the confines of the town. Once scholars were followed through to New College, Oxford, however, there were no significant differences in life chances based on origin. Campbell and Barry's important chapter compiles population data for England, Wales, and Scotland for *c.*1290 and uses GIS to map the distribution of population at the time. As is to be expected, there was great variety, from 60+ people per square kilometre in parts of East Anglia to less than 5 in the most remote parts of the Scottish Highlands. Generally speaking the greatest densities were found in the fertile band through the middle of England roughly running from Portland Bill to the Wash. This 'rural congestion' had dramatically lifted by the time of the 1801 census, at which point the pastoral regions of the north and west and achieved considerably greater densities. Between the two dates, then, population had evolved to fit the resource geography of Britain better.

A series of articles deals with poverty and its relief. Marfany offers a useful corrective to any assumption that there was little or no formal poor relief in early

modern southern Europe. She shows the diversity and complexity of provision in Catalonia which is only just being recovered by historians. Boulton looks at the relationship between indoor and outdoor paupers in eighteenth-century St-Martin-in-the-Fields, highlighting the need to be sensitive to the existence of paupers both in and out of the workhouse. He finds that, despite the parish enthusiastically endorsing the 'Workhouse Test' in 1725, the proportion of indoor paupers fluctuated and many were still relieved regularly outdoors. Williams, meanwhile, shows that in the Bedfordshire parishes of Campton and Shefford there was a sustained commitment to the support of the elderly in the 'crisis' years of the old poor law. There were, however, an increasing number of elderly couples on relief after 1815, as employment conditions in the countryside worsened and employers appear to have prioritized young male labourers over old.

In a particularly important contribution, Thompson then looks at the relationship between population growth and the foundation of corporations for the poor in the long eighteenth century. He has identified a total of 141 general and 299 local acts of parliament relating to the poor, mostly dating to 1760 onwards. In London, these seem to have followed suburban expansion, whilst in Suffolk corporations for the poor tended to be created in areas experiencing high or growing population. This suggests, to put it bluntly, that Malthus was wrong when he argued that poor relief encouraged population growth – if anything the relationship went the other way. Finally, Goose and Yates describe the seventeenth and eighteenth-century history of the Raymond almshouses in Berkshire. This was a county that was well-endowed with institutional charities, with its connections to London suggested as a plausible reason for this. As the chapter points out, the Raymond houses demonstrate the strength of the charitable impulse and the flexibility of voluntary provision within a mixed economy of welfare.

The collection is then rounded off by an article by Hoyle, which takes 'English individualism' as its cue. Hoyle points out that early modern businesses were almost always legally vested in a single person, thus the concern was technically wound up when they died, and though they might try to ensure the survival of a dynasty, demographic circumstances usually made this difficult. As marriage ages lowered, and lives lengthened in the eighteenth century, the true family firm might have enjoyed greater chances, but until then the death of a major employer could spell disaster for local employment.

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BRIAN SHORT, *The battle of the fields: rural community and authority in Britain during the Second World War* (Boydell and Brewer, 2014). xii + 468 pp., 49 illus. £75.

The Battle of the Fields provides a wide-ranging, impressive critique of the role played by the state in transforming the agricultural sector during the crucially important and formative period of the Second World War. The central strand linking the chapters together is the actions of the County War Agricultural Executives Committees, which were responsible for implementing national directives at the local level. The book provides an informative critique of the origins and rationale for state involvement, as well as the Committee structure and how this reflected the hierarchical and class-ridden nature of rural society. It explores how these power relationships operated in practice, with regard to the system of dispossession. This is graphically illustrated in respect of the tragic case of Ray Walden, a small dairy farmer in Hampshire, who lost his life in the process. In addition it explores the social effects, differentiating between memory and fiction, including the inherent contradictions of the countryside at war. His investigation reveals how class consciousness and gender discrimination remained a recurring feature of the period.

The text provides a well-balanced evaluation of the Herculean challenges facing the state in transforming what was a tepid agricultural economy into a fully functioning productive sector. Even if these changes did not quite happen overnight, it is important to bear in mind that they took place in an incredibly short period of time when judged by previous periods of agrarian transformation. Short's grasp of the significance and complexity of the key issues is unrivalled.

The author should be congratulated for his meticulous and comprehensive investigation of such a wide range of secondary and primary sources. The illustrations are particularly impressive and the dates and lists of the membership of the committees are unparalleled. Unlike most other accounts, the author provides a thorough and painstaking investigation into regional variations of the impact of wartime control, which encompasses not only fenland and coastal marshes but also a chapter on the impact of wartime control on Scotland and Northern Ireland.

There are, as with all books, a number of points that any reviewer might take issue with. These include the rather superficial treatment of the extent to which agricultural output and productivity increased during the Second World War. A sharper, more evaluative assessment could have been undertaken in respect of the extent to which the Committees' achievements

were primarily the result of their ability to bring about a structural realignment, with the switch from pastoral to arable farming. Criticism might also include the occasional dependence on rather excessively long quotations to advance the arguments. Other very minor points include the claims about the doubling of barley yields (p. 307) during the course of the war, and the citation of my own book, *The Development of Modern Agriculture*, as being printed by Manchester University Press in 1999, whereas it was Macmillan Palgrave in 2000. Such criticisms, however, are incredibly minor and do little, if anything, to distract from the quality of the analysis. The most important relevant criticism is the cost of the book, which is only available as a hardback for £75 and this will invariably limit its market.

This well-researched book will be essential reading not only for academics from a wide range of disciplines, but also appeal to those with an interest in the countryside. Short's efforts in producing a book of this level of analysis, supported by meticulous detail, deserve unstinting commendation and praise. If this was a farm being scrutinized by a member of the War Ag, as Short himself did in BBC's *Wartime Farm* series, it would certainly merit an outstanding 'A' grade.

JOHN MARTIN
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TOM WILLIAMSON, *An environmental history of wildlife in England, 1650–1950* (Bloomsbury, 2013). 281 pp., 30 figs. £19.99.

In *An environmental history of wildlife in England, 1650–1950*, Tom Williamson address a subject that emerged in the 1970s and was raised in the *Agricultural History Review* at least as long ago as 1984, when Adrian H. Cowell's article, 'An Approach to the Agrarian History of Upland Country: Ecology and Habitat', posited the idea that historians of agriculture might make up for a lack of documentary evidence by using the evidence of vegetation instead to demonstrate changes in habitat and environment. As Cowell suggested 35 years ago, the plants alone, grazed by sheep, for example, and thwarted in the normal succession that would take place as each species seeks to out-compete its neighbours, provide ample testimony of the complex of interwoven cultural, biological, economic and environmental factors that go to make up what we consider to be agrarian history. Since Cowell wrote his article, which drew on the work of ecological historians and historians of ecology, environmental history has both changed and become more widespread; by 2006, for example, we see a paper by Kristin Asdal discussing its use and interpretation of 'nature' in *History and Theory*. Points in between these two quite methodological papers include detailed analyses of specific case studies focused on individual locations or species through to the story of world-wide impacts of natural disasters. That is to say, environmental history is now an established discipline. This is worth stating, as in his book Tom Williamson seeks to make a point, which, as Asdal observed in her 2006 paper, is both new and fundamental to the field as it progresses: that is, that environmental historian need to consider very carefully what is thought or perceived to be 'natural'. By traversing 300 years, Williamson makes it very clear that environments often referred to as 'natural' – that is, innocent of human intervention – are far from it. This might seem quite evident to historians of agriculture, who are more aware than most that the land has been used to produce raw resources, food and fuel for centuries, but Williamson seeks to make this clear through sharp and systematic summaries of the position of wildlife in relation to each productive landscape through time, and therefore brings it nicely into sharp relief.

There are ten chapters, of which the first sets the scene and the last offers some concluding remarks. The book proceeds broadly chronologically, with the chapters centred on themes appropriate to the period: 'Seventeenth-century environments: woodland and waste', 'Seventeenth-century environments: farmland', 'The social contexts of wildlife, *c*.1650–1750', 'The industrial revolution', 'The revolution in agriculture', 'New roles for nature', 'Wildlife in depression, *c*.1870–1940', 'New urban environments, *c*.1860–1950'. In each instance the environment includes the farm, but also wasteland and common, town and (eventually) city, and the position and use of 'intermediate' wildlife such as game, as well as the effects on plants and animals of agriculture and husbandry. His interest is in the uses of wildlife for amenity as well as the effects of industry or farming, and he constantly seeks to give the reader pause. Thus, for example, he addresses the nineteenth-century enthusiasm for nature study, which did not necessarily benefit the nature studied given the Victorians' equal enthusiasm for collecting it, and he demonstrates that agricultural depression had a catastrophic effect on many wild species which were no longer able to benefit from the maintenance of land as it fell out of production.

Williamson argues overall that the story here is not a simple, linear one of the steady erasure of wildlife. Instead some forms of agricultural and other types of production increased the diversity of wildlife, both numerically in terms of species but also by sustaining diverse communities of organisms locally. He makes the point that even the highest tallies within the killing

sprees directed at pests and vermin and catalogued by parish officials, leaving a horrific tale for Roger Lovegrove to tell in *Silent Fields* (2007), did not result in the erasure or even significant diminution of those species that were subject to control. The development of towns and cities offered some species new habitats and environments ripe for exploitation and therefore resulted in an increase in their numbers. And, he states in his conclusion, though there are those species that have been denuded in specific localities and regions – thus the pine marten, polecat and wildcat certainly fell foul of the gamekeepers between 1800 and 1853 – very few of the other 100,000 species to be found nationally have been made extinct within Britain as a whole in the period he looks at, even after 1950. In sum, there are always criticisms that can be made of any text if one is so minded: on p. 17, for example, Williamson uses 'man' for humanity, which certainly grates. However, the book offers a very useful and accessible introduction to the subject of environmental history for the place and period, and also makes a crucial point overall: it is essential that history remains in the picture.

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ERIC L. JONES, *Revealed biodiversity. An economic history of the human impact* (World Scientific Publishing, Singapore, 2014). xxxiv + 257 pp. £65

The idea underlying this volume is a sound one – to provide a history of biodiversity in the modern world that does not succumb to a simplistic narrative of decline. Jones counterpoints this to a narrative of ecological decline driven by the politics of 'environmental lobbies', which, he avers, are driven more by 'faith' than science. He attacks the use of historical ecological baselines as a starting point for claims of decline, pointing out that before the late twentieth century they are often weakly rooted in empirical data. Moreover, any linear account of decline is, Jones argues, inherently flawed. Nature is constantly in flux. Even where extinctions take place, there can be no guarantee of which prevailing ecological system is subjectively better or worse. Any project that stands in the way of the great rule of change is flawed.

Yet for all the protestations of objectivity, this book really fails to deliver on its promise. Firstly, as the introduction makes clear, this volume is a political intervention, written to defend free market capitalism as ecologically sound. The author's own condemnation of those who attack 'a capitalist market system of which the critics are themselves beneficiaries' clearly demarcates his purpose. The volume is punctuated by mistimed swipes at opponents, including unsupported claims such as the view that 'historical fluctuations hold little interest for environmentalists', which appear to be derived from the author's conviction that environmentalists form an implacable band of ideological enemies who fail to recognize change as natural law. Perhaps the nadir of this form of argumentation is reached at the end of chapter three, when a single letter by one individual is cited as evidence for the implication that we should really stop worrying about climate change because of all the 'wonderful new flora and fauna that surely must emerge', as well as the 'economic benefits'.

Jones offers a geographically rather narrow analysis, given the global nature of many claims for biodiversity loss. The majority of this book deals with British and Dutch historical examples from the seventeenth century onwards. Much of this discussion is based on reference to a secondary literature that is sometimes surprisingly narrow. The claim that the relationship between hunting and the environment has been only poorly studied, for example, does not really stand up. There are more (and more recent) studies on the theme than are cited here, not to mention a growing number of relevant studies on animal history. The rest of the world is addressed by Jones in several quite short chapters on 'European expansion', which really don't add much to the existing state of knowledge except for the claim that 'The transformations of global ecosystems are not being fairly assessed when they are presented as necessarily European, Western, capitalist or Christian', which is of a piece with Jones's tendency to return to apologetics at points throughout the text. Jones does not fairly represent the diversity of opinion among environmental historians on these or other factors in explaining ecological change.

Moreover, the author's suggestion that environmental history has discounted the agency of non-Western peoples in ecological transformations is simply wrong. Jones's attack on the noble savage myth both wildly exaggerates the purchase of this mythology among contemporary environmentalists and fails to recognize the significant role of historical work in undermining this discourse. Instead, Jones proceeds, bizarrely, to reproduce one of the core components of this very mythology by arguing that 'The virtue of European and American technology was that it was not static but went on improving', a claim that suggests a lack of familiarity with those historians who have demonstrated that Western technological dominance has often precisely been used to construct an idea of non-Western peoples as existing outside of progressive historical time.

'Among environmental history's problems', Jones suggests, 'is a tendency to hark back to a Golden Age when nature was supposedly unsullied'. If this

view ever had any validity, it is increasingly hard to argue for it in the present, when it seriously fails to reflect the breadth of research and intellectual diversity within the field. Jones's insistence on rooting his arguments in stereotyped notions of both environmentalism and environmental history is a great pity because his book raises questions worthy of serious treatment by environmental historians. The author is perfectly right to point to the difficulty of making historical judgments about biodiversity in the past; it is clear that there is a question to be raised over the relationship of environmental history and ecological science. However, and somewhat ironically, it is Jones's very single-mindedness in putting environmentalists in their place for their supposed historical errors that means he slips too often from the position of critical historian to ahistorical apologist.

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University of Exeter

DAVID MATLESS, *In the nature of landscape: cultural geography on the Norfolk Broads* (Wiley-Blackwell, 2014). 296 pp., 43 illus. £24.99.

In Wilkie Collins's 1866 sensationalist novel, *Armadale*, the Norfolk Broads are a curiosity, the 'hidden labyrinth' of waters suggestive of the unexpected – mysterious, fluid-margined and hard to know. It is a region where anything could happen. For David Matless, growing up in Norwich, Broadland held no such intrigue but was merely a 'remote zone near home', barely experienced – exploration only beginning after he moved away and saw it as a site with academic promise. In this book, he journeys through these slippery wetlands and, whilst doing so, takes a new direction in cultural geography by rigorously revisiting and rethinking the notion of regional cultural landscape; the recombination of the constituent terms 'region', 'culture' and 'landscape' suggested as productive not in spite of, but because of, its inherent complexities and instabilities.

It is an entertaining and illuminating excursion, worth taking not least because it brings a fresh approach to the region, presenting landscape as colloquial, with voices and accents – from the scientific and the institutional to the comic and the vernacular – competing for attention and authority. Sounds, too, emerge from this 'colloquium of voices', the boom of the bittern recorded as well as the blast of the motor cruiser. The book has an unusual structure, its chapters interspersed with two rather grainy photo montages, 'Broadland Scene' and 'Broadland Signs', and two 'interlude' studies of Broads icons, the wherry and the windmill.

The first chapter, which suggests that regional cultural landscape might achieve a new political resonance in England were Scotland to become independent, discusses academic engagements with Broadland, its institutions and scholarship. This introduction to the region includes a too brief commentary on the Cantley sugar beet processing factory, the first in England, then offers six quirkily descriptive passages – snapshots, as it were, of sites where tensions of landscape are condensed. There is also a helpful outline of the study area and its nomenclature. Six rivers, all flowing into the North Sea, are collected under the name the 'Norfolk Broads' while the broads (lower case) are shallow lakes made from flooded medieval peat diggings, sometimes linked to these rivers by dug channels.

Formation of the broads was long disputed and their artificial origin only discovered in 1952 by the late Joyce Lambert, a key informant whom Matless interviewed several times. These contested narratives, and Lambert's work of scholarly detection, are discussed in the second chapter, 'Origins', which details the ways in which scientific argument was shaped by claims to regional authority. If the suggestion that the broads were man-made initially appeared to diminish their appeal, it later facilitated proposals for their dredging and restoration.

Chapter three, 'Conduct', takes an expansive look at moral geographies of leisure conduct on the Norfolk Broads, a region described by *Nature* in 1887 as the most 'beguided' in the British Isles and variously imagined over the years as a site of authentic folk culture, a locus for adventure and a holiday pleasure ground. Geographer Vaughan Cornish's 1930 proposal for a Broadland national park sparked debates over regionally appropriate modes of conduct (quiet sailing preferred to raucous cruising, for instance) which continued to shape policy even after 1989, when the Broads Authority assumed the statutory powers of a national park.

There follows a brief study of the wherry, a regional craft latterly resurrected for pleasure cruises but once a working vessel, portrayed in nineteenth-century paintings of the Norwich School. Wherries transported goods such as grain, coal, timber, manure, ice and sugar beet, suggesting an attendant clutch of cultural landscapes that, rather disappointingly, are not unravelled here.

The remaining chapters are likely to be of most interest to agricultural historians. Animal landscapes and plant landscapes are considered in chapters four and five respectively. Here the voices of a vivid, and sometimes eccentric, cast of characters enter the colloquium – from the fervently masculine J. Wentworth Day, who adored shooting and advocated stuffed birds as a way of keeping the 'domestic female' at bay, to broadcaster

E. A. Ellis, who created an experimental nature reserve at Wheatfen – and served coypu (a now extinguished invader) to a visiting party from the British Association for the Advancement of Science. These sections, which present complex narratives, discuss matters such as the emergence of Broadland as a region for scientific study; how disputes over shooting rights – and wrongs – shaped the Broads as public and private space; and the potent cultural harvest of the reed industry.

After another interlude, this time drawing on work by Tom Williamson to focus on the windmill – technology once widely employed in the region to pump water for drainage – Matless moves on to chapter six. Entitled 'The Ends of Landscape', this covers narratives of impending environmental disaster and addresses the region's vulnerabilities to silting, pollution, drainage, drought and flood. An account is included of the political battles over the Halvergate Marshes in the 1980s, in which notions of 'landscape character' were successfully deployed to prevent characteristic grazing marsh being drained for conversion to arable.

This is, in essence, a lively and original book, scholarly and rigorous, but also entertaining. More than that, it is thought-provoking: worth reading even for the armchair excursionist to the Norfolk Broads.

REBECCA FORD

JOY HINSON, *Goat* (Reaktion Books, 2015), 224 pp., 100 illus. £12.95.

Joy Hinson's *Goat* is one of a series of *Animal* books edited by Jonathan Burt and published by Reaktion Books, and thus sits within a menagerie of titles dealing with everything from ants to vultures, from bears to tortoises. The series aims to provide a short but comprehensive review of the animal subject of each book, covering species' natural and social histories, their place in mythology and religion, their relationships with human animals, and so on. *Goat* is an interesting addition to the series, aiming to provide an overview of all things caprine from the starting point that goats have often been overlooked as domestic farmed animals – the 'poor man's cow' – while in fact having important economic and (fascinatingly ambiguous) symbolic roles.

The Introduction establishes how goats do indeed play a quite startlingly diverse range of roles in their relationships within ecosystems, in their economic relationships with humans and perhaps most interestingly, in how they become culturally meaningful. Thus on the one hand they embody and symbolize human institutions (for example as sporting or military mascots) while on the other they carry a wide range of often quite divergent cultural associations; for example, goats can be emblems of efficiency in their use of poor-quality agricultural land but can also represent lust, the satanic, fertility and playfulness (capriciousness). The book's six substantive chapters build on the Introduction's tantalizing glimpses of the richness of goats' many (real and figurative) places in the world and their entanglements with human life, giving more detailed discussions of the 'wild' goat's natural history, its domestication, the goat as a feral creature, the place of the goat in myth and folklore, the use of goats in medicine and the place of the creature in the twenty-first century.

The chapters covering the 'wild' and 'domestic' goat involve a shift from a global mapping of the distribution of goat species, along with discussion of their biology, social behaviour and ecological relations, to a much more geographically specific history of domestication and the entanglement of goats with (human) society and politics, which focuses quite heavily on the UK (saying much less about the Global South, despite goats' historical and continuing importance to rural economies in 'developing' countries). Feral goats get a chapter to themselves, telling a story of how such animals, establishing populations after escaping from domestication, are seen as damaging the ecosystems in which they take up residence and as such tend to be regarded (and thus targeted) as pest species.

The following chapters on goats and mythology and folklore, and goats and medicine, offer stimulating reading on the highly diverse material-semiotics of goat-human relations. As suggested, goats can stand for many things and represent diverse human characteristics. They, and their bodily products (their milk and dung, for example), have also had traditional medicinal uses. There is a sort of bodily potency associated with goats which ties together their symbolization of lust, the devil and playfulness, for example, with the supposed powers of their faeces, milk and bezoars (concretions found in the animals' stomachs). Finally, a discussion of the twenty-first century goat emphasizes the continuing importance of this species to human societies, despite the way in which goats have tended to be dismissed as major contributors to industrialized agricultural and food systems. The charitable (and perhaps problematic) 'donation' of goats to communities in the Global South is just one example. At the same time, goats are still employed as military and sporting mascots, are raced at festivals and fairs, and continue to carry magical and symbolic weight in some parts of the world and in our language.

At the end of the book, readers are also provided with a goat timeline, taking them from the ancestral

progenitors of 'modern' goats 8.2 million years ago, through a history of domestication and representation, culminating with a version of the goat as a 'pest' species in some ecosystems, which leads to the introduction of eradication strategies. For readers inspired to take up goat keeping, details of US and UK goat societies are also provided.

The book is very well illustrated throughout with images of goats in their 'natural' and domestic environments, and with numerous pictures of different cultural representations of goats. These really add to the enjoyment to be gained from this book, emphasizing the cultural significance of these animals, including (for example) their importance to representations of the erotic, and their role (as illustrated in the well-known mid-nineteenth-century painting by William Holman Hunt) as the 'scapegoat'.

While such a short book can really only touch on what goats are and can mean, and as such can sometimes seem to become rather a list of interesting 'facts' and examples, this is the remit of the series and does not detract from what is an enjoyable text. Readers are reminded of how a particular animal's place in the world is complex and heterogeneous, particularly when considered in its relations with humans, and stimulated to think further about the wider complexities of human-animal relationships, which are so significant to our everyday worlds.

LEWIS HOLLOWAY
University of Hull

STEVEN PARISSIEN *The English railway station* (English Heritage, 2014). 172 pp., 250 illus. £25.

Dr Richard Beeching is a name known to both railway buffs and rural historians alike. The branch line closures overseen by him in the 1960s transformed the transport landscape of Britain with nearly 2400 of the existing 7000 railway stations identified for shutting down. It was, moreover, in rural areas that the axe came down heaviest and the closures were hardest felt, and this despite the country station being regarded as a uniquely English thing of beauty set in the heart of the rural community. In this book Steven Parissien goes far beyond this popular history, presenting a carefully researched, well-written and superbly illustrated architectural history of the English railway station. From wooden-shed origins in the mid-nineteenth century to twentieth-century modern urban regeneration termini, with stops along the way at Victorian urban grandeur and mid-twentieth-century demolition, Parissien carefully charts the history of this commonplace but little considered architectural form.

Of the themes explored in the book, that of the country station is no doubt of most interest to agricultural and rural historians. The modernizing influence of railway expansion on rural communities is well-known. It provided access to new employment opportunities for agricultural workers and helped establish new markets for agricultural products – milk being one example noted by Parissien. Whilst the railway, and the location of country stations, could be regarded as an economic benefit to farmers, the new railway age was not wholly embraced by estate landowners. Not only topography, but also landowners' desires influenced the route of railways across the mid-ninetieth-century landscape. Lords Exeter and Egremont are highlighted, for example, as successfully ensuring the railway was diverted around their respective parklands. The latter's influence resulted in Petworth Station being built a brisk two-mile walk from the town it served!

Across England railway companies adopted a range of architectural styles and Parissien provides a number of examples to illustrate how county stations varied from modest brick halts to grand buildings that could be mistaken for country houses. The latter group included, for example, William Hurst's 1856 double stone-fronted, Jacobethan mansion-like train station at Stamford East in Lincolnshire. Similarly, station design in urban areas provided an opportunity to bring country house and estate style to the town. In 1847, for example, J. P. Prichard designed Huddersfield's station in a classical style that resembled the mid-Georgian Wentworth Woodhouse in Yorkshire, influenced perhaps by his close association with the Earls Fitzwilliam as their family architect. In designing the train shed at Newcastle Central between 1845 and 1850, Frank Dobson borrowed techniques of garden glasshouses, most notably Sir Joseph Paxton's Great Stove at Chatsworth. As well as being an architect, Paxton was a director of the Midland Railway and his influence can also be seen at Buxton station, not far from Chatsworth.

Conversely, railway expansion established new wealthy landowners in the country who sought to combine their enthusiasm for the railway and traditions of the county house in creating their vision of a rural community. The railway contractor Sir Morton Peto in the 1840s, for example, commissioned the sculptor John Thomas to design the Jacobethan Somerleyton Hall in Suffolk together with estate village and matching station on the Norfolk Railway.

From the confident expansion era of the Victorian station and its early twentieth-century prime, Parissien's focus turns to consider 'Demolition and decay' under Beeching, and the wider modernizing railway programme. Whilst lamenting the demolition

of many fine country stations, Parissien points out that many were converted into private residences. Within the next two chapters, on 'Brave new British Rail' and 'A new railway age', the country station receives little attention: mid- to late twentieth-century modernization was mainly an urban occupation. Rare exceptions included the replacement of Victorian rural stations with practical, modern pre-fabricated units in the Southern Region during the 1960s. Finally – as Parissien points out – the resurgence of the country station as a reaction to the Beeching cuts is reflected today in the preservation of a number of heritage branch lines.

Throughout this enjoyable journey through the architectural history of the station Parissien maintains focus on his key destination, whilst at the same time providing interesting tracks for further inquiry. More could have been said, for example, about how country stations fitted in with the existing built environment of rural settlements and to what extent – if any – station architects took into account of the local vernacular. Estate records, too, might be a rich source in helping us better understand landowners' relationships with railway companies, both in relation to estate access and in terms of station design and patronage – a theme for others to pick up perhaps. Yet overall *The English railway station* is a comprehensively researched, beautifully illustrated addition to the small literature on railway stations and their architecture, and a scholarly accompaniment to the booming literature on railway heritage.

MATTHEW KEMPSON

Conference Report
The Society's Winter Conference, 2014: 'Rural Worlds on the Move'

by Mathew Homewood

This year's Winter Conference, 'Rural Worlds on the Move', focused on migration. The four informative, and often entertaining, papers covered a good variety of themes, and ranged from the medieval period to the twentieth century. The conference began with a paper by Lyn Boothman entitled 'Those who stayed, those who went, and those who arrived: migration and stability in a Suffolk town, 1661–1861.' Boothman has been studying the Suffolk village of Long Melford for many years, and has built up a significant database on the population of the village. This particular paper, using 'population reconstruction' was concerned with stability, which, as Boothman points out, is statistically just as important as migration, when studying movement. In order to demonstrate her findings on the rates of stability in Melford, she used three examples within her research. First, by studying two cohorts of children brought up in Melford, one set from the late 1600s and the other from the mid-1800s, she discovered that stability was greater in the latter period. Additionally, with over 20 per cent of the children remaining in Melford for at least 30 years, in both eras, if the accepted belief that remaining in one's own village was an 'oddity' is true, Melford was perhaps a very odd place. Second, Boothman looked at the 1851 census to identify where Melford-born individuals, who had left the village, were located. Very few were found outside East Anglia or London, with the majority of under 16-year-olds found in adjacent parishes to Melford. Amongst these migrants, 765 marriages were found. However, it was found that only 13 per cent of these couples lived at some point in Melford, indicating that the large majority of migrants left the village as single people. Lastly, stability amongst couples was discussed. Using a variety of sources to their full potential, across three separate eras, Boothman made many interesting observations. For instance, the couples where at least one was a second- or third-generation resident, slowly increased their presence in Melford over time. However, with regards to social status, a greater proportion of newcomer couples had obtained higher-grade occupations than the non-newcomers by the mid-1800s.

Mark Bailey's paper, entitled 'Patterns of rural migration in south-east England *c.*1300 to 1500: the evidence of servile incidents recorded in manorial court records', gave us a fascinating insight into migration in the medieval period, and the untapped potential of manorial court rolls for revealing migration habits over time. The small number of studies into medieval migration has identified a very mobile medieval population, especially after the Black Death. Some historians have argued that the distance of migration increased due to more aggressive lordship, which forced serfs to move longer distances in order to escape seigneurial control. Others have suggested that migration was driven more by economic opportunities, which were increasingly concentrated in towns. Bailey turned to manorial court rolls, where the 'presentments for absence' and 'chevage' records noted absences of serfs from the manor. These records have been little used, due to concerns about the patchiness of their content, but Bailey demonstrated that their frequency increased after the Black Death, together with the information they provide about migrants in general, and migrant women in particular. His preliminary findings indicate that there was little increase in long-distance migration, but a discernible increase in the 10–20 mile category. He also tentatively concluded that there was a greater extent of rural-urban migration compared with the pre-Black Death period. This material provides much colour and detail about the individual experience of migration, which allows some anecdotal assessment of the extent

of circular and networking migration. Previous studies had concluded that circular migration was very rare, but Bailey's painstaking research methods revealed many examples, not only of male migrants who returned to a manor, but also of similar migration patterns for women. In the process of gathering this information, some rich life stories have been recovered, and Bailey convincingly argued that the information held within the manorial court records has great potential for filling the gaps in our knowledge of medieval migration.

The afternoon session commenced with a significant, and interesting, diversion from the usual subject areas within migration. Harriet Ritvo gave an insight into the experimental breeding of exotic animals with her paper 'Aliens amid the corn'. The Zoological Society of London opened a zoo in Regents Park in 1828. However, they had also planned ambitious goals, one of these being the introduction of new and curious subjects of the animal kingdom to enhance and diversify existing British livestock. This resulted in breeding experiments being carried out in order to effect improvements in the quality of domestic animals, or domesticating other animals for British shores. These experiments ultimately failed, and after the withdrawal of funding, certain patrons continued with their own plans, which often resulted in the consumption of the animals. However, these institutions labelled themselves as 'acclimatisation societies', and during the latter half of the nineteenth century became popular across the world. For instance, the Society in France had government backing and was more practical in its quest for acclimatization and cross-breeding. Nevertheless, like the British experiments, this too made little impact on the domestic or wild fauna of France. One of the most successful institutions was the Acclimatisation Society of Victoria, in Australia. However, consumption was still a prime purpose here, with antelope a potential replacement for mutton, and even native animals such as wombat and possum regarded as a tasty treat. The experimental breeding of large animals such as wild cattle was seen as producing accessible representatives of a connection to a more heroic national past. The Chillingham cattle on the estate of the earls of Tankerville are such an example, and were seen as ornamental as well as being used for both hunting and consumption. The extinct wild aurochs is the ancestor of all modern domesticated cattle, and attempts have been made since the 1920s to replicate this beast. These modern-day acclimatizers, by attempting to recreate a less aggressive form of the aurochs, have diverged somewhat from their nineteenth-century predecessors. However, the major difference is that these newly created cattle have not yet been promoted for hunting or consumption. Yet, given time, with possible over-breeding of these creatures, one can see how at some point in the future these aurochs replicas might find their way onto our restaurant menus.

The final paper of the day was given by Clair Wills, entitled '"The Best Are Leaving": representations of post-war Irish rural emigrants'. Observing the type of rural male who left Ireland for England during the 1950s and 1960s, Wills focused on the anxieties about masculinity which emerged during that population crisis, and how the turn-of-the-century Celtic revivalist stereotyping of Irish migrants played out in the representation of these post-war migrants. It was seen that Ireland was losing the best of its men to migration. But what defined the 'best'? As migration spread its net across Ireland, the best could be seen as code for certain grades of class and social status. However, the best could also refer to the work-ethic and physical strength which made men ideal workers; these characteristics being found particularly in the men of Ireland's western seaboard. But was it just hard-working men who were leaving Ireland? Was migration down to natural selection? Wills notes that these men from the rural holdings of the western seaboard were viewed as ideal emigrants due their upbringing in a harsh environment. However, we must also note that many social, religious and cultural groups of the time regarded those who left this environment as displaying a lack of both will and nationalism. Moving on to representations in the arts, Wills drew on works such as Donall MacAmlaigh's *Diary of an Exile*, Philip Donnellan's 1965 film *The Irishman*, and the paintings of Frank Auerbach, to discuss how the rural Irish emigrant to England was depicted. The Irishman was seen to be wild and heroic, where fighting and drinking set him apart from the typical Englishman. Donnellan's film, for instance, focuses on the association of the rural Irish worker with earth, clay, concrete, drilling, and holes, forming an unmistakable analogy between the industrial labour and the experience of the First World War trenches.

This year's Winter Conference highlighted the wonderfully diverse areas of study within the topic of migration, and demonstrated the wealth of untapped sources available to the historian researching this subject. Professor Paul Warde was thanked for organizing a most interesting day.

Conference Report
The Society's Spring Conference, 2015

by Rebecca Ford

Seasonal winds and showers greeted members arriving in North Wales for the annual Spring Conference, which was held at the University of Bangor from 30 March to 1 April. They provided a bracing start to a stimulating and sociable event, which had been meticulously organized by Dr Nicola Verdon. The conference was well attended and, with speakers covering topics from landownership in Snowdonia to dairy farming in Sweden, there was something to suit all interests.

After the Society's 63rd annual general meeting, proceedings began in earnest with a paper presented by Nia Powell (University of Bangor/Institute for the Study of Welsh Estates). Entitled 'Pastoral prosperity and the bankrolling of polite society in early modern Wales', the paper challenged received assumptions about Wales – and also gave us the opportunity to brush up on, if not perfect, our pronunciation of Welsh place names. In the session, chaired by Professor Richard Hoyle, she argued that it was too easy to see Wales as merely barren and unproductive. By the eighteenth century it was not hard to find evidence of wealth. This could be seen in the gentry who were able to adopt the ostentatious lifestyle of their English brethren; their estate management became increasingly commercial in its approach, indeed so much so that it generated complaints of rapacious landlordism. Rents were revised upwards in the 1780s.

Within the uplands, the inventory evidence revealed a scatter of rich pastoral farmers who, to judge from their furnishings, enjoyed a high standard of living. They were well integrated into national markets as both the sellers of cattle but also purchasers of household goods. Some tenant farmers were liquid enough to lend to their landlords. Dr Powell suggested that they were helped, over much of the eighteenth century, by a reluctance to increase rents. The wealth of Wales might not look impressive when displayed as wealth per acre or thousand acres, but when aggregated, it gave a very different impression of eighteenth-century Welsh society.

After dinner, the Welsh theme continued with a fascinating paper by Frances Richardson (University of Oxford) exploring the complexities of the contested ownership and uses of 'The wastes and commons of Snowdonia'. The session, chaired by Dr James Bowen, focused on a case study of the Hundred of Nantconwy in south-east Caernarvonshire. This was recorded in the 1352 Record of Caernarvon (which detailed land holdings at the time of the English conquest of Gwynedd) as extending over 50,000 acres. It comprised a mix of bond, monastic and freehold land; after the conquest, bond lands were assimilated into English Crown demesne. However, there was uncertainty over the precise boundaries of Crown lands and, after Welsh gentry began to amass estates in the sixteenth century, disputes occurred with increasing frequency. Landowners, tenants and later the poor, encroached on Crown wastes, regarding them as 'no man's land'.

During the nineteenth century, the expansion of slate quarrying, as well as the popularity of grouse shooting and trout fishing, reinforced landowners' desire to assert their rights over the wastes. Richardson detailed various disputes and revealed how uncertainty over ownership often acted to the advantage of local people, who established smallholdings on the commons. The Crown regulated, rather than prevented, encroachment and from the 1860s adopted a policy of maintaining 'wastes as wastes'. Today, 5000 acres of 'waste' in the area is registered common land, owned by the National Trust.

Tuesday saw Professor Jane Whittle chairing the New Researchers' session, which began, rather appropriately, with a paper on seeds delivered by Elizabeth Scott (University of East Anglia). Entitled 'The nature of seeds: science and seed improvement, *c.*1560–1700', the paper drew on literary sources to compare scientific

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knowledge of seeds in the sixteenth and seventeenth centuries. In the sixteenth century, the Aristotelian notion that plants could change species and that a masculine cosmic force was required for a seed to grow, still held sway. The literature of the period reflected this. Francis Bacon, we heard, claimed that seeds could theoretically be altered by man to produce different species. However, by the seventeenth century, authors were critically appraising and disputing his theories in horticultural publications. A fundamental change occurred in scientific thinking: the seed was now considered to contain a species-specific blueprint that controlled every phase of the plant's existence.

By the later seventeenth century, it was held that a seed contained all parts of the plant in embryonic form. Investigators, now aided by microscopes, noted that all seeds had a 'neb' from which the root emerged. This knowledge, explained Scott, was applied to agriculture by the improvers of the Hartlib circle, who produced sowing machines that allowed the root to make instant contact with the earth and so increase yield. These laid the basis for Jethro Tull's horse-drawn seed drill.

Then came my own paper '"Queen of cress": the place of women in watercress production, *c*.1860–1945', after which Jane Rowling (University of Leicester) took to the floor to speak about 'Boundaries, belonging and oral history: Lower Warfedale's farming community, 1914–1950'. The boundaries referred to were social as much as physical and material came from interviews Rowling conducted thanks to her position as a perceived 'insider'. The study focused on Otley auction mart, one of a diminishing number of livestock markets in England and a segregated space with its own rules and customs. It was also decidedly male, as evidenced by the sizeable urinal at its heart – proudly depicted on a nineteenth-century OS map. Today, we heard, the male toilets are still conveniently central, whilst those for women – not recorded by the OS until the 1960s – occupy a small site on the periphery.

Differing definitions of the 'local' were then illustrated by residents' sketch maps of the town, before the session concluded with a discussion of the importance of clothing and convention at the mart. The most important tradition to be observed, even today, is the awarding of 'luck money' – a small sum the vendor gives to the buyer as a gesture of confidence in the traded animal. The paper provoked much discussion amongst delegates, with questions covering the market's customs – as well as its conveniences.

The New Researchers' session was followed by coffee, after which Dr Carin Martiin (Swedish University of Agricultural Sciences) discussed 'Swedish dairy farming: the parallel existence of two different systems of production, 1890s–1960s'. Chaired by Dr Paul Brassley, the presentation revealed that, although commercial dairy production increased in Sweden in the late nineteenth century, it did not replace traditional systems. Milk production continued to be subsistence-oriented until the late 1940s. This was explained by the fact that small herds predominated and milk had to travel long distances to reach the dairy plants. In addition, farmers consumed much of their own milk. It was only the advent of wartime food regulation, easier transport and the strengthening of dairy co-operatives that lead to increased commercialization.

Cattle tended to be poorly fed on subsistence units. A typical diet included hay and straw, together with *sörpa* – a 'soup' made from grain, leaves, lichen and moss. This was not only nutrient-poor but also hard to digest, resulting in lower milk yields. Life on the farm, we heard, was depicted by children in *The Milk Propaganda,* a farmers' journal of the 1930s. By the late 1940s, the parallel dairying systems had merged but the growing welfare state placed more importance on urban-industrial development than on smallholder dairy farming. The number of herds has now declined from approximately 270,000 to around 4500.

The field trip that afternoon took us to Hafod y Llan, a National Trust farm in the foothills of Mount Snowdon. A working farm, it is part of a larger estate purchased by the Trust in 1998 after a public appeal: £5 million was raised in 100 days, a handy £1 million coming from Sir Anthony Hopkins. We learned that they farm Welsh Black cattle and mountain sheep, work in partnership with organizations such as Wales Young Farmers, and generate most of their income by producing hydro-electric power. Welcome sunshine appeared for our farm tour in which we saw the power plant, a farmhouse being turned into a holiday cottage, the cattle shed and, rather unexpectedly, several alpacas. These have been introduced to deter foxes – a task they have accomplished with great success. Our visit ended with tea and excellent cakes at Caffi Gwynant, a converted early nineteenth-century chapel. Back in Bangor, we ended the day with a convivial conference dinner.

The next morning Dr Matthew Tompkins (University of Winchester) gave us a tantalizing glimpse of the research possibilities of digitization with a paper about 'The on-line 15th-century inquisitions post mortem database: a new tool for rural history'. The inquisitions post mortem (IPM) were the sworn inquiries of lands held at death by tenants of the crown. They provide information such as the value of lands, the manors owned, and how they were held. Since the monarch could take property if an heir was a minor, heirs were

named and had to produce proof of their age. In the session, chaired by Dr John Broad, we learned that 'Mapping the Medieval Countryside: Places, People, and Properties' a project to publish an online, searchable, English translation of IPMs, is nearing completion. Text covering the years 1399–1422 has been enhanced with, for instance, the addition of the names of around 40,000 IPM jurors. The project has enormous potential: incidence of plague can, for example, be traced through IPMs, which increased in number during the year 1420, peaking in August – a reflection of the seasonality of the disease. The digitized texts will be freely available at British History Online.

The next session was chaired by Dr Nicola Verdon and saw Dr Sarah Holland (Sheffield Hallam University) present a lively paper entitled: '"Blooming lasses and lusty lads": a northern case study of farm service and hiring fairs in mid nineteenth century England'. Using Doncaster district for her case study, and drawing on information from local newspapers as well as the parliamentary commissions into agriculture, Holland discussed fluctuations in hiring patterns and wage demands, with buoyancy of hiring at Doncaster fairs (or 'Statutes') decreasing from the 1840s. The public nature of the event allowed workers to assert themselves and bargain for higher wages, but also created a gap between the most and least experienced. By the 1870s, girls for milking and dairying were able to demand as much as £10; those working in farmhouses could only expect £6–9.

Hiring fairs were not just economic places but also social spaces and, as such, became increasingly moralized. Objectors were mainly concerned about the way in which Statutes demoralized and commodified farm servants, whilst also attracting 'disorderly persons'; newspapers frequently reported petty crimes and assaults. Holland revealed that the Doncaster clergy played a pioneering role in reforming hiring practice, establishing a register of farm servants in the 1840s in order to secure them work prior to the Statutes. This was later formalized in other areas with the establishment of register offices.

Professor Henry French chaired the final paper, 'English agricultural development, 1270–1870: reflections on new estimates of output and productivity', in which Professor Mark Overton spoke about the implications of his new work on calculating English and British GDP has for the story of the development of English agriculture. Drawing on his new book *British Economic Growth, 1270–1870*,[1] he began by explaining how they had measured GDP by estimating agricultural output, then moved on to discuss how these estimates were cross-checked against estimates of food consumption: i.e. by seeing whether sufficient calories were produced to feed the population. Assuming a mean daily requirement of 2000 calories per person, the study revealed that, given a choice, consumers preferred to get their calories from high-quality sources: bread made from wheat flour, rather than rye, for instance. Overton concluded by explaining the complexities of characterizing agricultural development in Malthusian or Smithian terms, after which an animated discussion ensued, with questions ranging from the effect the Act of Union had on output to the changing calorific output of bullocks. It was a stimulating end to an enjoyable conference and all were grateful to Dr Nicola Verdon for organizing the event.

[1] S. Broadberry, B. Campbell, A. Klein, M. Overton and B. van Leeuwen, *British Economic Growth, 1270–1870* (2015).

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