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CONTENTS

Notes on contributors		iii
Forthcoming conferences		iv
The role of demesnes in the trade of agricultural horses in late medieval England	JORDAN CLARIDGE	1
Fertilization by manure: a manor model comparing English demesne and peasant land, *c.*1300	HUGO J. P. LA POUTRÉ	20
The enclosure of the commons and wastes in Nantconwy, North Wales, 1540 to 1900	FRANCES RICHARDSON	49
Feeding in the forest: How Scottish settlers learned to raise livestock in the old-growth forests of Upper Canada, 1814 to 1850	ELIZABETH RITCHIE	74
The spread of the potato blight in the Russian Empire, 1846 to 1852	MARTEN SEPPEL	94
World War I and the reconstruction of rural landscapes in Belgium and France: a historiographical essay	DRIES CLAEYS	108
Annual list of publications on Agrarian History, 2015	PETER MCSHANE	130
Book Reviews		
Eric Jones and Patrick Dillon, *Middle Ridgeway and its environment*	CATHERINE GLOVER	146
C. M. Woolgar, *The culture of food in England, 1200–1500*	JENNIFER S. HOLT	147
Simon Townley (ed.), *The Victoria County History of the counties of England. A History of the County of Oxfordshire, XVIII, Benson, Ewelme and the Chilterns (Ewelme Hundred)*	MALCOLM THICK	148

Mark Newman, *The wonder of the North. Fountains Abbey and Studley Royal*	BRIONY MCDONAGH	149
Richard Jones and Christopher Dyer (eds), *Farmers, consumers, innovators. The world of Joan Thirsk*	JONATHAN HEALEY	150
David Neave, Susan Neave, Catherine Ferguson and Elizabeth Parkinson (ed.), *Yorkshire East Riding Hearth Tax, 1672–3*	HELEN MANNING	151
Amy M. Froide, *Silent partners. Women as public investors during Britain's financial revolution, 1690–1750*	JENNIFER ASTON	152
David Johnson, *An improving prospect? A history of agricultural change in Cumbria*	IAN WHYTE	154
Elizabeth Foyster, *The trials of the king of Hampshire. Maness, secrecy and betrayal in Georgian England*	BRIONY MCDONAGH	154
Jean Morrin, *The Victoria History of Hampshire. Steventon*	ALAN WADSWORTH	155
Jon Stobart and Mark Rothery, *Consumption and the country house*	LIZZIE ROGERS	156
Jonathan Spurrell, *Bessingham. The story of a Norfolk estate, 1766–1970*	STORMM BUXTON-HILL	157
Karis Baker, Ruth Carden and Richard Madgwick (eds), *Deer and people*	ALASTAIR I. WARD	158
Denise Phillips and Sharon Kingsland (eds), *New perspectives on the history of life sciences and agriculture*	ALASTAIR I. WARD	158
Peter Mitchell, *Horse nations. The worldwide impact of the horse on indigenous societies post-1492*	RHYS EVANS	159
Winter Conference Report 2016	PAUL WARDE	161
Spring Conference Report 2017	REBECCA FORD	163

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Forthcoming conferences

Rural History 2017
Leuven, Belgium
Monday 11 to Thursday 14 September 2017

The third biennial conference of the European Rural History Organisation (EURHO) is being organised by the Interfaculty Centre for Agrarian History (ICAG) at the University of Leuven, in collaboration with the Comparative Rural History Network (CORN).

There will be over sixty panel sessions covering rural history in all periods from the Roman Empire to the twenty-first century, and a choice of four afternoon excursions.

Further details are available on the conference web site:
kuleuvencongres.be/ruralhistory2017

British Agricultural History Society
Winter Conference 2017
The Politics of the Countryside

This conference will be held at the Institute of Historical Research, University of London, on Saturday 2 December.

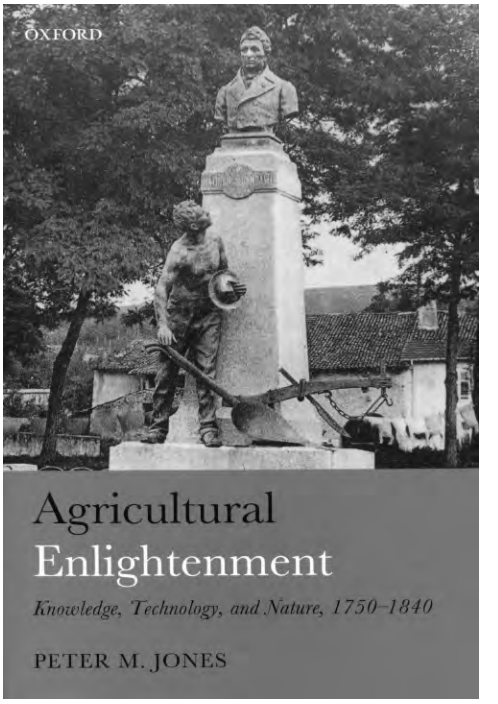
British Agricultural History Society
Spring Conference 2018

This conference will be held at Bridgwater and Taunton College's Cannington Centre, Cannington, Somerset, 26 to 28 March.

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

Joan Thirsk Memorial Prize

A highlight of the Society's Spring Conference this year was the presentation of the first Joan Thirsk Memorial Prize, awarded for the best book in British or Irish Rural or Agrarian History published during 2016. Martin Thirsk, Joan's son, presented the prize to Prof. Peter Jones of the University of Birmingham, for his volume, *Agricultural Enlightenment: Knowledge, Technology and Nature, 1750–1840*, published by Oxford University Press.



Announcing the winner, Dr John Broad, President of the BAHS, said, 'Since January, the judges have been reading the entries … All the entries were of a high standard and worthy of serious consideration. Interestingly, three of them had a significant 'transnational' comparative element, which we enjoyed and felt was well done. Although we had marginally different views of the merits of each book, we were unanimous in awarding the prize to Peter Jones. This is a book Joan Thirsk would have empathized with and enjoyed, since one of her last essays, "The World Wide Farming Web", covered some of the same issues of the transmission of agricultural ideas in a slightly earlier period. Peter's book ranges right across Europe from the British Isles to Germany and beyond, and from Scandinavia to Spain, tracing the spread of ideas, the interactions between them, and using illuminating case studies to show the practical implications. It is a pleasure to congratulate him on his achievement.'

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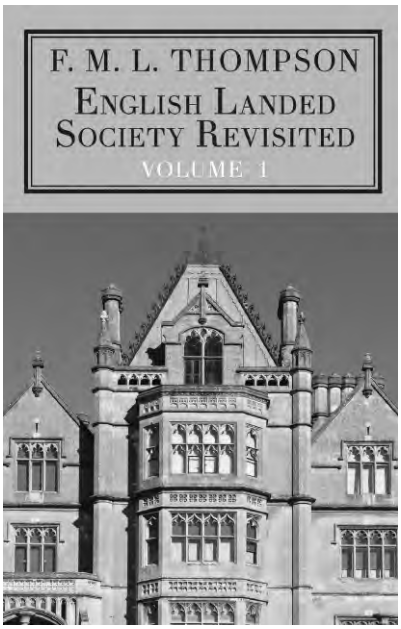
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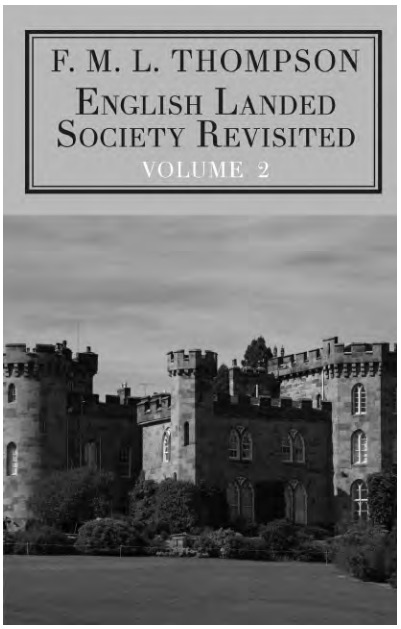
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Volume 2: *Contents:* 'Rural society and agricultural change in nineteenth-century Britain', from George Grantham and Carol S. Leonard (eds), *Agrarian organisation in the century of industrialisation: Europe, Russia, and North America* (Greenwich, Conn., JAI Press, 1989); 'Life after death: how successful nineteenth-century businessmen disposed of their fortunes', *Economic History Review*, 2nd ser. 43 (1990); 'English landed society in the twentieth century, 1, Property: collapse and survival' (Presidential address), *Transactions of the Royal Historical Society*, 5th ser. 40 (1990); 'English landed society in the twentieth century, 2, New poor and new rich', *Transactions of the Royal Historical Society*, 6th ser. 1 (1991); 'English landed society in the twentieth century, 3, Self help and outdoor relief', *Transactions of the Royal Historical Society*, 6th ser. 2 (1992); 'English landed society in the twentieth century, 4, Prestige without power?', *Transactions of the Royal Historical Society*, 6th ser. 3 (1993); 'Desirable properties: the town and country connection in British society since the late eighteenth century', *Historical Research* 64 (1991); 'Stitching it together again' (Reply to W.D. Rubinstein), *Economic History Review*, 2nd ser. 45 (1992); 'Changing Perceptions of Land Tenure in Britain, 1750–1914', from Donald Winch and Patrick K. O'Brien (eds), *The Political Economy of British Historical Experience, 1688–1914* (Oxford, Oxford University Press, 2002); 'Moving frontiers and the Fortunes of the Aristocratic Town, 1830–1930', *London Journal* 2.1 (1995); 'The Land market, 1880–1925: A reappraisal reappraised', *Agricultural History Review* 55.2 (2007); 'The Strange Death of the English Land question', from Matthew Cragoe and Paul Readman (eds), *The Land Question in Britain, 1750–1950* (Houndsmill, Palgrave, 2010).

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The role of demesnes in the trade of agricultural horses in late medieval England*

by Jordan Claridge

Abstract

This paper explores the question of how medieval England was supplied with working horses. It uses a national sample of over 300 manorial accounts from *c.*1300 to assess the role of demesnes in the production and distribution of these animals. It finds that demesnes were significant net consumers of horses, relying primarily upon the market for their supply. This illustrates that there was a well-established market for these animals by *c.*1300, but also that these large institutional farms did not breed enough horses to sustain their own demand, let alone a surplus that could have supplied the market. Demesne managers did, however, fill an important distributive role in the trade of agricultural horses by acting as 'middle men' in marshalling the various channels of work horse acquisition and dispersion.

This paper examines the role of demesnes – the farms of lords, as opposed to the lands of their peasant tenants – in the trade of agricultural horses in medieval England. The introduction of horse power is recognized to have been a major factor in the development of the medieval English economy, and historians have uncovered a wealth of information about various aspects of medieval horse exploitation, such as their use in agriculture and transport, which increased labour productivity in farming and the efficiency of overland transport.[1] By 1300,

* I am grateful for research support provided by the Economic History Society in the form of a Postan post-doctoral fellowship and for a doctoral fellowship funded by the Social Sciences and Humanities Research Council of Canada. I would like to extend thanks to the archivists and staff at various record offices across England, to Philip Slavin for access to his collection of photographed manuscripts from the Norfolk and Northamptonshire Record Offices, to Xuesheng You for lending his GIS expertise to Map 1, to the British Library for permission to reproduce Figures 1-3, and to Catherine Glover for thorough copy editing. This paper, in various forms, has benefited from pertinent and useful feedback from Mark Bailey, Filip Ani and Eugene Miakinkov as well as economic history seminar participants at the University of Cambridge, the Institute of Historical Research, the London School of Economics and Utrecht University (in particular Bram van Besouw, Maïka de Keyzer, and Joris Roosen). The paper has also benefited from comments, queries and suggestions from Richard Hoyle and the *Review's* referees. I would like to extend heartfelt thanks to John Langdon, who passed away shortly before I completed this paper. He initially piqued my interest in medieval economic history when I was an undergraduate at the University of Alberta and went on to become a colleague, co-author and friend. John fostered this research in its earliest stages and it is to him that this article is dedicated. As always, any errors are my own.

[1] For additional work on the application of horses in agriculture and transport, as well as the changing dynamic between oxen and horses, see John Langdon, 'Horse hauling: A revolution in vehicle transport in twelfth- and thirteenth-century England?', *Past and Present* 103 (1984), pp. 37–66.

draught horses were well-established as a significant source of energy for both farming and transport.[2] However, the production of these animals and their distribution has remained poorly understood.[3] This paper uses a national sample of over 300 manorial accounts from *c.*1300 to assess the role of demesnes in the production and distribution of working horses. It finds that demesnes were significant net consumers of horses but did not breed enough horses to sustain their own demand, let alone a surplus that could have supplied the market. This suggests that there was a well-established market for these animals by the end of the thirteenth century. Lords and demesne managers tended to pursue policies of market-orientation rather than self-sufficiency when it came to furnishing their operations with draught horses. Demesnes (and their managers) did, however, fill an important distributive role in the trade of agricultural horses by acting, perhaps inadvertently, as 'middle men' in marshalling the various channels of work horse acquisition and dispersion.

I

The seigneurial sector is the best-documented component of England's late medieval agrarian economy. The records of medieval English landlords, who held between 25 and 30 per cent of agricultural land in England,[4] give us unparalleled insight into the characteristics and productivity of agriculture.[5] This article employs manorial accounts, a specific type of seigneurial document that recorded, in very high resolution, the business of lords' demesne farms. These accounts contain information on a year-to-year basis including rents received from tenants, the costs of repairs to buildings and farm implements, the wages paid to labourers, and, usefully, for our purposes, very detailed information on the types and number of animals kept on the farm and how they were acquired and dispersed. The accounts are also very well standardized;

[2] While there was considerable regional variation, horses accounted for between 25 and 30 per cent of demesne draught animals *c.*1300. John Langdon, *Horses, oxen and technical innovation: the use of draught animals in English farming from 1066–1500* (1986), pp. 86–93, esp. Tables 12 and 13.

[3] For example, Bruce Campbell commented in his authoritative work on seigneurial agriculture that 'little is as yet known about the medieval horse trade'. Bruce M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000), p. 126, n. 45.

[4] Campbell, *English seigniorial agriculture,* p. 26. The size of demesnes varied widely from estate to estate and manor to manor. Therefore, there is no 'usual' or 'standard' size of demesne. In a study of the Hundred Rolls of 1279–80 from Huntingdonshire, Cambridgeshire, Bedfordshire, Buckinghamshire, Oxfordshire and Warwickshire, Kosminsky calculated that of over half a million acres under cultivation, 31.8 per cent was demesne, 40.5 per cent was villein land and 27.7 per cent was held by free tenants. E. A. Kosminsky, *Studies in the agrarian history of England in the thirteenth century* (1956), p. 89; Bruce M. S. Campbell, 'Benchmarking medieval economic development: England, Wales, Scotland, and Ireland, *c.* 1290', *EcHR* 61 (2008), p. 940; Campbell, *English seigniorial agriculture,* pp. 58–60.

[5] The divergence in both the practice and productivity of agriculture between seigniorial demesnes and the lands of peasant tenants has been well established. Research on the agricultural activity of peasants and how it differed from the seigneurial sector is continuing. For examples see Alexandra Sapoznik, 'The productivity of peasant agriculture: Oakington, Cambridgeshire, 1360–99' *EcHR* 66 (2013), pp. 518–44; R. H. Hilton, *The English peasantry in the later middle ages* (1975), p. 13; Mark Bailey, 'Peasant welfare in England, 1290–1348', *EcHR* 51 (1998), p. 228; Eona Karakacili, 'English agrarian labor productivity rates before the Black Death: a case study' *JEcHist.,* 64 (2004), p. 36; David Stone, *Decision-making in medieval agriculture* (2005), pp. 267–86; Bruce Campbell, 'Constraint or constrained? Changing perspectives on medieval English agriculture', *Neha-Jaarboek voor economische, bedrijfs- en techniekgeschiedenis,* pp. 61, 19.

they are largely consistent throughout the country and across time, both in the type of information they contain and the format of the documents themselves.[6] It is their uniformity of format and content which allows for easy comparison over time and place. This article uses a national sample of 322 manorial accounts from around the year 1300 containing data for about 2650 horses.[7] This sample covers much of the country and allows an examination of the ways in which demesnes acquired, managed and marketed agricultural horses in medieval England.

A sample of accounts was chosen concentrated in a relatively narrow range of years around 1300, effectively encompassing the decades of the 1290s and the 1300s.[8] Since accounts normally ran from Michaelmas (29 September – the traditional end of the harvest) to Michaelmas of the following year, this meant examining accounts in the range from 1289/90 to 1310/11, resulting in a total span of 22 years. The sample was further narrowed by taking only one account per manor, normally that closest to the year 1300 (1299–1300 was the account year normally preferred, if an account survived), to ensure that no 'double counting' occurred within the sample.[9] The search for extant documents within these parameters turned up over 500 manuscripts. Some of these accounts proved fruitless for the purposes of our study, usually in cases where the demesne did not stock any horses or the manuscript was too badly damaged. Further, only accounts which fully accounted for their horse stocks, with beginning and end-of-year figures as well as additions and subtractions, were deemed eligible for inclusion.[10] The end result was a sample of 322 accounts, and hence manors, which form the basis of our examination of seigneurial involvement in the horse trade. The location of the manors can be seen in Map 1.

The sample is biased, due mostly to the imperfect survival of documents, towards the accounts of large ecclesiastical landlords. Lay landlords are generally under-represented and even those lay lords in the sample tend to be owners of large estates like the De Lacy and Clare families rather than smaller landowners. As Map 1 shows, the coverage of the sampled manors across the country is also uneven, being heavily skewed to the south and east of the country

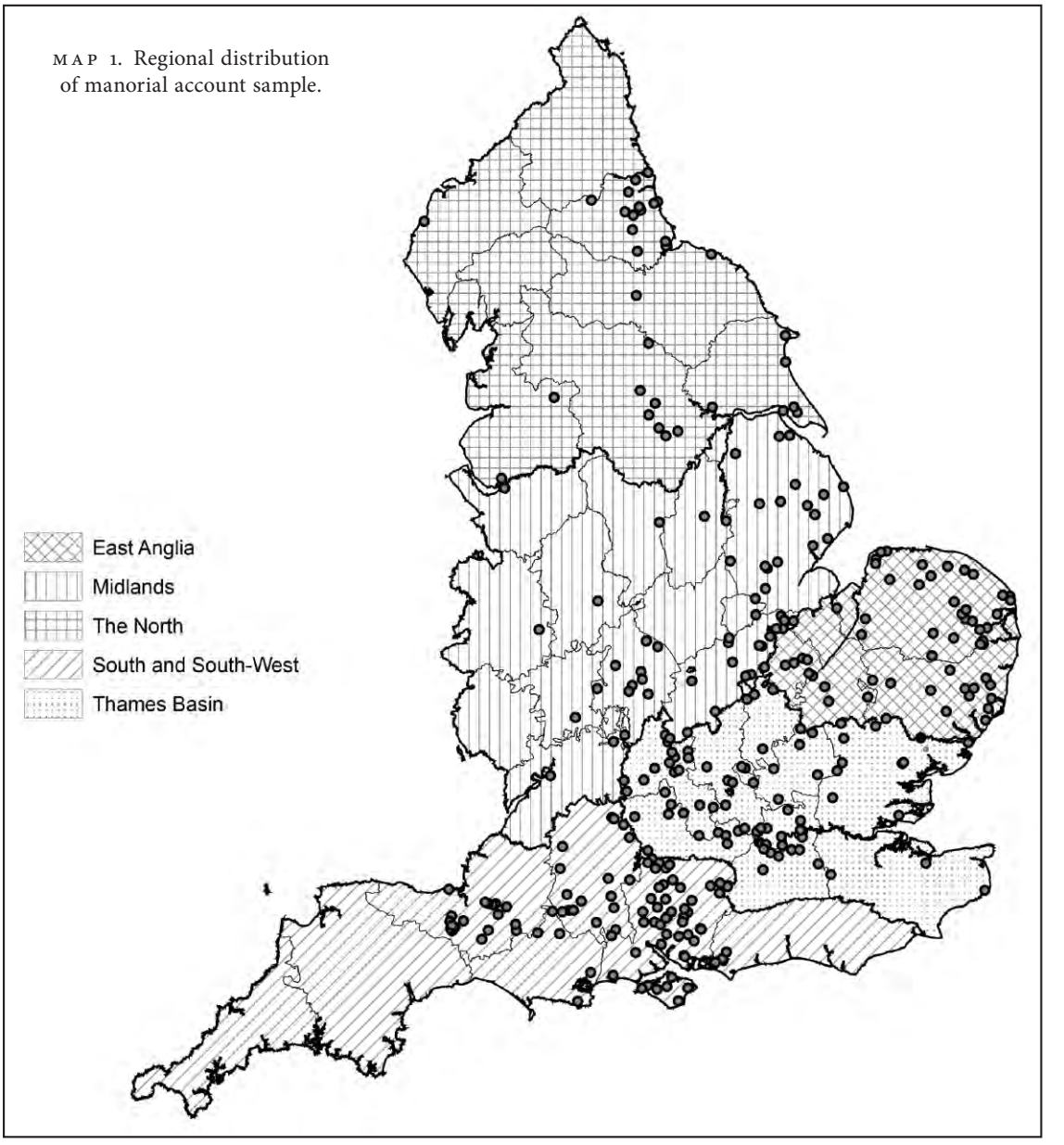
[6] See: Richard Britnell, 'The Winchester Pipe Rolls and their historians', p. 1; Bruce Campbell, 'A unique estate and a unique source: the Winchester Pipe Rolls in perspective', pp. 30–1, both in Richard Britnell (ed.), *The Winchester Pipe Rolls and medieval English society* (2003), Campbell, *English seigniorial agriculture,* p. 27.

[7] As the number of horses on any given manor changed over the year, the overall sample has two discrete totals: one for the beginning of the year, and a second for the end of the year. In this sample, the total beginning and end figures were 2591 and 2576, respectively.

[8] Philip Slavin, as part of his on-going project of documenting and digitizing the entire corpus of manorial accounts from the 'direct farming' period in England, estimates that over 20,000 manorial accounts are extant, out of around 400,000 that were likely to have been created between 1270 and 1400. Philip Slavin, 'The sources for manorial and rural history', in J. T. Rosenthal (ed.), *Understanding medieval primary sources: Using historical sources to discover medieval Europe* (2012), 135. Dr Slavin now estimates that the figure for extant manorial accounts is around 25–27,000. Pers. Comm., 21 Apr. 2012.

[9] Some exceptions were made if the nearest surviving account to 1300 was in obviously poorer shape than one a little further away in time, or if there was a convenient printed edition available for an alternate year, as in the excellent edition of the 1301–2 Bishopric of Winchester Pipe Roll: Mark Page (ed.), *The Pipe Roll of the bishopric of Winchester, 1301–2* (Hampshire Record Ser., 14, 1996).

[10] Some accounts, especially in cases where the account covers less than a full year, simply have a livestock 'inventory', which is not useful for this study. For example, six such inventories are extant from Durham Priory manors for the year 1302. Richard Britnell (ed.), *Durham Priory manorial accounts, 1277–1310* (Surtees Soc. 218, 2014), pp. 200–8.



MAP 1. Regional distribution of manorial account sample.

with notable 'empty' areas such as the forest area of the Weald south of London, the extreme southwest (Devon and Cornwall), and the northern and western areas of the country generally. However, this distribution correlates broadly with the distribution of population and levels of relative economic development at that time,[11] which means that our sample can be taken to be representative of the English economy as a whole. Map 1 also shows the division of England into five regions which we will use in our analysis later.

[11] Campbell, 'Benchmarking', esp. Table 14, col. C (p. 926).

TABLE 1: Composition of Sample: Horse Types

Type of Horse	*n*	*%*
Affers	1069	40.4
Stotts	419	15.8
Young horses	417	15.7
Cart horses	397	15.0
Mares	269	10.2
Equi	66	2.5
Rouncies	5	0.2
Mill Horses	4	0.2
Stallions	2	0.1
Total	2648	100

Source: Author's manorial account database.

II

In medieval England, agricultural horses were used for a number of purposes and were known under a variety of, predominantly functional, terms. Table 1 illustrates the distribution of horse types in the national sample. The horses most commonly found on demesnes were affers and stotts, together comprising 56.2 per cent of all horses in the sample. These horses have generally been categorized in the literature as plough beasts, but could often serve 'all-purpose' roles, performing a variety of other tasks such as harrowing and sometimes even cartage.[12] Chaucer's Reeve is described as 'sat upon a ful good stot' in the general prologue of the *Canterbury Tales*,[13] suggesting that they were also employed from time to time as riding animals. Stotts are found only in the records of south-east England and East Anglia, but the distinction between these and affers was largely nominal, down to institutional custom or perhaps even managerial or scribal preference.[14]

Carthorses were named explicitly in the accounts as *equi carectarii*. Nationally, these comprised 15 per cent of all horses on English demesnes, but a few estates kept considerably higher proportions. For example, they comprised over one third of all horses on the Midlands estate

[12] The general trend in the literature has been to use a binary understanding of agricultural horses, assigning them to one of two categories: carthorses or plough-horses. While we do encounter specifically named 'carthorses' in the accounts (*equi carectarii*), the singular term of 'plough-horse' was not actually part of the medieval nomenclature. Rather, the term 'plough-horse' is an umbrella term that has been used by historians to describe all except carthorses, most frequently affers and stotts (*affri* and *stotti* or the singular *affrus* and *stottus* in the Latin) but also *equi*. Thus, the binary understanding of *equus carectarius* as 'carthorse' and *affrus* and *stottus* as 'plough-horse' is too simplistic and should be avoided.

[13] *The Riverside Chaucer*, ed. Larry D. Benson (third edn, 2008), 33, line 615.

[14] John Langdon has argued that there was little difference between stotts and affers, with 'stott' simply being an alternative term for the same type of horse. Our data supports this view. For a full disambiguation of medieval horse types, see Langdon's 'Problems of translation' appendix in *Horses, oxen,* pp. 293–7.

of Peterborough Abbey.[15] These were more specialized than affers and stotts and this is reflected in their higher prices.[16] Many carthorses may have been stronger, fitter and generally more robust than other types of horse, but much of their value was also due to a significant skill premium, added through a combination of superior temperament and additional training.[17] Affers and stotts were most frequently employed drawing ploughs and harrows, and, while skill was required by both the beasts and the ploughmen, there was more margin for error on the field than on the road. Carthorses would necessarily have to be trusted with precious cargo in busy environments on roads and in markets. Figure 1 is an illustration from the famous fourteenth-century Luttrell Psalter of these animals at work. While an uncooperative or flighty plough-horse might make for slow and laborious work, a skittish carthorse could be a far more costly problem. While carthorses were most often male, and the terms 'affer' and 'stott' could be used to describe both male and female horses,[18] female horses were more often referred to less ambiguously as *jumenta* and clearly understood in the context of the accounts as 'mares' or 'female horses'. These female horses comprised 10.2 per cent of the sample.[19]

At 15.7 per cent, a significant proportion of demesne horses were juvenile animals. Young horses were almost universally referred to with the term *pullanus*; this word is often translated as 'colt'[20] but is probably better understood as 'foal', as the use of the term often encompasses young horses of both sexes. These terms were at times used in a confusingly interchangeable way in the accounts themselves, and in these instances one must look further into other sections of the account to determine the sex of such animals.[21] Demesnes with a sufficiently

[15] Kathleen Biddick, *The other economy: Pastoral husbandry on a medieval estate* (1989), p. 118.

[16] The variation in prices of agricultural horses is outside the scope of this article, but for discussion on this see Jordan Claridge, 'The trade of agricultural horses in late medieval England' (University of East Anglia, PhD Thesis, 2015), pp. 198–219, esp. Figs 5.1 and 5.2.

[17] Ibid., pp. 207–8, 215.

[18] In many cases, other contextual information from the accounts must be used to determine the sex of affers and stotts. The abbreviated and syncopated nature of the Latin used in the accounts most frequently omits the endings of the terms which could otherwise be used to determine the sex of the animal in question.

[19] In terms of a sex ratio, female horses are underrepresented if calculated using only the categories above. While some accounts provide a sex breakdown of horses in the end-of-year total, this practice was not universally adhered to and many female horses were often simply lumped into the general categories discussed above, particularly among affers and stotts. In some instances, scribes provided explicit categories for female horses, such as on the four Yorkshire manors of Little Humber, Holderness, Easington and Burstwick which used the category *pullani feminae* to denote female foals. Little Humber: TNA, SC 6/1079/15, m. 4r–4d; Holderness: SC 6/1079/15, m. 5d; Easington: SC6/1079/15, mm. 2r; Burstwick: SC6/1079/15, m. 7r–7d. In other instances, specific categories like 'cart mare' (*jumentis [sic] carectar[i]*) and 'mare of the mill' could be used; in these cases, the specific categories were probably employed because female horses were being used for work typically associated only with male animals. For examples see TNA, SC6/1039/11, m. 1r–1d.; Page, *Winchester Pipe Roll*, p. 199. Using the end-of-year data that we do have, we can measure a minimum degree of female underrepresentation, finding that at least 108 of the 1069 affers in our total sample, or just over 10%, were female.

[20] For example, Page, *Winchester Pipe Roll*, *passim*.

[21] The term *pullanus* is one of the few not discussed in Langdon's appendix. The *Revised medieval Latin word list* gives both 'colt' and 'foal' as possible translations, and indicates that *pultrella* was used in fourteenth-century documents to describe fillies (female horses under the age of four or five years), although this term is not found in any of the accounts in our sample. R. E. Latham (ed.), *Revised medieval Latin word list from British and Irish sources* (1965), p. 382. One example of the term *pullanus* encompassing young horses of both sexes is Downton manor, on the Bishop of Winchester's estate, where, of three *pullani*, one was promoted to carthorse that year, while the other two were promoted to mare. Page (ed.), *Winchester Pipe Roll*, p. 69.



FIGURE 1: Cart horses illustrated in the Luttrell Psalter
(© The British Library Board Add. MS 42130, fo. 162)



FIGURE 2: Pack horse or mill horse illustrated in the Luttrell Psalter
(© The British Library Board Add. MS 42130, fo. 158)

large number of young horses often categorized them according to age, with animals born that year (*de exitu*, literally 'of issue') distinguished from those in their second and third years. Horses above three years of age were usually graduated to one of the adult categories, such as affers, mares or carthorses.[22]

Small numbers of other horses types round out our sample. Rounceys (*runcini*) were generally elite horses used primarily for riding. They appear infrequently among agricultural stock and were usually accounted for separately in the documents. On rare occasions they could be used on the manor as packhorses or harrowing animals,[23] but no instances of this were found in our sample. Four animals were defined specifically as 'mill horses'; these were animals either used as power for horse-mills or as delivery animals at wind- or watermills. For example, the Bishop of Winchester's manor of Farnham in Surrey kept three mill-horses to drive the

[22] This progression is clear from studying the stock sections of manorial accounts. The same pattern has also been observed by Stone in his detailed analysis of the Cambridgeshire manor of Wisbech Barton. Stone, *Decision-making*, p. 114.

[23] Langdon, *Horses, oxen*, pp. 34, 296.



FIGURE 3: Luttrell Psalter harrowing scene
(© The British Library Board Add. MS 42130, fo. 171)

manor's two horse-mills,[24] while another of the Bishop's manors kept a single mill-horse, but this beast was seemingly used as a pack animal working at the manor's water mill.[25] Figure 2, also from the Luttrell Psalter, depicts precisely this kind of work. Finally, there are very rare references to stallions (*stallones*). These animals are generally found only on manors engaged in the breeding of rounceys or other more elite horses, such as Isabella de Fortibus' stud farm at Holderness in Yorkshire, and are not a feature of the typical medieval English manor. A few accounts also list horses simply under the general term of '*equus*', but this seems to have been an institutional nomenclature used primarily by the monks of Westminster Abbey,[26] as of the 24 demesnes in our sample which record *equi*, 18 were manors of the abbey. These horses were also all-purpose animals similar to the affers and stotts. The *equi* found on the Kentish manor of West Cliffe were used for harrowing (an activity illustrated in Figure 3). The two *equi* on the Berkshire manor of Bray were put to 'diverse jobs of London'.[27]

III

Regional patterns of demesne horse ownership can be examined more closely by dividing our main sample into five geographical regions: East Anglia, the Midlands, the north, the south and south west, and the Thames basin (see Map 1).[28] Some striking differences in the makeup of demesne horse stocks are immediately apparent; Table 2 illustrates this regional variation.

Many regions had a dominant type of horse which comprised a clear majority. On a national level, affers and stotts were the most common type of horse kept by demesnes. Regionally,

[24] Page, *Winchester Pipe Roll*, pp. 212, 216.

[25] Ibid., pp. 196–7.

[26] At least with respect to manorial accounts. The term '*equi*' is also found in lay subsidy returns and manorial court rolls. Claridge, 'Trade of agricultural horses', pp. 114–21, esp. Table 3.1.

[27] TNA, SC 6/889/8; 889/9; *[A]d operum diversum de London*, SC 6/724/4, m. 5.

[28] The regions are shown in Map 1. Dividing the country into such regions involves some judgment calls. For example, Essex could easily (and often is) considered part of East Anglia; however it was economically more closely tied to London and the Home Counties and has been included in the Thames basin region here.

TABLE 2: Regional distribution of horse types

	East Anglia		*Midlands*		*North*		*South and south west*		*Thames basin*		*National*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	% o	*n*	*n*
Stotts	265	56.5	0	0.0	0	0.0	0	0.0	154	22.9	419	15.8
Affers	77	16.4	221	40.6	60	18.9	402	62.5	309	45.9	1069	40.4
Carthorses	70	14.9	104	19.1	4	1.3	115	17.9	104	15.5	397	15.0
Foals	29	6.2	140	25.7	143	45.0	73	11.4	32	4.8	417	15.7
Mares	28	6.0	61	11.2	106	33.3	52	8.1	22	3.3	269	10.2
Rouncies	0	0.0	2	0.4	3	0.9	0	0.0	0	0.0	5	0.2
Equi	0	0.0	17	3.1	0	0.0	1	0.2	48	7.1	66	2.5
Stallions	0	0.0	0	0.0	2	0.6	0	0.0	0	0.0	2	0.1
Mill-horses	0	0.0	0	0.0	0	0.0	0	0.0	4	0.6	4	0.2
Total	469	100.0	545	100.0	318	100.0	643	100.0	673	100.0	2648	100.0

Source: Author's manorial account database.

however, there was significant variation in the numbers of these, ranging from only 18.9 per cent in the north to around 70 per cent in East Anglia and the Thames basin. These regions correlate broadly with those areas of the country which had embraced the move from ox traction to horse ploughing most thoroughly over the preceding century.[29] The north and Midlands regions stand out in our sample as having significantly fewer affers and stotts, and this is probably explained by the predominance of ox ploughing which persisted in those regions well into the fourteenth century.[30]

Proportions of carthorses were relatively evenly distributed throughout the country, except for the north where only four animals were found. Outside the north, few regions deviated significantly from the national average of 15 per cent in terms of carthorse ownership. At 19.1 per cent, the proportion of these animals is slightly higher in the Midlands, but this is a function of the many carthorses kept by Peterborough Abbey, an estate whose demesnes comprise a significant proportion of the overall sample for the region. Perhaps what is most surprising is that demesnes in the more commercially oriented regions of East Anglia and the Thames basin did not have significantly higher proportions of carthorses, as, intuitively, one would assume that the employment of such specialized animals should have been most lucrative in these regions.

The north stands out for having a much higher proportion of mares (33.3 per cent) and young horses (45 per cent) than any other region, and this could be indicative of more active horse breeding in this part of the country. However, given the small size of our northern sample, the significance of this particular finding is unclear, especially as many of these young horses (and any associated breeding activity) came from a single locality. The high proportion

[29] Langdon, *Horses, oxen*, pp. 110–11.

[30] Ibid.

TABLE 3: Demesne horse acquisition

	East Anglia		*Thames basin*		*South and south west*		*Midlands*		*National Demesne Sample*	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Purchased	47	78.3	104	70.7	259	48.9	38	36.9	259	57.8
Seigneurial perquisites	3	5	19	12.9	88	33.6	21	20.4	88	19.6
Bred internally	10	16.7	9	6.1	49	9.9	27	26.2	49	13.2
Other	0	0	15	10.2	42	7.6	17	15.5	42	9.4

Source: Author's manorial account database.

of young horses was significantly bolstered by 62 young *runcini* kept at the earl of Lincoln's stud farm in Ightenhill in Lancashire.[31] The stud farm also inflated the proportion of mares in the region. While these riding horses were unlikely ever to work on the demesne, they were still an important part of the earl's manorial enterprise, to which he devoted resources.[32] Looking at the estate's pastoral activity, Atkin has argued that the earl's estate was 'geared towards a cash economy', especially in terms of the large numbers of cattle produced and sold by the many vaccaries on the estate.[33] The earl was seemingly in the process of applying this strategy to the breeding of riding horses in the late thirteenth and early fourteenth centuries. In 1295–6, the year sampled for this study, the *runcini* breeding operation had not yet produced any animals for sale on the market. However, by 1304–5, the next year for which accounts survive, the Ightenhill stud farm sold 17 young *runcini* stallions, suggesting that the breeding operation was starting to bear fruit and that the horses produced here were beginning to enter the market.[34] However, it is important to note that the horses raised here were not used to produce working/traction animals for the earl's demesnes, but rather more 'elite' riding horses for his stables, and for the wider market.[35]

[31] If the 67 *runcini* foals are removed, the total number of young horses falls from 129 to 67, or from 52.4% to 27.2%.

[32] For example, his expansive cattle raising activity spread across 27 vaccaries on his estate. M. A. Atkin, 'Land use and management in the upland demesne of the De Lacy estate of Blackburnshire, *c.*1300' *AgHR* 42 (1994), p. 2.

[33] Ibid, pp. 1–2.

[34] A similar pattern is observed for the estate's vaccaries, which initially provided only a modest supply of cattle to local markets, but by the middle of the thirteenth century grew into much larger operations. Campbell, *English seigniorial agriculture*, p. 140.

[35] Edward Miller argued that the earl's stud farm at Ightenhill 'provided many of the horses needed by the earl's manors and household'. A close examination of two extant accounts for the earl's estate (for 1295–6 and 1304–5; the former is contained in the sample used for this study) shows that none of the horses bred ever trickled down to work on the demesnes. A small number of rouncies were transferred from Ightenhill to other manors on the estate in 1295–6, but they were most likely reserved for the personal use of the earl and his household. Edward Miller, 'Northern England', in H. E. Hallam (ed.), *The agrarian history of England and Wales,*. II, *1040–1350* (1988), p. 409; Ightenhill account 1295–6: TNA, DL 29/1/1, m. 3; Ightenhill account 1304–5: TNA, DL 29/1/2, m. 8.

After the north, mares and young horses were most prominent in the Midlands, where 25.7 per cent of total horse stocks in those regions were young animals. These figures are, however, again skewed by anomalous practices on the *runcini* stud farms of Peterborough Abbey which make up a significant portion of the Midlands subsample. The abbey raised these horses in the park at Eye in Northamptonshire. Proportions of young horses in East Anglia and the Thames basin are low, accounting for only 6.2 per cent and 4.8 per cent of total stocks in those regions. Young horses comprised 11.4 per cent of stocks in the south and south west; this region seems to be a middle ground between areas where young horses were scarce, East Anglia and the Thames basin, and where they were more plentiful, in the north and in the Midlands. Breeding will be discussed in more detail below, but at this point the data suggests that areas which were home to a high proportion of young horses, like the Midlands and the north, were more likely to be actively breeding horses, while the Thames basin and East Anglia, by this metric, were seemingly less engaged in horse breeding.

IV

We can get a sense of the market for work horses by analyzing how the demesnes acquired their working animals. For this we focus only on external methods of procurement, ignoring the animals circulating within manorial or estate stocks.[36] As illustrated in Figure 2, we can see that demesne managers used an array of methods to acquire working horses. Common sense would lead us to suppose that breeding and rearing, which I refer to as 'internal production', would have been an important source of animals.[37] After all, breeding programmes could have provided demesnes with (comparatively) cheaper horses than those purchased at market by cutting out any price premium that horse dealers or other middlemen would add in making their own profits.[38] As we have seen above that mares and foals accounted for a significant proportion of horse stocks on English demesnes, especially in the Midlands and the north, internal breeding was something that demesne managers could ostensibly have controlled quite closely; and as horses played a central role in the agrarian enterprise of many of these farms, then it is logical to suppose that landlords and their managers were committed to ensuring their manors possessed a secure supply and a robust stock of horses from such an internal breeding programme. The anonymous author of the thirteenth-century agricultural treatise *Husbandrie* certainly assumed this, asserting that demesne mares should produce one foal each year, and in cases where this target was not met, demesne managers were to provide specific reasons for the shortfall:

[36] In addition to the 448 horses added to the demesnes, a further 81 animals were transferred internally. In these instances, the lord was not acquiring new animals, but was simply manipulating his stocks across all or part of his estate to ensure that each manor, and, in the case of categorical reclassifications, each category, had a requisite profile of horses.

[37] 'Internally produced' horses are defined as horses which were 'graduated' to the pool of adult working horses from the demesne's group of young horses.

[38] For a thorough discussion of horse dealers in the early modern period see Peter Edwards, *The horse trade of Tudor and Stuart England* (1988), pp. 77–104. For an examination of horse dealers and other 'middlemen' in the trade of elite horses in medieval England, see Jordan Claridge, 'Horses for work and horses for war' (University of Alberta MA Thesis), pp. 53–71.

> The reeve ought to answer for the issue of the mares of the manor, that is to say for each mare one foal in the year. And if there is any mare which has no foal an inquiry ought to be made whether this is due to bad keeping or lack of food, too much work or through lack of a stallion, or whether the mare is barren and that the reeve could have changed her – and in time – for another but did not do so. In these cases he [the reeve] ought to be charged fully for the foal or the value.[39]

However, contrary to the suppositions of common sense, and despite the advice of the author of the *Husbandrie*, our data reveals that the proportion of internally bred horses was actually quite small; across all the sampled demesnes, only 59 horses were raised internally, accounting for 13.2 per cent of total additions. Not only did internally produced horses trail behind purchased animals by a margin of 45 per cent, but internal breeding was actually only the third most important method of horse acquisition at the national level. When these factors are considered, it seems that demesne horse breeding was a 'hit and miss' endeavour, hampered by the poor health and sterility of overworked mares and perhaps also the incompetence or indifference of reeves and other demesne managers in swapping out infertile mares for more viable animals quickly and efficiently.[40]

The *Husbandrie* suggests that breeding on some demesnes fell short of the ideal one foal per year goal for want of a stallion, and the almost complete absence of such specialized male breeding horses in our sample is a puzzle. Stallions were very rare on demesnes, accounting for well less than 1 per cent of total stocks, and the only two stallions in the sample were found on the earl of Lincoln's stud farm at Ightenhill, which bred rouncies for his stables rather than working horses. Therefore, the few demesnes that kept dedicated stallions and operated breeding operations of any appreciable scale catered towards the breeding of more elite and expensive riding or war horses, rather than agricultural stock. This suggests that if knowledge of specialist breeding did exist, it was restricted to only the most expensive horses.[41] Even landlords which maintained specialized studs seemingly did not apply these practices to the agricultural horses on their demesnes, probably because they did not see it as a prudent use of resources.

[39] Dorothea Oschinsky (ed.), *Walter of Henley and Other Treatises on Estate Management and Accounting* (1971), p. 423.

[40] For example, the reeve of Merdon, a manor of the Bishop of Winchester, recorded in the account for 1301–2 that there were no foals born that year 'because there are no mares here'. The reeve of Ivinghoe (Bucks.), was seemingly more proactive in maintaining productive breeding stock, as the manor's account reads that there were 'no foals this year because the female plough horses were feeble and sold'; For Morton (Bucks.), the account records that there were no foals that year simply because 'the mares did not foal'. Page (ed.), *Winchester Pipe Roll*, pp. 84, 158 172. The account for the Warwickshire manor of Fletchamstead records that all of the mares remaining at the end of the year 1309–10 were sterile. TNA, SC 6/1039/11, m. 1r.–1d. Frequent infertility among demesne mares is also a phenomenon observed by Stone for the manor of Wisbech Barton. *Decision-making,* p. 114.

[41] Notable examples of specialized breeding from our sample occurred on the estate of Peterborough Abbey and the earldom of Lincoln. Other notable examples exist from the earl of Cornwall's estate, which bred elite riding and war horses at Knaresborough (Yorks.) and Mere (Wilts.). L. Margaret Midgley (ed.), *The ministers' accounts of the Earldom of Cornwall, 1296–7* (2 vols, Camden Third Ser., 66, 68, 1942–5), I, p. 63, II, p. 193. Edward, the Black Prince was also engaged breeding elite war and riding horses across his estates. See: *Register of Edward, the Black Prince* (4 vols, 1930–3), IV, p. 15 (18 May 1351); p. 67 (28 Nov. 1352).

How then were even the relatively meagre levels of demesne horse breeding achieved? Insemination could have been conducted through a 'stud service' of some sort, where an intact male horse was brought in for the sole purpose of impregnating female horses. If this occurred, however, it must have been on a relatively informal basis, as there are no records of payment for any such activities in the manorial accounts of our sample. The most likely scenario is that that un-gelded male horses were common enough among both demesne and peasant stocks to facilitate the breeding of animals. Thomas Tusser's treatise on husbandry offers insight into pre-modern gelding practices. Though recorded in the sixteenth century, many of the practices discussed were broadly similar to the agricultural techniques of the medieval period. Tusser gives a clear indication that gelding was preferred for only certain horses, and many working animals were probably left intact:

> Thy coltes for the saddle, geld yoong to be light:
> for cart doo not so, if thou judgest aright.
> Nor geld not, but when they be lusty and fat:
> for there is a point, to be learned in that.
>
> Geld fillies (but tits) er an nine daies of age:
> they die else of gelding, (or gelders foo rage).
> Yoong fils so likelie of bulke and of bone:
> keepe such to be breeders, let gelding alone.[42]

Interestingly, while the castration of pigs and other animals is recorded frequently in manorial accounts, they are silent on the gelding of horses. With Tusser's assertion that at least some work horses were better left intact, and the lack of any evidence of the regular practice of castration among demesne horse stocks, we can perhaps assume that this occurred infrequently, if at all, on demesnes. If working horses were regularly left intact, it follows that demesne stocks could have been sustained by even a small number of un-gelded male horses which would have been sufficient for breeding on both demesne and peasant farms, and this must have rendered specialized stallions unnecessary.

We can also see significant regional differentiation in demesne horse breeding. The south and south west and the Thames basin stand out for how *unimportant* it was, as internally produced horses account for only 9.9 per cent in the former region and 6.1 per cent in the latter. In the Thames basin, the low numbers of internally produced work horses correspond broadly with the low proportions of mares and young horses kept by demesnes in the region; here the numbers of mares and foals relative to other types of horses were lower than any other part of the country and the region produced the fewest of its own horses. Breeding was most prolific on Midlands demesnes, with over a quarter of all horses graduating to the adult stocks from the demesnes' own young horses. By the seventeenth century, horse breeding and rearing were thriving economic activities in this region, with the Severn Valley and the Vale of Trent both home to intensive breeding and rearing of horses.[43] Our data suggests that this characteristic was already established in the region by the fourteenth century. It is difficult to say whether a

[42] Thomas Tusser, *Five hundred points of good husbandry,* ed. Geoffrey Grigson (1984), p. 77.
[43] Edwards, *Horse trade,* pp. 22–3.

relatively weak market for horses forced demesnes in this region to rely on internal production, or if the geography of the region was more suited to profitable horse rearing which diminished the need to rely as heavily on the market as demesnes in other regions did.

The second most important source of horses was seigneurial perquisites, an array of channels such as heriots, strays and, in some cases, the confiscated chattels of criminals, through which many demesnes were able to procure working animals. Heriots were a death duty, customarily rendered in the form of a 'best beast' upon the death of a tenant, or in some places, upon any surrender of customary land.[44] The high value of horses relative to other forms of livestock meant that they were often regarded as a deceased tenant's most valuable animal and thus rendered as payment. In terms of horse acquisition, heriots were the most productive perquisite for demesnes, accounting for 58 per cent of all such seigneurial acquisitions (and therefore 10.5 per cent of all horse procurement). However, there was quite a bit of regional variation as the rate at which horses became available to demesnes through heriots was obviously not within the manor's control. There was no guarantee of the number of tenant deaths in any given year, nor that the 'best beast' would always be a horse. Many heriots were took the form of oxen; and the Bishop of Winchester also received heriots of beehives and axes in 1301–2, an indication that some of his tenants lacked not only a horse (or an ox), but any kind of livestock at all.[45] The collection of heriots also depended upon administrative efficiency, the number of liable tenants and local custom. In some places custom dictated a cash payment in lieu of a 'best beast' and in others, the payment of death dues was seemingly either rarely enforced, evaded through a variety of measures, or rendered by incoming rather than outgoing tenants.[46] That said, many demesnes in our sample clearly received significant numbers of work horses as heriots and added them to their own stock, rather than accepting a cash equivalent.

Another seigneurial source of horses was strays and waifs. The origin of these so-called 'stray' horses is somewhat of a mystery, as manorial accounts do not provide any information about the origins of these animals. Were they wild or feral horses that were captured for subsequent use as draught animals? Or were they 'stray' in the modern sense of the term, that is, fully domesticated animals that had wandered off from their owners?[47] While there is some anecdotal evidence that supports the former possibility,[48] given that, by 1300, there was very little waste land, especially in southern England, the latter situation is more likely. The fourteenth-century legal treatise *Britton* lays out in great detail the mechanisms by which stray, or waif, animals could be impounded, and if left unclaimed, seized by certain lords, provided they met specific eligibility requirements.[49] Given the fourteenth-century origins of this particular

[44] Mark Bailey, *The English manor c.1200–c.1500* (2002), p. 244.

[45] Page (ed.), *Winchester Pipe Roll*, pp. 153, 305.

[46] See the discussion of heriots in East Anglia below.

[47] A variety of Latin terms were used to describe stray horses in manorial accounts, and the terminology could vary from region to region. In the accounts studied here, the most common terms encountered are the Lain *vagabundus* and the anglicized *straÿ.* For a definition of the former see: Latham, *Medieval Latin word list,* p. 504.

[48] Claridge, 'Trade of agricultural horses', pp. 82–4.

[49] The right of strays, or waifs, was the right held by some lords, under certain circumstances, to seize stray or wandering animals. After the requisite conditions were met, usually involving keeping the animal for a year and a day, the animal became the property of the lord and could either be added to the demesne livestock or sold. F. M. Nichols (ed. and trans.), *Britton: The French text carefully revised with an English translation, introduction and notes* (2 vols. 1865), I, pp. 66–7; 216.

treatise, it is likely to be a good reflection of the legal questions surrounding the issue of strays in our data sample. Like heriots, waifs and strays were a regionally varied phenomenon, but still accounted for 36 per cent of horses acquired through perquisites nationally. The significant role that seigneurial perquisites played in the overall scheme of demesne horse acquisition is striking, because it indicates the extent to which demesne acquisition of horses was dependent upon variable and unpredictable sources largely outside the control of the estate. Neither the number of horses acquired through these sources, nor their quality, could be guaranteed. Thus the uncertainty of acquiring horses through seigneurial perquisites compounded the uncertainty of breeding horses on the estate, which may suggest why these demesnes were so dependent upon the market if they were to ensure that they maintained a consistent level of working animals.

Regional differentiation in levels of seigneurial perquisites is at least partially explained if, as it appears, heriots were not rendered uniformly across the country. At 33.6 per cent of all acquisitions, the proportion of seigneurial perquisites was higher in the south and south west than in any other region and was driven by the large number of heriots exacted by manors in this part of the country. Thirty horses were taken as heriot, and these would have accounted for 23 per cent of total acquisitions on their own, double the proportion added from internally bred animals. In the Thames basin the second most important method of horse acquisition was through seigneurial perquisites, but it was not overly significant, as only 19 animals, or just under 13 per cent, were acquired in this way. East Anglian and Midland demesnes relied less on this method of horse procurement. The conspicuously low number of heriots rendered on the East Anglian manors in our sample pulled down the total number of horses enumerated in the 'seigneurial perquisite' category. The limited contribution of heriots here is surprising, considering that horses constituted as 75 per cent of all peasant draught animals in East Anglia by *c.*1300.[50] However, large estates like Norwich Cathedral Priory, which owned 12 manors within the East Anglian sample, recorded no heriots paid as horses on its demesnes. East Anglian landlords seemingly did not collect heriots following the deaths of customary tenants in any great numbers.[51] It is possible that 'light-touch' villeinage in this region meant that heriot was not payable on some manors, but more likely that tenants routinely rendered cash payments as heriot in lieu of livestock, and that tenants avoided heriot through a variety of local customs and practices.[52] Northern demesnes collected no horse heriots at all, although the small and narrow sample size there may not be representative in this regard.

With respect to strays, the data suggests that a lord's right to impound and seize stray animals was enforced more frequently and strictly by some lords than others, perhaps a reflection of the

[50] Langdon, *Horses, oxen*, p. 205.

[51] Langdon observed a low number of post-Black Death heriots in East Anglia, Langdon, *Horses, oxen,* pp. 196–7. In her study of land transfers in late medieval Norfolk, Whittle also observed that no heriots were paid by outgoing tenants on any of the manors she studied. She suggests that in both Norfolk and Suffolk heriots were either paid by the incoming tenant instead of an entry fine, or no heriot was paid at all. This seems to have been a regional anomaly in East Anglia, as in most other places in England, the lord charged heriot to the outgoing/deceased tenant as well as an entry fine to the incoming tenant. Jane Whittle, *The development of agrarian capitalism: land and labour in Norfolk, 1440–1580* (2000), p. 67, n. 108.

[52] Mark Bailey, 'Villeinage in England: A regional case study, *c.*1250–*c.*1349', *EcHR* 62 (2009), pp. 430–57.

fact that not all lords possessed the right to seize stray animals when the opportunity offered itself. The right to execute felons was also a franchise held by only a few lords, and this would have been necessary in order to claim the chattels of hanged thieves.

Buying horses was by far the most important method of horse acquisition; of the 448 adult horses acquired by all demesnes in our sample, 259, or 57.8 per cent, were purchased on the market. This magnitude of purchased horses is significant in that it clearly indicates that there was a strong market for these animals. It can also be seen as an indication of a high degree of commercialization in this sector of the economy. Regionally, the purchase of horses was also the dominant method of acquisition in each of the regions, and this trend was especially pronounced in East Anglia and the Thames basin, which stand out, in terms of work horses, as the most market-oriented parts of the country with over 70 per cent of animals in both regions acquired via purchase. Purchasing was somewhat less dominant in the south and south west,[53] where only 48.9 per cent of horses were bought, and was weakest in the Midlands, where only 36.9 per cent of new horses were purchased. In this latter region, horse acquisition was more evenly distributed across the full array of procurement routes, which reflects a combination of a greater amount of breeding and rearing activity on demesnes in this part of the country where the market seems to have been comparatively weaker. The low number of acquisitions in the north, a function of the small sample of only 35 demesnes, makes it difficult to make any significant conclusions about acquisitions in the region, and therefore will not be discussed at length.

The preference of demesnes in East Anglia and the Thames basin to purchase horses over other means of acquisition is closely linked to the degree to which demesnes in these regions had shifted from oxen to horses as draught animals around the year 1300.[54] We might also surmise that horse breeding activity was relatively unimportant here, as the commercial force of London as well as the high market density of East Anglia meant that farmers would have been compelled to specialize in the production of other goods which would benefit most from close market proximity.[55] By not engaging in the breeding of horses themselves, demesnes in

[53] The south and south west region also includes Devon and Cornwall, but there are no demesnes from either of these counties in our sample.

[54] In looking at the increasing prevalence of all-horse plough teams over the period of 1250–1420, Langdon found that horse ploughing was most actively and completely embraced in East Anglia and the Home Counties. Of the 65 demesnes in his sample that utilized all-horse ploughing between 1250 and 1420, only six of these were outside the Thames basin and East Anglian regions. Langdon attributes the establishment of all-horse demesnes in Norfolk and the Chiltern Hills to the particular suitability of horses for ploughing in these areas. The light and sandy soils in Norfolk could be easily worked by horses, while the thin and often stone-ridden soil of the Chilterns were precisely the type that presented difficulties for oxen, who could easily slip on the stones. Mixed plough teams, which made use of both horses and oxen, were also largely concentrated in these two regions. By 1300, demesnes in these regions, above all others in England at the time, had embraced horses to a greater degree than other parts of the country. Horses also accounted for just under half of peasant draught animals at the dawn of the fourteenth century, but like demesnes, the preference for horses was strongest in the south and east of the country. In East Anglia horses accounted for 75 per cent of all draught beasts, while in the Home Counties the figure was 55 per cent. Langdon, *Horses, oxen*, pp. 100–11, esp. 102–3 and 108–9; 205.

[55] In von Thünen's model, little can be gained from producing livestock near markets, and they are relegated to the areas furthest from markets. Peter Hall (ed.), *Von Thünen's isolated state: an English edition of* Der Isolierte Staat (1966). For a recent discussion of von Thünen in the context of medieval economic history, see John Hatcher and Mark Bailey, *Modelling the middle ages* (2001), pp. 132–3.

TABLE 4: Surplus/deficit of horse stocks

Horse type	*No.*	*No. of horses 'needing' replacement*	*No. of horses acquired*	*Surplus/deficit horses*
Stotts	412	75	83	8
Affers	1088	198	216	18
Carthorses	398	57	77	20
Mares	253	46	38	-8
Rounceys	10	2	2	0
Equi	61	11	18	7
Stallions	0	0	0	0
Mill-horses	4	1	2	1
Total	2284	390	436	46

Sources: Author's manorial account database. 'No. of horses "needing" replacement' column calculated using John Langdon's demesne-life figures. See: Langdon, 'Economics of horses and oxen', p. 36.

these regions would have been especially reliant on the market to provide work horses. The high proportion of purchased horses in these two regions suggests that the market for horses was both well established and easily accessible to demesne managers by 1300.

This article has shown that demesnes were not producing work horses for the market. However, demesnes and their managers probably had an important distributive role in the trade of these animals. Some reeves and bailiffs, perhaps even unconsciously, acted as middlemen, and, in aggregate, these transactions facilitated the exchange of many animals including those which came to the lord as heriots or other perquisites and were judged surplus to requirements. Many of these transactions probably occurred within the same manor or community. In the particular case of heriots, if the family of a deceased tenant had to surrender a horse to the lord, they would likely have needed to acquire another one rather quickly in order to continue their farming activities. An easily accessible market for horses would be required to facilitate this and it is possible, or even probable that, in many cases, the lord sold the same animal back to the family that had surrendered it.

Using Langdon's demesne life figures, which chart the average working life of horses in the seigneurial sector, we can see that, on a national level, demesnes acquired more horses than they would have needed to maintain their stocks. Langdon calculated that the average working life on demesnes for carthorses and plough-horses was 7 and 5.5 years, respectively.[56] It can then be inferred that, for carthorses, one in every seven animals would, on average, require replacement in any given year, while two out of every 11 affers and stotts would also require replacement. We have assumed that the same working life of 5.5 years applied to all other categories of horses (excluding cart animals). From this, we can compare the number of horses 'needing' replacement against the number of animals actually acquired by demesnes in our sample. The results of this are displayed in Table 4. We can see from the table that the

[56] John Langdon, 'The economics of horses and oxen in medieval England', *AgHR* 30 (1982), p. 36.

sampled demesnes had a net surplus of 46 horses, or about 12 per cent over the minimum number of animals needing replacement. Many of these surplus horses were acquired through seigneurial perquisites such as heriots and strays, and were either quickly sold for cash or used to replace an incumbent animal which was likely either older or less fit. While the primary concern in 'swapping' work horses was the effective management of demesne draught horses, in doing this, many demesne managers, either consciously or unconsciously, acted as horse dealers themselves.

V

What do demesne accounts reveal about the extent of the horse trade and its regional variety in England in 1300? An important insight is the sheer range of horse acquisition options available to demesne managers. We have seen that the seigneurial perquisites of heriots and strays were often more heavily relied upon to supply demesnes with horses than internal breeding. We have also established that the majority of demesnes were consumers of work horses and invested relatively few resources and little effort in breeding them, therefore, when considering the demesne sector, the horse trade is more of a demand-side story.

For most demesnes, the breeding of horses was only a tertiary method of acquisition. A small number of managers did manage to maintain their stocks of working horses through internal breeding programmes, but, in aggregate, these farms did not produce enough work horses to sustain their own demand, let alone a surplus that could have supplied the market. Even in the few instances where landlords engaged in large-scale horse breeding, these operations were always for the production of elite riding and war horses, rather than the agricultural-grade working animals upon which the agrarian economy was so dependent. In these terms, horse breeding on demesnes could be seen as only a semi-reliable form of horse acquisition where managers had some agency and ability to encourage or discourage horse production, but were hampered not only by the fact that foals took around three years to reach an age where they could work and contribute to the manor's agricultural enterprises as draught animals, but also by the fact that there was no guaranteed year-by-year supply of foals from the mares of the estate. The former factor would have necessitated that reeves and other demesne managers plan ahead at least three years in planning and projecting their stocks of horses, while the latter consideration meant that reeves would often need to supplement their stocks of adult horses in any given year by other means.

The significant role that seigneurial perquisites played in the overall scheme of demesne horse acquisition is striking, because it indicates the extent to which demesne acquisition of horses was dependent upon variable and unpredictable sources largely outside the control of the estate. Neither the number of horses acquired through these feudal sources, nor their quality, could be guaranteed. Thus the uncertainty of acquiring horses through seigneurial perquisites compounded the uncertainty of breeding horses on the estate, which may suggest why these demesnes were so dependent upon the market if they were to ensure that they maintained a consistent level of working animals. We might argue, then, that it was not a case of whether demesnes and estates could breed a sufficient number of replacement horses, but rather if they wanted to invest in breeding work horses at all.

Significantly, the fact that purchases were the major method of procurement means that all forms of agricultural horses must have been widely and commonly available in most parts of the country. Bruce Campbell has argued that 'when estates and demesnes could not breed sufficient replacement animals they had no other recourse but to buy them'.[57] While this might have been true for livestock in general, and cattle and sheep in particular, the attitude of most demesne managers to horse acquisition was to go to the market first, and to use other methods of procurement to supplement the horses they purchased. Thus, this study underlines unequivocally the importance of a horse market in supplying English demesnes around 1300.

Although outside the scope of this study, an obvious question is, if demesnes were not producing horses for the market, who was? The answer is almost certainly the peasantry. Sources for the peasant sector are not as reliable, detailed or precise as manorial accounts, but a study of lay subsidy returns has illustrated that the peasantry had both the potential and the incentive to produce a surplus of work horses that would have been in excess to their own draught needs.[58] Managerial concerns that demesne managers faced would also not have weighed as heavily on peasant farmers. In general, their farming operations were smaller, so managing and projecting a breeding program would not have been as large an undertaking as it would have been for demesne managers.

It has been well established that the spread of horses in the thirteenth century contributed to the commercialization of the economy,[59] and our data reveals how this phenomenon in turn created a stronger market for horses in some areas of the country, like the Thames basin and East Anglia, than others, like the Midlands and the north. In addition to the shift from oxen to horses, and the subsequent development in the horse market, the influence of commercialization around London and in East Anglia likely made purchase the most logical option for demesne managers in these areas. Our evidence suggests that horses were purchased most frequently in the areas of England where commercial forces were strongest. On the one hand, we might expect this, as the market for horses, like other goods, is likely to thrive in the most commercially oriented areas where markets were most integrated. In this respect, we can see horses both driving the process of commercialization, as Langdon has suggested, but we also see clear evidence of this commercialization within the horse market itself. What the evidence also suggests is that commercialization and demesne horse production were perhaps inversely proportionate. In cases where demesnes adapted to increasing market orientation in England by specializing in the production of specific goods for the market, be it grain, wool or dairy products, the evidence from our seigneurial sample suggests that the breeding of work horses was not a specialization that the seigneurial sector invested in, but they may have, even inadvertently, filled an important distributive role in acting as 'middle men' in the horse market.

[57] Campbell, *English seigniorial agriculture*, p. 135.
[58] Claridge, 'Trade of agricultural horses', pp. 104–43.
[59] Langdon, *Horses, oxen*, pp. 160, 255.

Fertilization by manure: a manor model comparing English demesne and peasant land, *c*.1300*

by Hugo J. P. La Poutré

Abstract

If peasant land had been only as productive as demesne land at the turn of the fourteenth century, most English peasants would not have been able to make a living, since their holdings were too small. By modelling two hypothetical manors, one based on Midland conditions and one based on East Anglian conditions, this article argues that peasants' output per arable acre must have been 50 per cent higher on average. This was possible because they had much larger amounts of manure at their disposal with which to fertilize their land. The model is based on estimated stocking densities for three types of farms, namely cottages, half-virgates and demesnes, as well as live weights of cattle, sheep and pigs. The results support the view that the minimum farm size needed for subsistence was much smaller than has hitherto been held to have been necessary.

Around 1300, when English population numbers were at their medieval peak, many peasant holdings were smaller than what scholars consider necessary to support a household.[1] With reference to Kitsikopoulos' minimum farm size of 18 arable acres and 2 acres of meadow, three-quarters of the holdings in Kanzaka's Hundred Rolls analysis were below threshold size.[2] Although estimates of threshold size vary from scholar to scholar, they invariably base their estimates upon demesne yield figures.

Until recently, scholars assumed that the non-seigneurial sector was less productive than the seigneurial, since peasants had more difficulty in fertilizing their land. Postan and Titow emphasized the shortage of manure available for the arable of customary tenants as a result of the lord's right to fold the sheep of his tenants on his demesne land. In the 1960s Postan developed his influential theory of the exhaustion of the soil, arguing that, due to population pressure, many acres of pasture were converted into arable land during the thirteenth century.

* I am indebted to the Review's referees for their valuable comments.

[1] John Hatcher and Mark Bailey, *Modelling the middle ages, the history and theory of England's economic development* (2001), pp. 44–6.

[2] Harry Kitsikopoulos, 'Standards of living and capital formation in pre-plague England: a peasant budget model', *EcHR* 53 (2000), pp. 248–50; Junichi Kanzaka, 'Villein rents in thirteenth-century England: an analysis of the Hundred Rolls of 1279–1280', *EcHR* 55 (2002), p. 599.

Since pastures supplied the grass necessary to support livestock, shortage of pasture land in many English regions led to a shortage of livestock, i.e. low numbers of horses, cattle, swine and sheep. In turn shortage of livestock led to shortage of manure. Shortage of manure led to exhaustion of the soil, because manure was essential to fertilize the soil. Peasants' land did suffer from exhaustion, because landlords 'may always have held the best land in their villages and possessed more pasture than their tenants and also enjoyed the privileges of the fold, i.e. preferential claims to the manure of the village flocks'.[3]

More recently, evidence has been presented which suggests that a peasants' acre might have been at least as productive as a seigneurial one. Langdon's work on extents for debt shows almost similar productivity figures for landlord and non-landlord farms in the first half of the fourteenth century. Stone has reported some examples of peasants' yields that were much higher than those of nearby demesnes.[4] Sapoznik has studied peasant agriculture for the manor of Oakington, Cambridgeshire, for the period 1360–99, using data from tithe accounts and manor court rolls. Combining these results with her estimates of the size of the tithed land, she showed average peasants' output per arable acre to have been at least 21 per cent higher than that of the demesne. The upper bound can be calculated to have been 81 per cent above the demesne sector.[5] Campbell has given examples of high land rents, which suggests that yields must have been above demesne level in order to have been profitable.[6] Elsewhere, Cauweberghe and Van der Wee found an inverse relationship between farm size and productivity for fourteenth-century Flanders.[7]

The availability of labour surely must have played an important role in this.[8] As Stone notes when discussing the poor yields on the manor of Hinderclay:

> While poor demesne yields at Hinderclay seem to have been mainly the result of deliberately low labour inputs, it is likely that inducement of working for themselves prompted local peasants to farm their land in a much more labour-intensive fashion, and they may well have achieved considerably higher crop yields as a result.[9]

Labour-intensive strategies like weeding, marling and the cultivation of legumes were all familiar methods of raising arable production. When it came to using them, the peasant sector

[3] M. M. Postan, 'Medieval agrarian society in its prime: England', in M. M. Postan (ed.), *The Cambridge Economic History of Europe,* I, *the agrarian life of the middle ages* (1966), pp. 556–8.

[4] John Langdon, 'Bare Ruined Farms? Extents for debt as a source for landlord versus non-landlord agricultural performance in fourteenth-century England', in Maryanne Kowaleski, John Langdon, and Phillip R. Schofield (eds), *Peasants and lords in the medieval English economy* (2015), pp. 59–82; David Stone, *Decision-making in medieval agriculture* (2005), pp. 269–72.

[5] Sapoznik assumes 'that the land from which tithes were received fell between 696 and 1,044 acres'. Mean output for the demesne sector was 8.6 bushels per arable acre. She calculates mean output for the non-demesne sector to have been 10.4 bushels per arable acre, using the upper boundary of 1044 acres. Using the lower boundary of 696 acres therefore makes $10.4 \times 1044 / 696 = 15.6$ bushels per arable acre. See Alexandra Sapoznik, 'The productivity of peasant agriculture: Oakington, Cambridgeshire, 1360–99', *EcHR* 66 (2013), pp. 521, 530.

[6] Bruce M. S. Campbell, 'Agricultural progress in medieval England: Some evidence from eastern Norfolk', *EcHR* 36 (1983), p. 40.

[7] Bruce M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000), p. 71.

[8] See, for example, Eona Karakacili, 'English agrarian labor productivity rates before the Black Death: a case study', *JEcH* 64 (2004), p. 3;

[9] David Stone, 'Medieval farm management and technological mentalities: Hinderclay before the Black Death', *EcHR* 54 (2001), p. 635.

clearly had an advantage over the seigneurial because of the availability of labour. Even on some less obvious fertilization techniques, like the use of ashes from the fireplace, or the use of nightsoil, small farms undoubtedly had an advantage over large farms.[10]

With respect to the use of manure, however, the situation was much more complicated. Postan and Titow concentrated on sheep folding. Folding, however, was not the only animal husbandry system. It surely must have been an attractive one to lords because labour costs were minimal; other methods, although much more labour-intensive, were known and were in use, like collecting and spreading manure. Moreover, scholars disagree on the availability of manure. Postan's position on this has already been mentioned. By contrast, Slavin, comparing stocking densities between tenants and demesnes of Blackbourne Hundred, has found considerably higher figures for the peasant sector.[11] Besides, while Stone argues that peasants must have 'used all the manure that was available to them', Slavin is doubtful whether more manure would have led to higher yields, because of the risks of overmanuring and of parasitic diseases.[12] Compared to the 35-ton per acre of farmyard manure spread annually on one of the plots of the Broadbalk Continuous Wheat Experiment over more than a century, however, medieval amounts, as computed in this study, were rather small.[13] The high yields on Broadbalk's plot are therefore an indication that overmanuring could have happened only rarely in medieval England.[14]

Since animal manure was the main fertilizer, this study concentrates on its availability. It aims to check the assumption that when compared to lords' soil, peasants' soil was less fertile, by making a quantitative evaluation of the use of animal waste. In order to achieve this goal, the manure flows are modelled for two fictional manors, each possessing the major characteristics of the region they represent. By comparing of peasant land to demesne land within each model, the assumption can be checked for that particular model. Comparison of the two models can be used to gain insight into the scope and applicability of the results.

For purposes of modelling the manure flows, livestock size and stocking densities have to be estimated first. Therefore, after establishing values for the size of cattle, sheep and pigs in section I, section II deals with the relation between farm size and stocking densities. In section III two manor models are introduced to compare East Anglian farming to Midlands farming, each manor consisting of only three types of farms, namely half-virgates, cottages and a demesne. Attention is given to the quantities of grass, hay and straw, necessary to feed all farm animals. In section IV short term and long term fertilization figures are calculated for the three types of farms. Section V discusses the implications for grain yields, while section VI

[10] For an introduction in fertilization techniques, see Robert S. Shiel, 'Improving soil productivity in the pre-fertiliser era', in Bruce M. S. Campbell and Mark Overton (eds), *Land, labour and livestock: historical studies in European agricultural productivity* (1991), pp. 51–77.

[11] Philip Slavin, 'Peasant livestock husbandry in late thirteenth-century Suffolk: Economy, environment, and society', in Kowaleski, Langdon and Schofield (eds), *Peasants and Lords*, p. 14.

[12] Ibid., p. 14; Stone, *Decision-making,* pp. 264–5.

[13] D. S. Jenkinson, 'The nitrogen cycle in long–term field experiments', *Philosophical Trans. Royal Society of London. Series B, Biological Sciences,* 296, no. 1082 (1982), p. 564.

[14] The nitrogen uptake of the crop for various treatments on Broadbalk fields are reported in J. Wolf and H. Van Keulen, 'Modeling long–term crop response to fertilizer and soil nitrogen, II, comparison with field results', *Plant and Soil*, 120 (1989), p. 27

discusses whether a shortage of accessible phosphorus rather than manure may have been the restraint on medieval agriculture. Section VII considers the implications of our findings for the minimum holding size necessary for subsistence, and for population numbers.

I

Before being able to evaluate the amount of manure that livestock produced, one has to determine their size, since the two are related. Zooarchaeological evidence shows that medieval horses, cattle, sheep and pigs were much smaller than contemporary English livestock. For instance, Thomas *et al.* analysed 7966 bone measurements from 105 sites in London for different periods between 1220 and 1900. Nineteenth-century cattle, sheep, pigs and domestic hens were found to have been some 10–13 per cent larger than they were in the thirteenth century.[15] Time series show increases in livestock size, occurring not only during the eighteenth and nineteenth century, but even hundreds of years earlier. Sykes collected data from hundreds of British assemblages, each containing bones stemming from the middle ages. She reports a size increase of a few per cent for cattle and pigs, in contrast to a slight decrease for sheep, during the late middle ages.[16] Thomas' study of animal bones from excavations of Dudley Castle, West Midlands, shows size increases for cattle, sheep and pigs of a few per cent during the fourteenth century.[17]

Besides these size changes in time, one has to be aware of regional variation too. Comparing animal remains from different English regions, David and Beckett show livestock to have been larger in central England than in peripheral regions. Cattle and sheep remains, found in Prudhoe Castle (Northumberland) and Launceston Castle (Cornwall) were some 8–10 per cent smaller than those from sites in York, Northamptonshire, Leicester and Norwich.[18]

All these results depend upon the comparison of skeletal remains. One should keep in mind that the result found is not independent of the type of bone, and the type of measure, that is chosen, since different bones do not scale exactly the same way. To give an example, when a species increases in size, the circumferences of the limb bones usually increase more than their length, since they have to carry more weight.[19] To combine the results for various types of bones, zooarchaeological scholars use reference skeletons, like Thomas did in his study of London sites. He compared the found cattle bones to those of a Chillingham bull, whose skeleton resembles that of medieval British cattle.[20] The live weight of this bull can be estimated, based on specific measurements of four of its limb long bones, to have been

[15] Richard Thomas, Matilda Holmes and James Morris, '"So bigge as bigge may be": tracking size and shape change in domestic livestock in London (AD 1220–1900)', *J. Archaeological Science,* 40 (2013), pp. 3315–18, 3321.

[16] Naomi Jane Sykes, *The Norman Conquest: a zooarchaeological perspective* (2007), pp. 3–6, 50–5.

[17] Richard Thomas, *Animals, economy and status: integrating zooarchaeological and historical data in the study of Dudley Castle, West Midlands (c. 100–1750)* (2005), pp. 34–6, 43–44, 51–2, 132–4, 163, 189.

[18] Simon J. M. Davis and John V. Beckett, 'Animal husbandry and agricultural improvement: the archaeological evidence from animal bones and teeth', *Rural Hist.* 10 (1999), pp. 7–8.

[19] Per Christiansen, 'Scaling of mammalian long bones: small and large mammals compared', *J. Zool.,* 247 (1999), pp. 333–48.

[20] Thomas *et al.*, '"So bigge as bigge may be"', p. 3311; S. J. G. Hall, 'Park cattle', in G. B. Corbet and S. Harris (eds), The handbook of British mammals (Third edn, 1991), p. 538.

about 600 lb.[21] Since this value closely matches the reported maximum adult weight for Chillingham bulls in Chillingham Park, which is 661 lb, the estimated live weight may be expected to be quite reliable.[22]

For the period 1230–1350, Thomas compared 92 cattle bones to those of the Chillingham bull. Their measurements were, on average, 13 per cent smaller than those of the bull.[23] Since animals are three-dimensional objects, the mean weights for thirteenth-century cattle can be calculated to have been about 390 lb.[24] The live weight of an average thirteenth-century sheep can be estimated in a similar way to have been about 44 lb.[25] Comparing the two species, cattle were about nine times as heavy as sheep, which is in accordance with the observation that sheep were about half the height of cattle in the late middle ages.[26] Following the same procedure, pigs are estimated to have weighed some 73 lb.[27] However, this value probably is much too low, since pigs have much shorter legs relative to their weight than cattle and sheep. Its weight may be expected to be much closer to the weight of an African bush pig, whose skeleton is of about the same size, and for which Christiansen reports a weight of 167 lb.[28]

[21] Limb bones are used to calculate bodyweight, using the allometric relationships between bone measure and weight for terrestial mammals that weight more than 50 kg. These relationships are of the form $L = c \cdot \text{weight}^b$, with b and c being constants. Christiansen presents two relationships per measure, leading to 258 and 259 kg when Humerus GL (Greatest Length) is used, 218 and 225 kg when Radius GL is used, 259 and 260 kg when Femur GL is used, and 368 and 332 kg when Tibia GL is used. The mean is thus 272 kg. For bone measures, see: Thomas *et al.*, '"So bigge as bigge may be"', p. 3311. For allometric relationships see Per Christiansen, 'Scaling of the limb long bones to body mass in terrestrial mammals', *J. Morphology,* 239 (1999), p. 183.

[22] 300 kg. See Hall, 'Park cattle', p. 538.

[23] For the period 1220–1300 the mean log–scaled value is −0.0622 . Therefore, the medieval bones are $10^{-0.0622} = 0.8666$ times the reference bones. Thomas *et al.*, '"So bigge as bigge may be"', p. 3315.

[24] In formula $L = c \cdot \text{weight}^b$ (see also n. 21), the constant b depends on the specific measurement that is used. For circumference measures, usually b > 0.33, for length measures, usually b < 0.33. Since Thomas' results are based on various measures, b is taken to be 0.33 , which leads to $600 \times 0.8666^3 = 390$ lb. For allometric relationships see Christiansen, 'Scaling of the limb long bones', pp. 167–90.

[25] Using the allometric relationships for terrestrial mammals that weight less than 50 kg, are used to calculate the weight of the sheep that Thomas *et al.* use as the reference for sheep bones. Humerus GL leads to 11.3 and 11.4 kg, Radius GL to 15.3 and 16.0 kg, Femur GL to 12.1 and 12.2 kg, and Tibia GL to 19.1 kg. Calculating the mean, the sheep must have been some 14.0 kg. Since Thomas *et al.* found sheep of the period 1220–1300 to have been $10^{0.05} = 1.122$ times the reference sheep, their weight can be calculated to have been $14.0 \times 1.122^3 = 19.8$ kg; For bone measures, see: Thomas *et al.*, '"So bigge as bigge may be"', pp. 3311, 3317; for allometric relationships see Christiansen, 'Scaling of the limb long bones', p. 183.

[26] Gregory Clark, 'Land productivity in English agriculture, 1300–1860', in Campbell and Overton (eds), *Land, labour and livestock*, pp. 214–7; Annie Grant, 'Animal resources', in Grenville Astill and Annie Grant (eds), *The countryside of medieval England* (1988), p. 176.

[27] Using the allometric relationships for all terrestrial mammals, we can calculate the weight of the pig that Thomas *et al.* use as the reference for pig bones. Humerus GL leads to 31.2 and 34.3 kg, Femur GL to 28.0 and 28.3 kg, and Tibia GL to 21.0 and 22.1 kg. Calculating the mean, the sheep must have been some 27.5 kg. Since Thomas *et al.* found sheep of the period 1220–1350 to have been $10^{0.0266} = 1.063$ times the reference pig, their weight can be calculated to have been $27.5 \times 1.063^3 = 33$ kg; for bone measures, see Thomas *et al.*, '"So bigge as bigge may be"', pp. 3311, 3318; for allometric relationships see Christiansen, 'Scaling of the limb long bones', p. 175.

[28] According to Thomas' figures, a thirteenth-century pig is $10^{0.0266} = 1.06$ times his reference pig, which has Humerus GL= 166 mm, Femur GL = 186.5 mm and Tibia GL = 169 mm. The African bush pig, described by Christiansen, has humerus length of 187.5 mm, femur length of 206 mm and Tibia length of 172 mm. For the size of the limb bones of the African bush pig (*Potamochoerus porcus*), Christiansen, 'Scaling of mammalian long bones', p. 336; for the weight of this species,

A different approach to arrive at the live weights of livestock starts from estimates of the weight of their meat. Clark has made very plausible estimates of the amount of meat of cattle, sheep and pigs, based on prices paid for living animals. Although already 25 years old, they remain the best available and have recently used as benchmarks by Broadberry *et al.* in their comprehensive study of *British economic growth*.[29] To arrive at these estimates, he equated the price of an animal to the value of its hide and meat, thus ignoring all its other parts. Comparing nineteenth-century mountain sheep with medieval sheep, he assumed that, since they had the same fleece weight, they both yielded the same amount of meat, which was 22 lb.[30] He used this weight to calculate the price of mutton. Assuming that the price of mutton, beef and pork were about the same, he calculated the yield of meat to have been 225 lb for oxen, 168 lb for cows and 64 lb for pigs.[31] These estimates are quite close to those that Barbara Harvey made, based on Stouff's figures for Provence's fourteenth- and fifteenth-century livestock: 240 lb of meat (including fat) for cattle, 24 lb for sheep and 50 lb for pigs.[32] What makes these figures even more plausible is that his figure for pigs equals the average amount of meat found on 656 pigs of Peterborough Abbey in the year 1309–10.[33]

To be able to convert the weight of meat into the live weight of an animal, one needs to know the meat weight-to-live weight ratio. For today's cattle and pigs, Belgian butchers reckon with 60 per cent; for Sudanese cattle, Dahl and Hjort mention the carcass, i.e. meat and bones, to be about 47 per cent of the live weight.[34] Since medieval animals were probably less well-fed than today's Belgian animals, a conversion rate of 47 per cent seems the most plausible.

Bones may be 10 per cent of the live weight. On the other hand, meat is not the only edible part of an animal. Fat, blood, tongue and liver may also have been 10 per cent of the live weight.[35] Therefore percentages of the edible parts might be estimated at 47 per cent, which, used on Clark's figures, makes live weights of 426 lb for cattle, 47 lb for sheep and 136 lb for pigs.[36]

The two approaches, the skeleton approach and the meat approach, produce estimates that are quite close for cattle and for sheep. For cattle the difference is less than 10 per cent, for sheep less than 7 per cent. Therefore these values are firmly established to have been 400

see: id., 'Scaling of the limb long bones', p. 170; for the size of pigs of the period 1220–1350, see Thomas *et al.*, '"So bigge as bigge may be"', pp. 3311, 3318.

[29] Stephen Broadberry, Bruce M. S. Campbell, Alexander Klein, Mark Overton, Bas van Leeuwen, *British economic growth 1270–1870* (2015), p. 109.

[30] This weight is almost 40 per cent below the 36 lb that Kitsikopoulos suggests, who refers to the carcass weight of current nomadic sheep that are given by anthropologists Dahl and Hjort, to be in the interval 10–25 kg. Deducting 8% for bones, makes the amount of meat to be in the interval 20–51 lb, on average 36 lb. See Kitsikopoulos, 'Standards of living', p. 240; Gudrun Dahl and Anders Hjort, *Having herds: pastoral herd growth and household economy* (1976), pp. 202–3.

[31] Clark, 'Land productivity', pp. 214–7.

[32] Barbara Harvey, *Living and dying in England, 1100–1540; the monastic experience* (1993), pp. 228–30.

[33] Kathleen Biddick, *The other economy, pastoral husbandry on a medieval estate* (1989), p. 124.

[34] Dahl and Hjort, *Having herds*, p. 165; An Derden, Judith Schrijvers, Michel Suijkerbuijk, Anouk Meulebroecke, P. Vercaemst, R. Dijkmans, *Best Beschikbare Technieken voor de slachthuissector* (Best techniques for the slaughterhouse) (2003), pp. 77–8.

[35] Ibid.

[36] This live weight for cattle is far below the one that Kitsikopoulos uses which is based upon a note from Howell that 'they would have been much smaller than the modern cow, seldom weighing as much as 1000 pounds'. Cicely Howell, *Land, family and inheritance in transition: Kibworth Harcourt, 1280–1700* (1983), p. 98; Kitsikopoulos, 'Standards of living', p. 259.

lb for cattle and 45 lb for sheep. For pigs the results are quite different. The meat approach leads to a value almost halfway between the two skeleton approaches, leading to 73 lb and 167 lb respectively. In the rest of this article, the live weight of an adult pig is assumed to have been 136 lb.

II

Although a large farm usually had much more livestock than a small farm, when counting the amount of livestock per arable acre, the opposite is usually true.

Campbell found an inverse relationship between stocking density and grain acreage, using data collected from manors in ten counties around London, in the research project 'Feeding the City'.[37] He calculated the mean stocking densities for 179 demesnes, sorted in seven size categories, as displayed in Figure 1. For the period 1288–1315, small demesnes, tilling less than 100 acres of grain, held, on average, 0.7 Livestock Units per grain acre, while very large demesnes, tilling more than 400 acres, only held, on average, 0.3 Livestock Units per grain acre.[38] Therefore, when the grain acreage increased some five to tenfold, stocking density more than halved, the multiplication factor being 0.7/0.3 = 2.3.

Overton and Campbell used information in accounts of medieval demesnes and probate inventories of early modern farms in Norfolk to calculate stocking densities for four different periods.[39] Although the results are not as smooth as those for the 'Feeding the City' counties, the tendency is the same for all four periods, namely that large farms have lower stocking densities than small ones. Comparing a small farm to a ten times larger farm, the multiplication factor is 1.2 – 2.3, depending on the period.[40] For the period currently under study, i.e. 1250–1349, this factor is 1.4.

One should be aware that the differences in stocking density described above might depend not on the size of the farms, but instead on geographical differences. In the case of a countrywide comparison, it might be these differences that would be decisive.

Although not in England, the study of the Flemish region of Oudenaarde may shed some light upon this matter. Since the region is quite small, geographical differences play a minor role in differences in stocking densities. Thoen sorted stocking densities for 93 early-modern farms into six categories. Comparing very small holdings (0–1.2 acres) to holdings that were ten times larger (2.5–10 acres), the multiplication factor is 1.5 for the period 1503–1520, and

[37] Campbell, *English seigniorial agriculture*, pp. 31–2, 179.

[38] Ibid., p. 181.

[39] Overton and Campbell use a weighting, based on modern food requirements, as follows: where a horse weighs 1.0, mature cattle (oxen, cows and bulls) weigh 1.2, immature cattle 0.8, sheep and swine 0.1; see Mark Overton and Bruce M. S. Campbell, 'Norfolk livestock farming, 1250–1740: a comparative study of manorial accounts and probate inventories', *J. Historical Geography*, 18 (1992), pp. 387–90.

[40] The choice of the compared categories is made in such a way to smoothen the tabulated values. For the medieval periods, the category 'less than 50 cereal acres' is compared to the categories from 200 to 300 acres, which leads to a multiplication factor of 1.4 for 1250–1349, and to 1.2 for 1350–1499. For 1584–1660, 'less than 12.5 acres' is compared to the categories 25 to 100 cereal acres, which leads to a multiplication factor of 2.3. For 1584–1640, 'less than 12.5 acres' is compared to '50–75 acres', which leads to a multiplication factor of 2.1 for 1660–1740. See Overton and Campbell, 'Norfolk livestock farming', pp. 388–90.

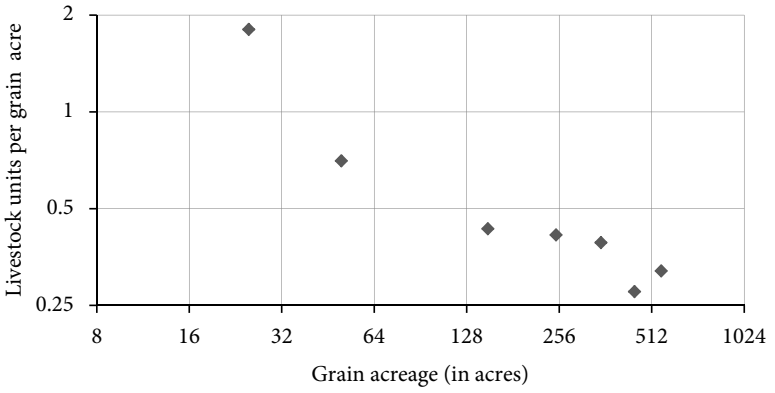


FIGURE 1: Stocking density and grain acreage on 179 demesnes in the FTC counties, 1288–1315, subdivided in groups according to the grain acreage.

Groups: < 50, < 100, 100–200, 200–300, 300–400, 400–500, 500+
Note: Both axes are in logarithmic scale. Each point corresponds to one group.
Source: Campbell, *English seigniorial agriculture*, p. 181.

1.9 for the period 1541–50.[41] The results, therefore, are similar to those for England and for Norfolk.

Quite recently, Slavin has studied stocking densities for Blackbourne Hundred, Suffolk, at the end of the thirteenth century, by analysing the 1283 tax list. Although the list has been studied by many scholars over the past hundred years, it is so rich with information that it can still shed new light on the peasantry at that period. The Blackbourne list is an inventory of all the movable goods of 1392 taxpayers in the Hundred, to be levied at a thirtieth part. It gives the number of horses, cattle, swine and sheep, and moreover the amount of cereals and legumes every taxpayer possessed at the octave of St Hilary, i.e. 20 to 26 of January. The reliability of tax lists in general has been frequently discussed.[42] In the case of this list Langdon has shown that at least 30–35 per cent of the households were missing for some villages.[43] Hadwin argues that all figures drawn from tax rolls must be used with caution, since tax evasion played an important role.[44] However true this may be, it does not hinder the way these figures are used in this study. Just as in Langdon's study, the emphasis is not on absolute numbers, but instead on relative numbers, since in the present study, stocking densities on peasants' holdings are compared to those on demesnes.

[41] Thoen uses a weighting of Livestock Units similar to Titow's, counting every mature horse, and cattle as 1.0, every immature animal, and every sheep and pig as 0.25 Livestock Unit. Erik Thoen, *Landbouwekonomie en bevolking in Vlaanderen gedurende de late Middeleeuwen en het begin van de Moderne Tijden, testregio: de kasslerijen van Oudenaarde en Aalst,* band II [Agricultural economy and population of Flanders during the late middle ages and the early modern period: the regions Oudenaarde and Aalst] (1988), pp. 792–5.

[42] For a recent discussion see Hugo La Poutré, 'The contribution of legumes to the diet of English peasants and farm servants, c. 1300', *AgHR* 63 (2015), pp. 19–38; Slavin, 'Peasant livestock husbandry', p. 12.

[43] John Langdon, *Horses, oxen and technological innovation: the use of draught animals in English farming from 1066 to 1500* (1986), pp. 184–5.

[44] J. F. Hadwin, 'The medieval lay subsidies and economic history', *EcHR* 36 (1983), p. 205.

Willard, studying tax lists after 1290, argued that the cereals and legumes assessed were only the surplus that a taxpayer had for sale, i.e. yields net of family consumption.[45] Elsewhere we have shown that this argument does not hold for the Blackbourne tax list, since the amounts assessed were much too high. Accepting Langdon's estimate of missing households, and keeping in mind that part of the harvest was already consumed at the time the assessment was undertaken, we estimated that the assessed amounts did match the quantities needed for consumption by the inhabitants and livestock of the Hundred, not counting the amounts for sowing.[46] For Willard, exemption of seed is highly probable, 'on the ground that it was a part of his waynage and needed for "carrying on the agriculture which was his livelihood"', in the same way as farming equipment (such as ploughs) and household goods (such as cooking vessels) were not assessed.[47] Slavin maintains that 'the language of the instructions given to local tax assessors implies that only processed food and drink, ready for immediate consumption, was not to be taxed'.[48] The assessed grain of a taxpayer may therefore be used to estimate his harvest. Assuming that crop yields on demesnes and peasants' holdings were about the same, Slavin uses the amount of grain as an indication of the sown acreage of the farm.[49] Under this assumption, he finds stocking densities of peasants' holdings to have been 2.2 times higher than those of demesnes.[50]

It is important to realize that, if – as this study will show – peasant holdings had much higher arable output per acre than demesnes, Slavin's method will have overestimated the size of the smaller holdings, and therefore will have underestimated the stocking densities of these holdings. The difference in the stocking densities between peasant and demesne holdings would have been even larger than he allowed.

Slavin mentions the existence of an inverse relationship between stocking density and size of the arable, but does not give any specifications.[51] However, since Powell has tabulated the possessions of all 1392 taxpayers, the households can easily be sorted according to the amount of grain they possessed.[52]

The relationship between the amount of grain and the number of Livestock Units per quarter of grain that a taxpayer possessed, are given in Figure 2. Detailed information on the subdivision into groups can be found in the Appendix. In order to appreciate Figure 2, it is important to realize that the poor were exempt from this tax. The lower threshold for inclusion in the tax lay at half a mark, i.e. at 6*s*. 8*d*.[53] Only nine persons in the list have possessions which are estimated to have been below this threshold. In terms of grain, this threshold lay at 1.7 quarters, taking a quarter of grain to be worth, on average 3*s*. 10*d*.[54] Anyone who owned

[45] James Field Willard, *Parliamentary taxes on personal property, 1290 to 1334* (1934), pp. 81–5.

[46] La Poutré, 'Contribution of legumes', pp. 30–2.

[47] Willard, *Parliamentary taxes,* pp. 81–5; Langdon, *Horses, oxen*, p. 82.

[48] Slavin, 'Peasant livestock husbandry', p. 12.

[49] Tithes play no role in this comparison, since they were exempted from this tax. Only temporalities were taxed. Edgar Powell, *A Suffolk Hundred in the year 1283* (1910), p. xi.

[50] Slavin used the same weighting of Livestock Units as Overton and Campbell (see n. 39); see Slavin, 'Peasant livestock husbandry', pp. 12–14.

[51] Ibid., pp. 14–5.

[52] Powell, *Suffolk Hundred*, pp. 122–200.

[53] Ibid., p. xii.

[54] The average price per quarter of corn as mentioned in the tax list, weighted according to the sums of the amounts per taxpayer, i.e. 966 qtr of wheat, 1342 qtr of rye, 4970 qtr of barley, 1379 qtr of oats, 1163 qtr of peas and beans. For prices see Powell, *Suffolk Hundred*, pp. xxiii–xxiv.

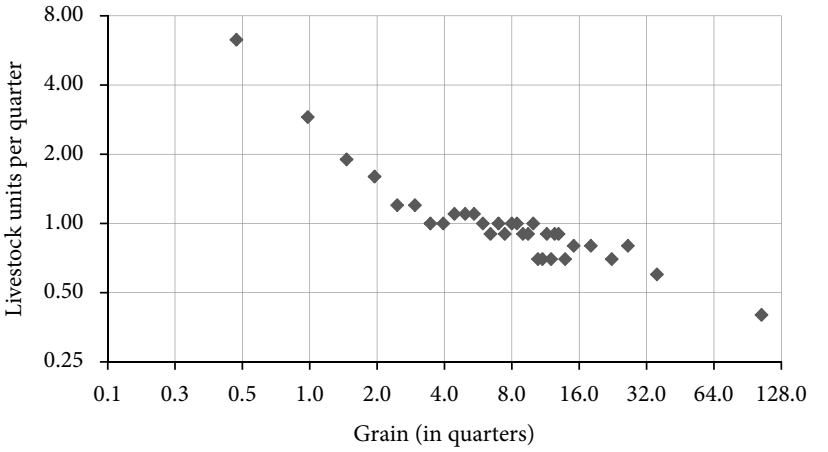


FIGURE 2: 1298 taxpayers of Blackbourne Hundred, subdivided in groups according to the total volume of cereals and legumes in their possession.

Note: Both axis are in logaritmic scale. Each dot corresponds to one group.
Livestock units are weighted according to the scheme of Overton and Campbell: horses × 1, cattle × 1.2, immature cattle (*vituli, vitule, bouiculi, iuuencule*) × 0.8, sheep × 0.1, swine × 0.1.
Source: Data presented in the Appendix, drawn from Powell, *Suffolk Hundred*.

less than 1.7 quarters of grain must have been exempt from this tax when he did not possess any animals.

Evidence from heriots shows that a considerable section of the peasantry had no livestock at all.[55] Most of them probably held no, or very little, arable land and therefore did not appear in the tax list.

Because of this exclusion of holdings without animals, the first two dots in Figure 2 lie much higher than they would have been if no one had been exempt. We need to note especially the 94 taxpayers who had less than 0.25 quarters of grain. Although hardly possessing any grain, they had to contribute to the subsidy because they owned at least one animal. Since 93 of them did not possess any grain at all at the time of the tax assessment, the number of Livestock Units per quarter of grain is a quite meaningless quantity for this category, since the denominator of this quotient is close to zero. If all, or even just one, of the exempted smallholders without any animals in this category had been included in the calculation, the quotient would have been quite different. They are therefore omitted from Figure 2.

What is clear from Figure 2 is that, on average, if a person A possessed one tenth of the amount of grain of person B, A's number of Livestock Units per quarter of grain would have been twice that of B. Following Slavin in assuming similar crop yields for demesnes and peasants' holdings, the multiplication factor for stocking densities, therefore, is 2, when comparing a holding to one that is ten times as large.

[55] Christopher Dyer, 'Farming techniques, the West Midlands', in H. E. Hallam (ed.), *Agrarian history of England and Wales, II, 1042–1350* (1988), p. 377.

Of course, due to infectious diseases, absolute numbers on livestock could fluctuate heavily from one year to another, as it did when scab struck English sheep in 1279–80.[56] Such disasters, however, struck seigneurial and peasant flocks alike. The same holds for fluctuations in yields or cereal prices. Thus their effect on relative numbers like the multiplication factor must have been a minor one. Since, however, the seigneurial sector is considered to have been able to restock more quickly after disasters than the non-demesne sector, the stocking densities on peasant land relative to those on demesne land, might have been even higher before 1279. Keeping that in mind, a multiplication factor of two might have been somewhat too low before the scab epidemic.

The Blackbourne figures are thus in line with the inverse relationship between farm size and stocking density for demesnes within the FTC-counties between 1288 and 1315, and for early modern Norfolk farms. Between 1250 and 1349, the inverse relationship for Norfolk was similar, although the multiplication factor was somewhat lower. All our evidence therefore points to the conclusion that peasant farms around 1300 had higher stocking densities than demesnes did, the multiplication factor being close to 2.

Based on the early modern Norfolk results, Broadberry *et al.* assume that, on non-demesne lands, stocking densities of cattle were 2.7 times as high, stocking densities of swine even four times as high, as they were on demesnes.[57] Compared to the evidence presented above, these figures are most probably somewhat too high.

III

Research on thirteenth-century agricultural practices has revealed geographical variation in many aspects of arable and livestock husbandry, not only from county to county, but also within counties. Holding size could even vary among manors belonging to the same estate. Harvey has tabulated the size of holdings (cottages excluded) on 24 manors of Westminster Abbey. Although a half virgate was the most common size in the early fourteenth century, the manors of Bourton-on-the-Hill, Gloucestershire, and Launton, Oxfordshire, had only virgates, and no half virgates at all.[58]

Besides holding size, field systems, cropping practices, the use of the fallow, the ratio of cattle to sheep, even the amount of seed sown per acre, all varied from manor to manor. Even within Norfolk, there was no single definition of the fold privilege:

> The lord's foldsoke was nothing so simple a monopoly as writers have assumed. To begin with it was often not confined to sheep. At Feltwell, Northwold, and Bridgham, in 1221–2, all the *averia* of the bond tenants, except their cows, lay in the lord's fold, but at Bridgham only the sheep lay there the whole year. The other cattle lay there only between Whitsuntide and Martinmass, and for the rest of the year the tenant paid a penny each to have them himself. At Bradfield if the tenant had sheep in the lord's fold he led them there on the Vigil

[56] Slavin, 'Peasant livestock husbandry', p. 11.

[57] Broadberry *et al.*, *British economic growth*, pp. 103–5.

[58] Of 581 enlisted holdings, 18 were above virgate size, 188 were virgates or 3/4 virgates, 300 were 2/3 or 1/2 virgates, 62 were 1/3 or 1/4 virgates, 13 were smaller. See Barbara Harvey, *Westminster Abbey and its estates in the middle ages* (1977), pp. 438–42.

> of Michaelmas and took away the breeding ewes at Candlemas and kept them until the next Michaelmas. At Northwold the free tenants had their own foldsoke, and this was probable the general rule.[59]

However, since the present study aims to prove one specific aspect, namely the availability of manure, a theoretical model is best suited for this purpose.

Because of the relationship between farm size and livestock density, it is instructive to compare three types of farms, namely a demesne, a half-virgate and a cottage. Assume a manor that contained 600 acres of arable. Of these, 150 acres belong to a demesne of average size, the rest belonged to 27 half-virgates, each holding 15 arable acres, and 30 cottages, cultivating 1.5 arable acres each, all in a three-course rotation system.[60] The demesne therefore contained one fourth of the arable, which was the average ratio for England.[61] The ratio of cottages to total holdings is consistent with the findings of Kanzaka, who analysed the Hundred Rolls of 1279–80. About 48 per cent of holdings held less than six acres of arable and meadow; together, these smallholders tilled only 6 per cent of all peasant land.[62] Campbell has estimated that, at the average lay manor, 60 per cent of peasant land was freehold land and about 40 per cent villein land.[63] Therefore, 16 out of 27 virgates in the model, and 18 out of 30 cottages, belong to free men.

According to the inverse relationship for stocking densities and farm size found above, the stocking densities on the model half-virgate were twice the demesne's, on the model cottage they were even four times as high. Campbell found that, on average, an English demesne held 4.4 horses, 22.3 cattle (of which 11.5 were oxen), 87.4 sheep and 11.9 swine per 100 sown acres, thus 0.37 Livestock Units per sown acre.[64] It is reassuring that the same figure is found when the stocking density is calculated from the Blackbourne list for large farms.[65] Using Campbell's figures for the model demesne and assuming that the stocking densities at half-virgates were twice – for cottages even four times – those of the demesne, then for every animal held by the lord there were 6.6 animals held by his peasants. The model manor therefore contains 33 horses, 169 cattle, 664 sheep and 90 swine. It will be specified in two variants, namely a Midlands manor and an East Anglian manor.

(a) The Midlands manor

Howell has described animal husbandry at Kibworth Harcourt, Leicestershire, in great detail. Just as Kitsikopoulos does in his peasant budget model, Kibworth's routine for cattle and sheep is applied to the Midlands manor.[66] Howell found that cows were held in their stalls

[59] H. E. Hallam, 'Farming techniques, eastern England', in Hallam (ed.), *Agrarian history*, p. 282.

[60] Mean demesne size for England is 100–200 sown acres; see Campbell, *English seigniorial agriculture*, p. 69.

[61] Broadberry *et al.*, *British economic growth*, p. 82.

[62] Kanzaka, 'Villein rents', p. 599.

[63] Bruce M. S. Campbell, 'The agrarian problem in the early fourteenth century', *Past and Present*, 188 (2005), pp. 24–7.

[64] Campbell, *English seigniorial agriculture*, pp. 124–5, 136–7.

[65] Since the Blackbourne list is an inventory of possessions at the end of January, the amount of grain may have been one third lower than it was directly after harvest. This, in combination with a mean yield around 13 bushels per sown acre, leads to a conversion rate of 0.9 sown acre per possessed quarter. According to figure 2 therefore a demesne with 100 sown acres would have had about 0.4 Livestock Units per sown acre. Mean yield is calculated from figures in Kitsikopoulos, 'Standards of living', p. 239.

[66] Howell, *Land, family*, pp. 97–100; Kitsikopoulos, 'Standards of living', pp. 258–9.

at Kibworth Harcourt, Leicestershire, from the end of October until 24 June, with a short interruption in the first week of May. Besides that, they were kept on pasturage for three months, and on the stubble for one month. Sheep, on the other hand, were kept outside for most of the year. They were held on the fallow for seven months and on the stubble after harvest for about three months.[67] The other two months, they were kept on pasturage or on dry feed.

Before being able to calculate how much manure and nutrients were deposited on the arable, one has to draw up an inventory of the feed quantities necessary. The three main foodstuffs for herbivores like cattle and sheep, are grass, hay and straw. They provide them with energy and proteins. Besides these three foodstuffs, cereals and legumes might be given, but only in small amounts. Langdon reports that oats formed no more than 3.3 per cent of total feeding budget for oxen, at 'certain Archbishopric of York Manors', between November 1373 and May 1374.[68] Since oxen were used as working animals who performed better when given some high-energy foodstuffs, the rest of the cattle, and the sheep, must have been given even less grain. Therefore, in what follows, grain is excluded from the calculation.

The ratio of protein to energy varies from foodstuff to foodstuff. An ox that eats only straw would have a protein deficiency, an ox that eats only hay or grass would consume more protein than necessary. Based on the necessary amounts of protein and energy, the ideal mix of grass, hay and straw can be calculated for cattle of live weight W (in kg), using formulae from today's Dutch livestock farming for cattle that are kept in a stall, not used as working animals, and not in their gestation or lactation period:[69]

$$\text{Necessary digestible proteins} = (2.75 \times W^{0.5} + 0.2 \times W^{0.6})/0.67$$

$$\text{Necessary Energy} = 41.4 \times W^{0.75}$$

For cattle of 182 kg (= 400 lb) kept in a stall all day, on a diet of only hay and straw, one can calculate from these formulae that they should be given 4.0 lb of hay and 4.8 lb of straw per day.[70] Therefore, 55 per cent of this hay-straw diet would consist of straw. Since this calculation only keeps track of the amount of straw that was consumed, neglecting the amount used for bedding, the quantity of straw provided per animal must have been higher. Therefore, such a percentage is in agreement with the feeding costs for oxen on manors of the archbishopric of York in 1373–4. Langdon found the costs for straw for these manors to have been, on average, 67 per cent of total costs for oxen, against 30 per cent for hay and 3 per cent for oats.[71] Since hay and oats were more expensive than straw, the percentage of

[67] Howell, *Land, family*, pp. 98–100.

[68] John Langdon, 'The economics of horses and oxen in medieval England', *AgHR* 30 (1982), p. 34.

[69] The formulae for cattle have two variables which are live weight and weight of produced milk. For oxen, this last variable obviously is zero. Therefore this variable is not considered here. *Tabellenboek veevoeding* (*Tables for livestock feed*), *2012* (2012), pp. 8–10.

[70] 1.8 kg of hay, and 2.2 kg of straw, can be calculated from the following figures: such cattle need 2051 VEM energy and 62.1 g of protein per day. ('VEM' is a unit of the energy of feed, used in Dutch livestock farming.) The energy content of hay is 631 VEM/kg, of straw 412 VEM/kg (377 VEM for wheat straw, 446 VEM for oat straw). The protein content of hay is 34 g/kg, none for straw. *Tabellenboek veevoeding*, pp. 102–9.

[71] Langdon, 'Economics of horses', p. 34.

straw in the feed must even have been well above 70 per cent.[72] A large part of this feed was transformed into manure. Albrecht Thaer, the famous German agronomist, found in the early nineteenth century that manure production for cattle is 2.3 times the amount of dry feed, a ratio that is still employed in agronomy today, and is also used by Kitsikopoulos in his peasant budget model.[73] Using this rule on the mentioned diet, cattle produced 5.1 per cent of their live weight per day. This figure is a little below the 6.0 per cent for today's beef cattle, as given in Table 1.[74] However, since cattle, kept outside, need 20 per cent extra feed, the difference between the two figures can easily be explained.[75]

Using Kitsikopoulos' estimate of 1171 lb straw per sown acre and assuming that peasants' yields were as low as demesne yields, an acre produced enough straw to feed one stall-fed ox or cow for eight months.[76] The arable of the demesne (0.22 cattle per sown acre) and of the half virgates (0.44 cattle per sown acre) thus produced more than enough straw for their cattle, leaving thousands of pounds for sheep, horses and pigs. According to these figures, the cottages (0.89 cattle per sown acre) barely produced enough straw to feed their cows. If, however, peasants' yields were much higher than those of the demesne, much more straw was produced. Furthermore, besides their own production of straw, these cottagers may have received it as a payment for harvesting labour, they may have cut it from other ones' property, or they may have compensated this shortage by giving extra hay or green waste from their gardens. On top of that, 'It should be remembered that the mediaeval oat plant certainly had a large proportion of straw to grain'.[77]

For the production of hay, Kitsikopoulos relies on Howell's guess: 'Now an acre of good meadows today can yield as much as five tons, but one would still not expect to get more than one ton of old meadow', thus 2240 lb of hay, which is almost equal to the amount Stone has found for Wisbech Barton in the 1340s.[78] Combined with a consumption of 979 lb of hay per animal, makes a total of 74 acres of meadow to feed all 169 cattle on the manor.[79] The model manor therefore needs at least one acre of meadow for every eight acres of arable. According to the map provided by Campbell, such a ratio can be found in many parts of a broad belt

[72] Gregory Clark's price series gives the price of hay to have been 4.4*s*. per ton, for straw, 1.2*s*. per load in 1300. Accepting Harry Kitsikopoulos' assessment that a cartload might have been weighed about 1200 lbs, the price per lb of hay thus would have been twice as high as the price of straw, in which case even 80 per cent of the oxen's feed (expressed in weight) would have been in straw on the manors that Langdon investigated. 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; Kitsikopoulos, 'Standards of living', p. 246.

[73] Peter Hall (ed.), *'Von Thünen's isolated state'* (1966), pp. 42–3; for modern use of the rule for cattle, see the website of the department of agriculture and fisheries of Queensland, www.daff.qld.gov.au/environment/intensive-livestock/cattle-feedlots/managing-environmental-impacts/manure-production-data; Kitsikopoulos, 'Standards of living', p. 259.

[74] Calculated from figures in: *Livestock Waste Facilities Handbook* (third edn, 1993), p. 2.1.

[75] *Tabellenboek veevoeding*, p. 10

[76] Kitsikopoulos mentions 14,057 lb for 12 sown acres: 'Standards of living', p. 258.

[77] Robert Trow-Smith, *A history of British livestock husbandry to 1700* (1957), p. 116.

[78] Stone finds, averaged over 8 years, 2 cartloads of hay per acre. Kitsikopoulos assumes a cartload to have contained 1200 lb of hay. See: Howell, *Land, family*, p. 98; Kitsikopoulos, 'Standards of living', pp. 246, 258; Stone: 'The productivity of hired and customary labour: evidence from Wisbech Barton in the fourteenth century', *EcHR* 50 (1997), p. 644.

[79] 4.0 lb of hay per animal per day, during 8 months; 7.6 × 22.3= 169 animals; 979/2240 × 169 = 74.

between Devon and Lincolnshire, in Yorkshire and in the northern counties. In the western and eastern parts of England, the situation was less favourable.[80] The problem could be solved by feeding extra grain, as can be concluded from Langdon's regional analysis of the quantity of oats consumed per ox. His figure for East Anglia is even as high as 0.87 quarters per ox per year.[81] If this amount were spread over eight months, a daily ration of 1.9 lb of hay and 5.8 lb of straw would be enough. Therefore, no more than one acre of meadow for every 17 acres of arable would be necessary to feed all the manor's cattle.[82]

Besides straw and hay, the manor needed enough pastures, heaths, marshes, fallow and stubble to feed its sheep. Kitsikopoulos suggests 1.66 sheep per acre for sheep grazing the fallow for seven months per year. However, he assumes sheep to have been much heavier than is found plausible in this study. Howell calculated a value of 1.5 sheep per acre out of figures that Hoskins gave for Leicestershire sheep at the end of the sixteenth century.[83] According to Broadberry *et al.*, however, sheep around 1600 were 60 per cent heavier than those around 1300.[84] Converting Howell's figure to sheep at 1300, makes 2.4 sheep per acre, which is close to the stocking density that Robert Grosseteste, a thirteenth-century bishop of Lincoln, noted in his rules for the Countess of Lincoln, 'that each acre of fallow ought to support yearly two sheep at the least'.[85] Since our hypothetical Midland manor had 200 acres of fallow at its disposal, the fallow could support at least 400 sheep during a year, or 686 sheep over seven months. The model manor therefore could indeed keep all its sheep on the fallow for seven months, as was done in Kibworth. It is therefore hard to believe that the model manor would have been short of pasture/common land to feed its sheep herd, especially since the sheep were also kept on 400 acres of stubble for a few months.

(b) The East Anglian manor

In East Anglia, where cropping patterns were more flexible, strips of arable land lying fallow often bordered on sown strips, thus posing serious problems for the grazing of the fallow. Under such circumstances, 'as soon as spring lambing was past, sheep were collected into communal flocks which were fed upon the heaths and sheepwalks by day and folded upon the fallow arable by night, whose soil they tathed with their treading, dung and urine', in movable folds.[86] Assuming lambing time to have taken one month, during which the herd stayed on a delimited piece of pasture, the sheep functioned as 'walking dung machines, to

[80] Campbell, *English seigniorial agriculture*, pp. 73–6.

[81] Langdon, 'Economics of horses', p. 33.

[82] In this case, 0.85 kg of hay, and 2.65 kg of straw, would be sufficient per ox or cow. Since the density of oats is about 36 lb per bushel, the cattle consume 0.447 kg of oats per day. The amounts of hay and straw can then be calculated from the figures in note 70, supplemented by the figures for oats, namely 943 VEM of energy, and 74 g of protein, per kg. *Tabellenboek veevoeding*, pp. 74–5; for the density of oats, 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.

[83] W. G. Hoskins, *Provincial England: essays in social and economic history* (1964), p. 151; Howell, *Land, family*, p. 99; Kitsikopoulos, 'Standards of living', pp. 240, 258.

[84] Calculated from Broadberry *et al.*, *British economic growth,* p. 109.

[85] Elizabeth Lamond (ed.), *Walter of Henley Husbandry, together with an anonymous husbandry, seneschaucie and Robert Grosseteste's Rules* (1890), p. 148.

[86] Bruce M. S. Campbell, 'The regional uniqueness of English field systems? Some evidence from eastern Norfolk', *AgHR* 29 (1981), p. 17; id., *English seigniorial agriculture*, p. 154; id., 'Agricultural progress', p. 35.

transfer nutrients from the permanent pasture' to the fallow and stubble, for eleven months per year.[87]

An indication of the number of Livestock Units per acre of pasture can be found in a calculation that Salzman made for three manors of Crowland Abbey. An area of 5500 acres of common pasture could support 90 horses, 540 cows and oxen, 3600 sheep and 675 geese. Neglecting the geese, this equals 0.20 Livestock Units, or two sheep, per acre, which is the same as Robert Grosseteste's remark on fallow.[88] A second indication can be found in a survey of the estate of St Paul's Cathedral in Essex, 1222. The common marshes for sheep of *Tidwoldintum*, able to contain 240 sheep, were mentioned to have been 60 acres, thus four sheep per acre.[89] The model manor, containing 664 sheep, therefore had need for 166–332 acres of pasture. Considering Broadberry *et al.*'s estimate that, in 1300, in the densely populated eastern counties, almost 60 per cent of the area was used as arable land, the manor must have had enough pasture/common land to feed its sheep flock, but did not have much extra for the rest of its livestock.[90] Feeding extra straw, which was abundant at the demesne and the half-virgate, would compensate for the shortage of pasturage. Such a strategy is in line with Walter of Henley's advice on the dry feeding of sheep, namely that 'if straw be mixed with the hay they will chew it better because of the coarseness of the straw. And if you have lack of hay the pods and straw of peas are good for sheep'.[91] Besides that, it is hard to believe that farmers never left any livestock on the fallow or stubble at daytime, when they were running short of usable pasture. Only in very densely populated regions like eastern Norfolk, where the land was tilled so intensively that even on demesnes only seven per cent of the total arable land was left fallow, and where pastures, heaths and marshes were very limited, it might have been hard to find enough grazing land to feed such a flock.[92]

IV

At harvest, the grains of cereals and legumes were removed from the arable. Since these grains contained nutrients, the arable had to be fertilized to compensate for the lost main nutrients, namely nitrogen (N), phosphorus (P) and potassium (K). Besides grains, straw might have been removed too, to serve as livestock feed, or to cover the floor of a stall or a fold. However, after having been used this way, the straw-nutrients usually returned to the arable in the form of (farmyard) manure, therefore the arable did not need any compensation for the removal of straw.

Modern farmers apply fertilizer to their fields in order to restore or raise the nutrient content of nitrogen, phosphorus and potassium.[93] Locally, soils may be short of other nutrients, but in western European agricultural practice, these three are added on a yearly basis. The most deficient nutrient tends to determine the size of the yield. When the availability of this element

[87] Campbell, 'Regional uniqueness', p. 18.

[88] Trow-Smith, *History of British livestock husbandry to 1700*, p. 104.

[89] Hallam, 'Farming techniques, eastern England', p. 304.

[90] Broadberry *et al.*, *British economic growth*, p. 70.

[91] Lamond (ed.), *Walter of Henley*, p. 31.

[92] Campbell, 'Regional uniqueness', p. 21; id., 'Agricultural progress', p. 29.

[93] E. I. Newman and P. D. A. Harvey, 'Did soil fertility decline in medieval English farms? Evidence from Cuxham, Oxfordshire, 1320–1340', *AgHR* 45 (2007), p. 120.

declines, plant growth and so its yield is reduced.[94] At harvest, when the grain is taken from the field, or after torrential rainfall, when nutrients may leach into the groundwater, the nutrient content of the soil is decreased. To prevent the nutrient balance in becoming negative, one has to restore the nutrient content. When livestock are grazed upon pastures or fed hay, and their dung is used to fertilize arable land, the quantity of all three main nutrients in the soil is raised. Such husbandry systems, namely stall feeding and night folding, will be discussed below. When cultivating legumes, the nitrogen content of the soil was raised, because these crops are capable of fixing atmospheric nitrogen.[95] Stone, Thornton, Brandon and Campbell have all mentioned the deliberate use of legumes as fertilizer on demesnes throughout England *c.*1300.[96]

Stone has gathered examples of peasants cultivating relatively much more legumes than their lords did.[97] In an earlier paper we have made a case for peasant holdings having proportionately at least twice as much legume under cultivation as demesnes.[98] In medieval times, when only a small amount of nutrient was subtracted year by year, time, restoring the soil's nutrient content was only important in the long term.

Unfortunately, not all nutrients in the soil are available for plant growth. Some become available only when they are released from the fine mineral material in the soil through weathering, others become available after decomposition of organic material like plant roots.[99]

Plant matter – roots, stems and leaves – when left to itself, may take quite some time to decompose, but when it is transformed into manure, the decomposition rate is increased.[100] Soil can thus be fertilized by letting livestock convert plant-parts like grass, hay or straw from this soil into manure, assuming of course that the manure is returned to the same soil. Although no nutrients are added in this process, the soil becomes more fertile since unavailable nutrients are made available in the short term. Besides the conversion of plants into manure, the use of marl also enlarges the amount of nutrients available, through increasing the pH of the acidic soil. The micro-organisms responsible for decomposing organic material, cannot function very well in an acidic environment. Manipulating the acidity this way can therefore increase the decomposition rate.[101] References to the use of this labour-intensive method are found in many thirteenth-century manorial accounts and court rolls.[102] A high, short-term, availability of nutrients in the soil is an important condition for high crop yields. If, however, a balanced fertility is not achieved, the soil will become exhausted in the long term.

Figures for the contribution from manure to short- and long-term fertilization, for contemporary livestock, are given in Table 1. These values are combined with the live weights of cattle, sheep and pigs, estimated in section I, to calculate the amount of manure and nutrients produced by farm animals around 1300.

[94] Shiel, 'Improving soil productivity', p. 51.

[95] Ibid., pp. 53–4.

[96] Stone, 'Medieval farm management', p. 623; Stone, *Decision-making*, pp. 63–4; Christopher Thornton, 'The determinants of land productivity on the Bishop of Winchester's demesne of Rimpton, 1208 to 1403', in Campbell and Overton (eds.), *Land, labour and livestock,* pp. 195–6; P. F. Brandon, 'Demesne arable farming in coastal Sussex during the later middle ages', *AgHR* 19 (1971), pp. 125–8.

[97] Stone, *Decision-making*, pp. 265–6.

[98] La Poutré, 'Contribution of legumes', pp. 19–38.

[99] Newman *et al.*, 'Did soil fertility decline', pp. 120–1.

[100] Shiel, 'Improving soil productivity', p. 64.

[101] Ibid., p. 63.

[102] See, for example, Campbell, 'Agricultural Progress', pp. 33–4.

TABLE 1: Calculation of the amount of manure and nutrients for livestock *c.*1300 based on figures for today's livestock.

	Today's figures					*Estimated figures* c.*1300 in lb*				
	Daily manure-to-body ratio[b]	*Composition in %*				*Per individual*		*nutrient per year*		
		Moist[c]	N[b]	P[b]	K[b]	*Live weight*[a]	*Manure per day (dry weight)*[e]	N[f]	P[f]	K[f]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
horse	0.051	80	0.59	0.14	0.49	400	4.08	43.9	10.4	36.5
cattle[d]	0.060	88	0.57	0.19	0.42	400	2.88	49.9	16.6	36.8
sheep	0.040	75	1.05	0.22	0.81	45	0.45	6.9	1.4	5.3
pig	0.065	91	0.70	0.22	0.46	136	0.80	22.6	7.1	14.8

Notes:
[a] For estimates of cattle, sheep and pigs, see text. For horses the weight of cattle is used.
[b] Calculated from figures in: *Livestock waste facilities handbook* (third edn, 1993), p. 2.1.
[c] Taken from ibid., p. 2.1.
[d] For cattle the figure for beef cattle are taken.
[e] Dry weight manure per day = (6) × (1) × [1 – (2) / 100]
[f] (8) = (6) × (1) × (3) / 100 × 365; (9) = (6) × (1) × (4) / 100 × 365; (10) = (6) × (1) × (5) / 100 × 365

Unfortunately, Newman gives figures for sheep that differ from those in Table 1.[103] He has based his values on ecological research undertaken on upland pastures in Snowdonia, claiming that, 'although the site is 490m above sea level, the soil and pasture vegetation are similar to old, unimproved pastures in lowland England'.[104] This claim, however, is unproven, since the area contains many types of grassland as soil moisture, soil nutrient supply and acidity varies from site to site.[105] Newman derives his values from observations of sheep numbers on small plots of 232 m² and from indirect measurements of consumed feed. Each month researchers harvested the vegetation grown within cages which – without protection – would have been eaten by sheep.[106] Armed with measurements of the nutrient content from the harvested plants, Newman calculated the nutrient content of the manure of these sheep. It is questionable whether these figures can be used to calculate the manure production per sheep, since the 32 observed plots of 232 m² each were not enclosed. Sheep therefore did walk in and out of these plots, could eat in one place and rest somewhere else. To illustrate this, sheep numbers per acre at noon were three times those around 6 o'clock. I therefore prefer the values in Table 1 that are derived from the livestock waste facilities handbook in preference to those of used by Newman.

[103] For the period May to October, he reports 28.3g N, 2.48g P and 22.6g K, per adult sheep per day, which is two to three times the daily amount (averaged over the whole year) reported in *Livestock Waste Facilities Handbook*, p. 2.1; E. I. Newman, 'Medieval sheep-corn farming; how much grain yield could each sheep support?', *AgHR* 50 (2002), p. 167.

[104] Newman, 'Medieval sheep-corn farming', p. 167.

[105] D. F. Perkins, 'Snowdonia grasslands: introduction, vegetation and climate', in O. W. Heal and D. F. Perkins (eds), *Production ecology of British moors and montane grasslands* (1978), pp. 289–96.

[106] S. Brasher and D. F. Perkins 'The grazing intensity and productivity of sheep in the grassland ecosystem', in Heal and Perkins (eds), *Production ecology*, pp. 354–62.

Different types of livestock management have different effects on the fertilization of the arable. When livestock was kept inside, in a stall, the produced manure had to be transported to the arable and spread upon it. This method was attractive, since this manure can easily be gathered in heaps and mixed with earth, as Walter of Henley advised in his thirteenth-century treatise on agriculture:

> Now I will tell you what advantage you will have from manure mixed with earth. If the manure was quite by itself it would last two or three years, according as the ground is cold or hot; manure mixed with earth will last twice as long, but it will not be so sharp.[107]

This method, however, required a lot of man-labour, since hay and straw had to be cut and transported to the stall, while manure had to be transported to, and spread on, the arable.

Stone has cast doubt on whether lords were willing to use all the stall manure they had at their disposal. Not using stall manure may seem a waste when considering the fertility of the soil, but it may be a rational decision if one is trying to maximize profit, as Stone found for the manor of Wisbech in the early fourteenth century. On most peasant holdings, however, the availability of labour was not a problem at all. Therefore, as Stone remarks, probably all of their manure was spread on the arable.[108] The values for stall feeding in Table 2, no. 1 and 4, are calculated under the assumption that, even on demesnes, all stall manure was used for fertilization. The differences between the demesne sector and the non-demesne sector thus must have been somewhat larger than the ones found in this study. Even when 100 per cent of the manure produced was used for fertilizing, only some 45 per cent of the main nutrients contained in cattle manure were derived from pasture lands or from grains, since more than half their feed consisted of straw.[109] For horse manure this percentage was much higher, since their feed contained much more grain, as Langdon shows in his comparison of horses and oxen.[110]

Newman has made detailed calculations for a second type of animal husbandry, namely for sheep that are kept on pastures, heaths, etc. during daytime and on a fold on the fallow or stubble at night, following the advice of the *Seneschaucie*, a thirteenth-century treatise on agriculture:

> And every night the cowherd shall put the cows and other beasts in the fold during the season, and let the fold be well strewed with litter or fern, as is said above, and he himself shall lie each night with his cows.[111]

Only one tenth of their feed was consumed in the fold whereas about half of their manure was deposited there.[112] Regarding long-term fertilization, therefore, 40 per cent of the main nutrients are transported from pasture to arable. With respect to short-term fertilization, 50 per cent of the produced manure is deposited on the arable. Both values are used in Table 2, no. 8. To keep the animals within a well-bounded area, they were kept within movable folds in the thirteenth century.[113] What made this husbandry system so attractive to lords was that labour inputs were minimal, since it was the sheep who were doing all the work. One just had

[107] Lamond (ed.), *Walter of Henley*, pp. 19–21.
[108] Stone, *Decision-making*, pp. 67–9, 264–5.
[109] See section III.
[110] Langdon, 'Economics of horses', pp. 31–40.
[111] Lamond (ed.), *Walter of Henley*, pp. 112–3.
[112] Newman, 'Medieval sheep-corn farming', p. 172.
[113] Thornton, 'Determinants of land productivity', p. 200; Campbell, 'Regional uniqueness', p. 17.

TABLE 2: Efficiency of livestock management, namely the percentage of manure that is deposited on the arable, the percentage of nutrients in the produced manure, not coming from straw, that is transported to the demesne arable, on the Midlands manor, without the privilege of the fold.

				Manure on, nutrients transported to, the arable					
				Percentage		*Amount per year, in lb*			
No.	*Livestock*	*Management Day // night*	*Period (months)*	*Manure*[a]	*Nutrients*[a]	*Manure dry weight*[b]	N[c]	P[c]	K[c]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Lord's								
1	4.4 horses	Stall-fed	8	100 %	80 %	4368	103	24	86
2		Stubble // stall	1	62.5 %	30 %	341	5	1	4
3		Pasture // stall	3	50 %	40 %	819	19	5	16
4	22.3 cattle	Stall-fed	8	100 %	45 %	15,628	334	111	246
5		Stubble // stall	1	62.5 %	30 %	1,221	28	9	21
6		Pasture // stall	3	50 %	40 %	2,930	111	37	82
7	87.4 sheep	Fallow, Stubble // fold	10	62.5 %	30 %	7,477	151	31	116
8		Pasture // fold	2	50 %	40 %	1,196	40	8	31
9	11.9 pigs	Pasture // stall	12	50 %	40 %	1,737	108	34	70
	Peasants'								
10	28.6 horses	Stubble // stall	1	12.5 %	–10 %	444	–10	–2	–9
11	146.7 cattle	Stubble // stall	1	12.5 %	–10 %	1,606	–61	–20	–45
12	576.6 sheep	Fallow, stubble // fold	10	12.5 %	–10 %	9,865	–332	–67	–255
	Total					47,632	496	171	363

Notes:

[a] For an explanation of these figures, see text.

[b] (6) = (1) × (3) / 12 × (4) / 100 × Table 1 (7) × 365

[c] (7) = (1) × (3) / 12 × (5) / 100 × Table 1 (8)
(8) = (1) × (3) / 12 × (5) / 100 × Table 1 (9)
(9) = (1) × (3) / 12 × (5) / 100 × Table 1 (10)

to move the fold from one acre to the next. Folding therefore was an excellent way to keep down the costs of labour.

In a variant on this type of husbandry, livestock was not kept in a fold, but put in a stall at night. In this variant the advantage of low labour costs, of course, was lost. Instead, other benefits might have compensated for this loss, like keeping the animals dry under a roof, facilitating milking, or keeping working animals close to the farmyard. Therefore this variant seemed appropriate for cattle and horses. As long as all stall manure was spread upon the arable, the calculations for these two variants in Table 2, no. 3, 6, and 8, are the same.

In another variant, when livestock was grazed upon the pasture or heath, their dung was gathered and transported to the arable. Although Campbell found evidence that some

demesnes used this method to fertilize the arable, it must have been mostly smallholders without any animals that turned to this labour-intensive method.[114]

A third type of animal husbandry, often mentioned, is the grazing of livestock upon the arable, namely on the fallow or stubble. In this husbandry system all of their urine and dung is directly deposited on the soil. Howell mentions that the fallow of Kibworth Harcourt was 'doled out as sheepwalks'.[115] Keeping in mind the advice of the *Seneschaucie*, namely that the animals should be kept in a fold at night, one should realize that the animals could move relatively freely during the day and were penned during the night. At the model manors, where 25 per cent of the arable was demesne land, an animal kept at the lord's fold left no more than 62.5 per cent of the daily manure on the demesne arable.[116] An animal kept at a peasant's fold, left 12.5 per cent of its daily manure on the demesne arable.[117] With regard to the main nutrients, livestock kept at the lord's fold transported net 30 per cent of the nutrients in its daily manure from other arable fields to the demesne fields.[118] In contrast, animals kept at a peasant's fold, transported net 10 per cent of the nutrients in their daily manure from the demesne to peasants' fields.[119] In Table 2, no. 7 and 12, these four percentages are used to calculate the contributions of this type of husbandry to demesne land. For the model's half virgate holding and cottage, these four percentages of course differ from the ones given above, since these holdings had respectively 2.5 and 0.25 per cent of the manor's arable land at their disposal.[120]

What is clear from Table 2, is that this type of husbandry was advantageous to a demesne with respect to short-term fertilization, but disadvantageous to long-term fertilization, since peasants possessed much more livestock to remove nutrients from the demesne arable than the lord did to bring nutrients to these fields. From this point of view, it would have been only fair for a lord to possess some kind of privilege of the fold.

In a variant on this type of animal husbandry, livestock were not kept in a fold, but put in a stall at night. This variant is found in Table 2, rows 2, 5, 10 and 11. Although the advantage of low labour costs was lost in this variant, all manure calculations are exactly the same as when the animals were locked in a fold. Therefore, whether cattle and horses were indeed put in a stall or in a fold, does not influence the results of this study.

For the Midland manor, livestock management is specified in Table 2. All calculations are done for demesne land. Calculations for the other farm types (half-virgates and cottages, villein and freehold) are similar, only animal numbers varying from type to type. While calculations on horses, cattle and pigs are kept the same for the two model manors, those on sheep deviate,

[114] Campbell, 'Regional uniqueness', p. 22.

[115] Howell, *Land, family*, p. 99.

[116] 50 per cent of its manure is deposited in the fold. Since 25 per cent of the arable is demesne land, only 25 per cent of the other 50 per cent of its manure is deposited on demesne land.

[117] 25 per cent of 50 per cent.

[118] 10 per cent of its feed was consumed in the fold, 90 per cent at daytime, of which only 25 per cent on demesne land. Therefore removing $10 + 0.25 \times 90 = 32.5$ per cent of its nutrients from the demesne, and depositing 62.5 per cent on the demesne, gives a net result of 30 per cent.

[119] It consumed 25 per cent of 90 per cent of its feed on demesne land and deposited only 12.5 per cent of its manure on this land.

[120] Half virgate: $50 + 0.025 \times 50 = 51.25$ per cent; $0.025 \times 50 = 1.25$ per cent; $51.25 - 10 - 0.025 \times 90 = 39$ per cent; $1.25 - 0.025 \times 90 = -1$ per cent. Cottage: $50 + 0.0025 \times 50 = 50.125$ per cent; $0.0025 \times 50 = 0.125$ per cent; $50.125 - 10 - 0.0025 \times 90 = 39.9$ per cent; $0.125 - 0.0025 \times 90 = -0.1$ per cent.

TABLE 3: Efficiency of livestock management, namely the percentage of manure that is deposited on the arable, the percentage of nutrients in the produced manure, not coming from straw, that is transported to the demesne arable, for the two theoretical manors, each without, and with extensive, privileges of the fold.

		Manure (dry weight); nitrogen; phosphorus; potassium in lb per sown acre per year			
		Midland manor		*East Anglian manor*	
		Without fold privilege	*With 10 months fold privilege*[e]	*Without fold privilege*	*With 12 months fold privilege*[f]
demesne[a]		476; 5; 2; 4	644; 11; 3; 8	363; 8; 2; 6	564; 15; 4; 11
half-virgate[b]	freehold	822; 15; 4; 11	822; 15; 4; 11	708; 17; 5; 13	708; 17; 5; 13
	villein	822; 15; 4; 11	702; 11; 4; 8	708; 17; 5; 13	565; 12; 4; 9
cottage[c]	freehold	1498; 34; 10; 25	1498; 34; 10; 25	1384; 34; 10; 26	1384; 34; 10; 26
	villein	1498; 34; 10; 25	1259; 26; 8; 19	1384; 34; 10; 26	1097; 25; 8; 18
Average peasant acre[d]		890; 17; 5; 12	836; 15; 5; 11	776; 19; 6; 14	712; 17; 5; 13

Notes:
[a] 4.4 horses, 22.3 cattle, 87.4 sheep and 11.9 pigs.
[b] 0.9 horses, 4.5 cattle, 17.5 sheep and 2.4 pigs.
[c] 0.18 horses, 0.89 cattle, 3.5 sheep and 0.48 pigs.
[d] Weighting 11 villein and 16 freehold half-virgates of 15 acres, and 12 villein and 18 freehold cottages of 1.5 acres each.
[e] All villein sheep during 10 months in the lord's fold, see table 2, row no. 7 and 12.
[f] All villein sheep during 12 months in the lord's fold, see table 2, row no. 7 and 12.

since calculations for our East Anglian manor are done for sheep that are pastured at daytime, and kept in a fold at night, all year round. In Table 3 the figures for long-term and short-term fertilization are displayed for the two model manors. Each model is displayed in two custom variants, namely one without any form of privilege of the fold, and one in which all the sheep of the lord's villeins were put in the lord's fold for as long as these sheep grazed upon the fallow (Midlands manor) or on pastures (East Anglian manor).[121] Since the right of the fold usually did not apply to freeholders, their sheep were not at the lord's disposal.[122] A note of caution on the interpretation of Table 3 is needed. In constructing this table, it is assumed that each arable acre was manured two out of three years, both years receiving precisely the same amount of manure, the third year receiving no dung at all. In practice such a strict regime was neither desired nor possible. Regarding the applicability of this study's results, however, deviations from this regime are of minor importance.

[121] Foldsoke may not always have been restricted to sheep, as examples by Hallam and Dyer show in Hallam, 'Farming techniques, eastern England', pp. 282–4; Dyer, 'Farming techniques, the West Midlands', p. 377.
[122] Hallam, 'Farming techniques, eastern England', p. 282.

V

Table 3 shows clearly that, when the demesne land is fertilized by its own livestock alone, it received far less manure than the soil of the half-virgate or cottage did, since the stocking density was so much lower. However, when an extensive privilege of the fold was the custom, a demesne acre received about as much manure and nutrients as a villein's half-virgate. Even then, an average peasant acre received at least 25 per cent more manure than a demesne acre.

Such an extreme situation, where villeins did not profit from their own sheep's dung, was probably only the case where they had to deal with 'an unscrupulous lord'.[123] For eastern Norfolk, Campbell notes that villein tenants had to place their sheep in the lord's fold for only a few months. Hallam gives examples of several different customs. At Pakenham the peasants could keep breeding ewes to themselves. At Blythburgh where 'they might keep their sheep between the Vigil of Whitsuntide and Michaelmas, at a payment of a penny for every four'.[124] According to the examples given by Hallam and Campbell, a privilege period of some five months seems about average. If the calculations above are adapted to this reality, then a demesne's fertilization would be depressed in favour of the villein farms, as can be seen in Figure 3. For a five months' privilege of the fold, an average peasant acre would receive 54 per cent extra manure on the Midland manor. On the East Anglian manor the difference would even have been 67 per cent.

However strict the privilege, on average a freeholder's half-virgate was better manured than a demesne. According to Table 3 the difference was at least 25 per cent. For cottages the difference was even larger. A cottage-acre could receive at least twice the amount of an acre of demesne. When indeed, as Postan proposed, the fertility of the soil was the major setback on medieval yields, it was demesnes, instead of peasants' holdings, that suffered from relative infertility.

For each of the main nutrients, the amounts added to the soil can be compared with the amounts taken from the soil at harvest, when grains and straw were taken from the fields. As mentioned before, straw can be left out of the equation, since it stayed on the field or its nutrients returned to the field in one form or the other. Therefore, it is enough to concentrate on the grains, net of seed. Using the values reported by Broadberry *et al.* on demesne yields, net of seed, for 1300–09, namely 7.8, 11.7 and 8.7 bushels per acre for wheat, barley and oats respectively, and assuming that half the sown area was in wheat, one quarter each in barley and oats, the grain would contain 6.3 lb of nitrogen, 1.3 lb of phosphorus and 1.9 lb of potassium per sown acre.[125] According to this calculation, Table 3 shows that nitrogen might have been the deficient nutrient for the demesne of the Midlands manor without the privilege of the fold. For all other farms considered, the balance was positive. Even when peasant holdings produced 50 per cent higher output, the fertility of their fields was guaranteed in the long term.

[123] Campbell, 'Regional uniqueness', p. 18.

[124] Ibid., p. 20; Hallam, 'Farming techniques, Eastern England', pp. 283–4.

[125] For yields per acre see Broadberry *et al., British economic growth*, p. 97; for densities of grains see La Poutré, 'Contribution of legumes', p. 24; for moisture content of the grains I assume the usual 15 per cent; for nutrient content of grains see Newman, 'Medieval sheep-corn farming', p. 171.

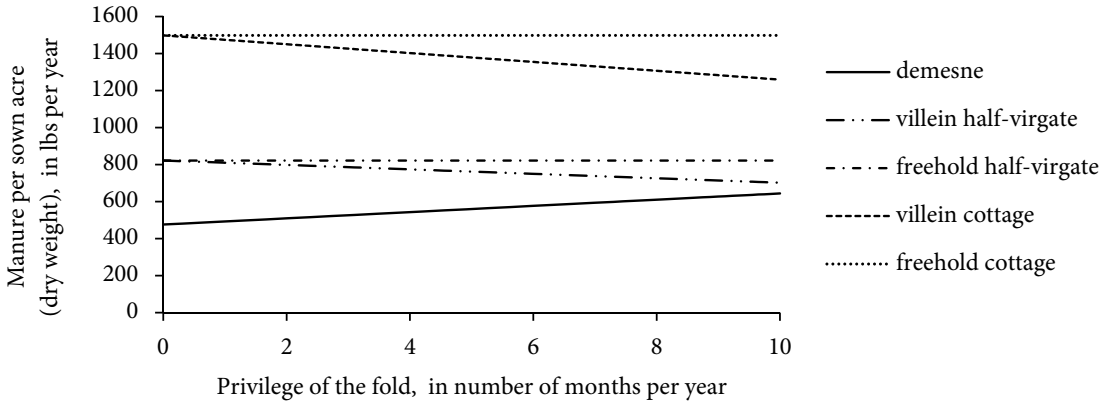


FIGURE 3: The relation between the amount of manure per sown acre and the number of months that the privilege of the fold holds at the theoretical Midland manor.

Source: Table 3.

This study therefore does not support Postan's view that peasant land deteriorated in the long term at the end of the thirteenth century. In fact, it reverses it. It was peasant land, rather than demesne land, that must have been in better heart.

VI

One question has been neglected so far in the calculations in this study. As is well known, faeces and urine easily release ammonia into the air or into runoff, especially when they are in open contact with air, i.e. not mixed with straw or earth or the like or exposed to rain. Since ammonia contains nitrogen, these losses of nitrogen can be considerable and this may have been the reason why pre-modern agriculture had to deal with nitrogen deficits. Walter of Henley's advice to 'cause your sheepfold to be marled every fortnight with clay land or with good earth, as the cleansing out of ditches, and then strew it over', points to an important agricultural practice to limit this kind of loss.[126]

A pre-modern agricultural solution to compensate for this leakage in the nitrogen circle, the use of grain legumes to fix atmospheric nitrogen, was used on smaller farms more than it was on larger ones, as several studies now show.[127] This ammonia-leakage therefore increased the differences between smaller and larger farms even more.

Most scholars consider nitrogen to be the most deficient element.[128] Newman and Harvey, however, find phosphorus to be the most deficient when they calculated the nutrient balances for the demesne of Merton College's manor of Cuxham, Oxfordshire for the 1320s and 1330s. They considered the demesne, 269 acres of arable, 29 acres of meadowland and 22 acres of

[126] Lamond (ed.), *Walter of Henley*, p. 19.

[127] Stone, *Decision-making*, pp. 265–6; Sapoznik, 'Productivity of peasant agriculture', pp. 518–44; La Poutré, 'Contribution of legumes', pp. 19–38.

[128] See, for example, Robert C. Allen, 'The nitrogen hypothesis and the English agricultural revolution: a biological analysis', *JEcH* 68 (2008), pp. 182–210.

pasture, as a 'black box' and tabulated what products entered and left the demesne, calculating for each of them the nitrogen-, phosphorus- and potassium-content.[129] The balance for nitrogen was indecisive. For phosphorus however they established a negative balance of 0.6–0.8 lb per acre per year. They estimate that, due to the weathering of rock material in the soil, some 0.04–0.4 lb of phosphorus became available per acre yearly, which was not enough to compensate the loss of this main nutrient.[130] Since they also found declining yields for wheat, they concluded that phosphorus might have been the deficient nutrient for Cuxham.[131] Given that this argument holds for large and small farms alike, peasants might not have been able to raise their yields above demesne ones, because the deficient nutrient determined the size of the yield. Because of the relevance to this study, this issue has to be addressed.

According to Newman and Harvey, Cuxham demesne had sufficient meadowland and made only limited use of pasture land. In these aspects it is comparable to the Midlands model. According to Table 2, a large part of the nutrients transported to arable land came from hay. Therefore, if Cuxham indeed had a phosphorus deficit, it must have been caused by exhausted meadowlands, due to years of removing nutrients. Unfortunately, however, the Cuxham study leaves some sources of phosphorus input out of the equation. Drifting sands, from heaths, dunes and deserts might have contributed to fertilization of arable and pasture soils alike. Based on measurements of the deposition of Saharan dust, Newman estimates the contribution to be some 0.3 lb of phosphorus per acre per year in Israel.[132] To arrive at such a figure, no more than 30 grams of sand on a square metre per year is needed. Besides this, the flooding of meadowland in winter must have brought phosphorus to these soils. Although it might have been far below the 3 lb per acre per year that Newman has calculated for the flooding of the Nile in ancient Egypt, it must have played an important role to keep the meadows fertile.[133] Another option, the spreading of the ashes of firewood, is mentioned in the Cuxham study, but is not incorporated in the calculation.[134] Marling, another way of adding phosphorus, is left out of the equation because it is not mentioned in the 14 accounts studied by Newman and Harvey. Furthermore, 'we should bear in mind that Cuxham had a high proportion of its area as cropland, it had a high yield of wheat, and a high proportion of that was exported'.[135] To be precise, 54 per cent of their crop yield left the demesne as tithe, as gift, was sent to Merton college in Oxford (who owned the manor), or was sold.[136] The combination of high amounts of grains leaving the manor and minimum use of pastures led to the found deficit on phosphorus. Such a combination is improbable to hold for the whole manor. Even when half-virgates were in a position to sell half their yield, most cottagers should have been forced to buy a great deal of their grains, since they were not able to achieve self-sufficiency.

[129] Newman *et al.*, 'Did soil fertility decline', pp. 119–36.

[130] Deficit: 0.70–0.94 kg/ha/yr. Release by weathering 0.05–0.5 kg/ha/yr; see Newman *et al.*, 'Did soil fertility decline', p. 131.

[131] Ibid., pp. 119–36.

[132] Newman, 'Phosphorus inputs to terrestrial ecosystems', *J. of Ecology,* 83 (1995), p. 721.

[133] E. I. Newman, 'Phosphorus balance of contrasting farming systems, past and present. Can food production be sustainable?', *J. Applied Ecology,* 34 (1997), p. 1340; Newman *et al.*, 'Did soil fertility decline', p. 131.

[134] Newman *et al.*, p. 132.

[135] Ibid., p. 135.

[136] Calculated from the figures (Table 4) in Newman *et al.*, p. 126.

Therefore it is questionable whether the phosphorus content of the soil did indeed decrease *c.*1300. Even if it did, it is improbable that phosphorus was the deficient nutrient, since grain yields around 1700 were much higher than medieval ones, although the use of fertilizers specifically aimed at raising the soil's phosphorus content, namely guano and phosphate rock, was still in the future.[137] What is more, the soil phosphorus content for a plough layer of about 0.2 m could be some 2500 lb per acre.[138] Even when a large part was not in an available form, the weathering process would have converted enough to sustain this kind of husbandry for hundreds of years.

Decreasing phosphorus concentrations therefore might not have been the most probable cause of declining yields. Perhaps declining labour input might have been the cause, as Stone found for Wisbech Manor.[139] A study of this relationship, however, falls outside the scope of this study.

VII

Even when lords made use of their privilege of the fold for the whole year, Table 3 shows that the average peasant acre received more manure than a seigneurial one. Most of this manure had to be carted to and spread on the arable, therefore requiring a lot of labour input. Most peasants, however, were not short of labour. As this study shows, they were not short of manure either. Most peasants were short of land. They must have tilled their land as intensively as they could, using all manure they had at their disposal. One may therefore assume that their yields were much higher than those on demesnes. Even where some peasants might have sold some of their manure to their lord, the amounts must have been small, because of the labour input necessary for carting and spreading. On the contrary, as noted above, it seems more plausible that demesnes might have left part of their farmyard manure unused. The difference between an average peasant acre and a seigneurial one therefore might have been even somewhat greater than Table 3 shows.

Although villein acres received less manure than freehold acres, our calculations show that an average non-demesne acre received well over 50 per cent more than a demesne acre. Keeping in mind that the lord's managers might have reduced exploitation costs by leaving part of the dung unused, differences between demesne and peasant land might have been even bigger. The results for the two model manors are comparable. Although the amounts of manure, deposited on arable land, are somewhat smaller on our East Anglian model manor, due to sheep dunging on pastures more frequently, for both models the non-demesne sector was much better manured than the seigneurial sector. Similar results for these two models give some confidence in the robustness of the modelling process. Apparently, differences between the husbandry systems of these two models led to minor differences in results. Although husbandry practises differed from manor to manor, one may have some confidence

[137] For figures on yields, see: Broadberry *et al.*, *British economic growth*, p. 97.

[138] The soil density is about 1400 kg/m^3. A 0.2 meter soil layer, with a P concentration of 1 mg/g, therefore contains 1400 × 10,000 × 0.2 × 0.001 = 2800 kg/ha. For the P concentration, see Newman, 'Phosphorus balance', p. 1339; Newman, 'Phosphorus inputs', p. 715.

[139] Stone, *Decision-making*, pp. 39–40, 61–72.

that the results of this study hold for many manors in the Midlands and in the southern and eastern counties.

Fifty per cent extra manure, combined with more labour-intensive activities, like weeding, must have made possible much greater output. Given these results, a 50 per cent higher output seems quite probable. Such a theoretical prediction is consistent with the Sapoznik's study of Oakington. As mentioned before, her study shows 21 to 81 per cent higher output from peasant land. To arrive at these figures, she combines tithe records with estimates of the size of the tithed land. Since her approach is completely different from the one in this article, the consistency between Sapoznik's work and ours is encouraging. Whether this greater output is a result of higher yields per sown acre, or due to minimizing the proportion of land left fallow, as Sapoznik convincingly argues, cannot be clarified from the present analysis.[140] Both options put pressure on the maintenance of soil fertility. However, it seems quite plausible that the cultivation of legumes on the fallow of peasant land must have played an important role at manors with sufficient flexible field systems. Such an expectation is in line with Boserup's influential theory on the influence of population pressure on agricultural practise.[141]

A higher level of peasant output would solve the dilemma about the average holding size around 1300. As a result of population pressure, holding size was quite small, especially in south-eastern counties. If their output per arable acre was comparable to those of demesnes, most households would not have been able to make a living from it. They therefore must have had additional earnings through other forms of labour. Even Kitsikopoulos' model family, cultivating 18 arable acres, spent 80 man-days outside its own farm.[142] Unfortunately, scholars have not been able to find an outlet for such enormous amounts of labour. However, when peasant stocking densities were higher than those of demesnes, and peasant arable output per acre was higher too, as this study makes plausible, many more households were able to support themselves from the output of their holdings. The minimum needed for subsistence could shrink from 18 to some 12 arable acres, which would mean that more than half of the holdings in Kazanka's Hundred Rolls analysis were above threshold size.[143] Therefore, the problem of the missing additional labour becomes less severe.

Besides this, higher arable output of peasant lands has consequences for the maximum population number that is supported by England's total arable output. Of course the results from this article cannot be used to make an estimate of England's population size at its medieval peak. Especially the precise value of the multiplication factor, estimated in Section II, for the inverse relationship between farm size an stocking densities, probably varied from time to time and from region to region. Such a variation, though of minor importance to this study, prevents us from making any estimate.

However, the results from this study can be used to reconcile two different approaches in the population debate. Each approach is supported by an impressive amount of data. Based

[140] Sapoznik, 'The productivity of peasant agriculture', pp. 518–44.

[141] Ester Boserup, *The conditions of agricultural growth: the economics of agrarian change under population pressure* (1965).

[142] Kitsikopoulos, 'Standards of living', pp. 243–4, 255.

[143] Kanzaka, 'Villein rents', p. 599.

on mean demesne yields, Campbell states that the population number *c.*1300 must have been some 4.4 million.[144] Clark, using time series on farm wages and product prices, argues that it must have been some 6 million.[145] The result of this study, some 50 per cent higher output in the non-demesne sector, would raise Campbell's number towards 6 million.[146]

In conclusion, it appears that manorial demesnes, despite their size (or because of it) lacked animals. In turn they lacked manure. For this reason they were doomed to relative failure. In this light, attempts to secure the dung of tenants' animals through the foldcourse are more readily explicable. Overall, we follow other recent writers in turning received wisdom on its head. It was the peasant sector which was productive, and the demesne which, for the reasons we have outlined here, was the laggard. Hence estimates of demesne productivity should be taken as the minimum rather than maximum in assessments of English agricultural productivity *c.*1300.

Appendix:
1392 taxpayers of Blackbourne Hundred, subdivided in groups according to the total volume of grains (cereals + legumes) in their possession.

Grain in quarters	*n*[a]	*Average number of animals per taxpayer*			*Livestock units*[b]	*Livestock units per quarter of grain*[c]
		Horses and cattle	*sheep*	*swine*		
0–0.20	94	1.7	30.9	0.1	4.9	–
0.25–0.70	21	2.3	3.7	0.3	2.8	5.7
0.75–1.20	86	2.2	4.4	0.1	2.9	2.9
1.25–1.70	94	2.4	3.3	0.3	2.8	1.9
1.75–2.20	117	2.6	4.4	0.3	3.2	1.6
2.25–2.70	99	2.4	3.9	0.3	3.0	1.2
2.75–3.20	88	2.9	5.9	0.2	3.7	1.2
3.25–3.70	62	3.1	3.6	0.5	3.6	1.0
3.75–4.20	80	3.3	4.2	0.9	4.0	1.0
4.25–4.70	63	4.1	6.1	0.7	4.9	1.1
4.75–5.20	62	4.5	6.4	1.1	5.4	1.1
5.25–5.70	46	5.2	6.5	1.1	6.0	1.1
5.75–6.20	43	4.2	11.5	0.7	5.7	1.0
6.25–6.70	41	4.8	9.6	1.2	6.1	0.9

[144] Campbell, *English seigniorial agriculture*, pp. 392–3; id., 'Agrarian problem', p. 11.

[145] Gregory Clark, 'The long march of history: farm wages, population and economic growth, England 1209–1869', *EcHR* 60 (2007), pp. 97–9, 120.

[146] According to Broadberry *et al., British economic growth*, p. 82, the share of the non-demesne sector was 75 per cent. Setting the demesne yield per acre to 100 per cent, the mean yield per acre was (25 × 100 + 75 × 150)/100 = 137.5%. Therefore the total population could have been 37.5 per cent above Campbell's value.

Appendix *continued*

Grain in quarters	*n*[a]	*Average number of animals per taxpayer*			*Livestock units*[b]	*Livestock units per quarter of grain*[c]
		Horses and cattle	*sheep*	*swine*		
6.75–7.20	43	5.7	12.2	0.7	7.3	1.0
7.25–7.70	33	5.5	10.4	2.2	6.9	0.9
7.75–8.20	38	6.2	12.6	1.7	7.9	1.0
8.25–8.70	20	7.1	13.6	3.2	8.8	1.0
8.75–9.20	17	6.3	12.0	2.9	8.2	0.9
9.25–9.70	17	6.4	12.0	2.3	8.1	0.9
9.75–10.20	19	6.2	37.4	1.5	10.2	1.0
10.25–10.70	12	6.6	9.0	1.0	7.7	0.7
10.75–11.20	18	5.7	12.8	1.6	7.4	0.7
11.25–11.70	14	8.6	13.3	4.0	10.6	0.9
11.75–12.20	10	7.2	12.2	1.1	8.9	0.7
12.25–12.70	8	7.8	21.8	1.4	10.6	0.9
12.75–13.20	10	7.2	40.6	2.0	12.1	0.9
13.25–14.20	19	6.9	25.2	4.2	10.2	0.7
14.25–16.20	18	9.4	24.4	2.9	12.5	0.8
16.25–20.20	23	10.3	29.3	4.2	13.9	0.8
20.25–24.20	17	10.9	37.6	5.1	15.7	0.7
24.25–28.20	21	13.7	42.3	8.9	19.8	0.8
28.25–46.20	19	13.1	79.1	8.2	22.5	0.6
46.25–236.00	20	28.7	46.2	24.8	36.8	0.4

Notes:

[a] Number of taxpayers in this group.

[b] Livestock Units, according to the weighting scheme of Overton & Campbell: Horses × 1, cattle × 1.2, immature cattle × 0.8, sheep × 0.1, swine × 0.1.

[c] Total number of Livestock Units in each category, divided by the total amount of grain in the category.

Source: calculated from the quantities mentioned in the tax list of Blackbourne Hundred in Edgar Powell, *A Suffolk Hundred in the year 1283* (1910).

The enclosure of the commons and wastes in Nantconwy, North Wales, 1540 to 1900

by Frances Richardson

Abstract

The enclosure of lands from the waste was virtually continuous in the former Principality of Wales over the period 1540 to 1900, but two key periods were the later sixteenth century and the years 1790–1830. This article explores the processes involved and the reasons why the ownership and use of the waste was often contested, based on a case study of the hundred of Nantconwy in south-east Caernarfonshire. Patterns of land ownership dating from the thirteenth-century English conquest are found to have had a significant influence. The Acts of Union between England and Wales of 1536 and 1542, which replaced the Welsh 'tribal system' of land tenure and inheritance with English common law, left the status of large areas of waste ill-defined. Subsequent attempts by the Crown to assert its rights as manorial lord were strongly resisted, and most enclosure took place without legal sanction, while the absence of manor courts or other means of regulating ownership and use of the wastes led to frequent disputes. This study sheds new light on the regulation and use of the Welsh commons and wastes, when and where encroachment occurred, changing attitudes towards enclosure, and how various actors – the Crown, landowners, farmers, and the poor – fared in the contest for their ownership and use.

In 1540, the majority of land in the former Principality of North Wales was unenclosed share-land attached to the landholdings of local 'clans' or kindred according to Welsh land law.[1] The introduction of English land law as a result of the 1542 Act of Union left the legal status of these commons and wastes ill-defined, and emerging gentry landowners, freeholders and beneficial leaseholders all refused to accept the assertion of new manorial rights by the Crown. As a result, the majority of enclosure in the sixteenth and seventeenth centuries took place without legal sanction and was often contested.[2] Even during the eighteenth- and nineteenth-century era of parliamentary enclosure, Welsh landowners employed a variety of tactics to gain legal title to disputed wastes and to extinguish common rights.

Conversion to private ownership had a significant impact in some upland areas, where small farms relied on the commons for summer grazing, but little is yet known about the methods employed and the consequences.[3] This article investigates the processes and impact

[1] B. M. Evans, 'Settlement and agriculture in north Wales, 1536–1670' (unpublished PhD thesis, University of Cambridge, 1966), p. 142.

[2] F. Emery, 'The farming regions of Wales' in J. Thirsk (ed.), *The agrarian history of England and Wales,* IV, *1500–1640* (1967), p. 150.

[3] For sixteenth-century encroachments in Merioneth, see Evans, 'Settlement and agriculture';

of enclosure of the commons and waste in the former Principality over the period 1540–1900 through a case study of Nantconwy, a hundred in the south-east of Caernarfonshire. It uses a range of sources including Crown inquisitions, surveys and legal papers, estate and tithe commutation surveys, the records of Crown and rival estate manor courts introduced in the nineteenth century, and the writings of local antiquarians, to show how the absence of any effective means of regulating ownership and use of the wastes throughout most of the period led to frequent disputes. It also sheds new light on the regulation of the Welsh commons in the absence of a manorial system, and how various actors – the Crown, landowners, farmers, and the poor – fared in the contest for their ownership and use.

Enclosure involves extinguishing common rights over land thus putting an end to all common grazing. To effect this, it was usual for the encloser to hedge or fence the land. The gradual enclosure of waste lands in England involved an evolution of ownership rights, from the appropriation of empty no-man's-land into manors in the middle ages, and ultimately their apportionment to individual owners as a result of eighteenth- and nineteenth-century enclosures. The 1285 Statute of Merton formalized the concept of the manorial waste, confirming the rights of the lord of the manor in the soil of the manor's wastes, over which tenants could exercise common rights. In the ideal type manor, common pastures were a vital resource for feeding animals, which were needed to graze and manure the arable fields after harvest, but had to be kept away from growing crops and hay. Rights of common for grazing were most typically appurtenant to a tenement in the manor, though local custom might extend further, for example allowing the poor to gather or cut fuel, building materials, and other resources such as rushes.[4]

By around 1400, most English manor courts, including those in upland areas with large tracts of waste such as the Lake District and Pennines, were carefully regulating the use of the waste, and the degree of regulation increased during the sixteenth and early seventeenth centuries. A widespread means of preventing over-grazing was the rule of levancy and couchancy. This forbade rights holders from sending more animals to the manorial commons or waste in summer than they could feed within the manor over winter. As pressure on the carrying capacity of commons grew, due to the shrinkage in the area of common or an increase in animal numbers, manor courts might decide to restrict animal numbers by awarding stints to each tenement. An alternative solution prevalent in upland areas was the allocation of

Note 3 *continued*
C. Thomas, 'Enclosure and the rural landscape of Merioneth in the sixteenth century', *J. Merioneth Historical and Record Society* 15 (2007), pp. 129–41. A number of historical geography studies have looked at the conversion of summer pastures into permanent holdings: for a Caernarfonshire example see C. W. J. Withers, 'Conceptions of cultural landscape change in upland north Wales: a case study of Llanbedry-Cennin and Caerhun parishes, *c*.1560–*c*.1891', *Landscape Hist.* 17 (1995), pp. 35–49. Nineteenth-century parliamentary enclosures are described in G. Plume, 'The enclosure movement in Caernarvonshire' (unpublished MA thesis, UCNW Bangor, 1935).

[4] J. Thirsk, 'Enclosing and engrossing', in Thirsk (ed.), *Agrarian history,* IV, p. 200; A. J. L. Winchester, *The harvest of the hills: rural life in northern England and the Scottish borders, 1400–1700* (2000), p. 27; E. F. Cousins and R. Honey, *Gadsden on commons and greens* (sec. edn, 2012), pp. 19, 69; A. J. L. Winchester, ''By ancient right or custom': the local history of common land in European context', *Local Historian* 45 (2015), p. 271.

defined sections of the common to particular farms. Both methods could act as a stepping-stone to private ownership. Stints could be used to pasture animals from outside the manor, and leased or sold to those with no connection to the manor, while exclusive use of certain parts of the common could lead to the achievement of outright ownership.[5]

In theory, the main methods by which common rights could be extinguished were by agreement between the landowners and rights holders concerned, or by the operation of law. The Statute of Merton also allowed the lord to enclose part of his wastes providing sufficient remained for tenants' needs, a process known as 'approvement'; intakes by tenants under the lord's licence being a special form of approvement. Encroachment involved illicit enclosure, which might be regularized later. So long as land remained plentiful and sufficient common grazing remained, enclosure was usually uncontroversial. By the sixteenth century however, enclosure was becoming increasingly contested in more densely populated parts of England, especially when it involved the permanent conversion of arable land to pasture and resulted in the loss of employment and depopulation. Both enclosure and restrictive stinting could result in poorer people being squeezed out of access to pasturage, fuel, and other resources, though there was considerable local and regional variation in chronology. To achieve a fuller national picture, there has therefore been a call for more regional studies, preferably stretching over long periods of time.[6]

In the former Principality of Wales – the northern counties of Anglesey, Caernarfonshire and Merioneth (Gwynedd) and the southern counties of Cardiganshire and Carmarthenshire – the nature of sixteenth-century enclosure was altogether different from that taking place in England. Here, the lack of an accepted legal framework for regulating commons and wastes meant that enclosure often resembled a land grab in which emerging local landowners were the major beneficiaries.

Before the Acts of Union, landholding in the Principality was still governed by Welsh law based on the pre-conquest 'tribal system', though this was to some extent breaking down.[7] Commotes, equivalent to English hundreds, were divided into townships, plus demesne land for the lord's court and summer pasture (*hafod*). A *gwely* (literally meaning bed or resting place, plural *gwelyau*) was the landholding of a free clan or kindred held directly from the Crown. In return for relatively light rents and services, members of the kindred exercised conditional rights of proprietorship over small areas of arable land, which entitled them to grazing rights over extensive common pastures. Bond townships were divided into *gafaelion* (singular *gafael*) occupied by bondmen tied to the soil, often by a form of kinship landholding similar to the *gwelyau*, though a stricter form of serfdom applied on demesne land. While land surrounding individual farmsteads was held in severalty, much of each *gwely* or *gafael's*

[5] Winchester, *Harvest of the hills*, pp. 148–51; A. J. L. Winchester and E. A. Straughton, 'Stints and sustainability: managing stock levels on common land in England, *c.*1600–2006', *AgHR* 58 (2010), pp. 33, 45; Winchester, 'By ancient right', p. 274; Cousins and Honey, *Gadsden on commons*, p. 95.

[6] Cousins and Honey, *Gadsden on commons*, pp. 211–2; Bill Shannon, 'Approvement and improvement in the lowland wastes of early modern Lancashire', in R. W. Hoyle (ed.), *Custom, improvement and the landscape in early modern Britain* (2011), pp. 188–92; Thirsk, 'Enclosing and engrossing', pp. 201–3, 207–9; A. Wood, *The memory of the people: custom and popular senses of the past in early modern England* (2013), p. 166.

[7] J. B. Smith (ed.), *Medieval Welsh society: selected essays by T. Jones Pierce* (1972), p. 226.

land was unappropriated share-land (*cytir*) used as rough grazing (*ffridd*). As the kindred expanded, land could be enclosed from the share-lands for new homesteads.[8]

Bond townships and their *gafaelion* became part of the Crown estate at the English conquest of north-west Wales in 1282 and were subsequently leased to Crown farmers. Leases often included a requirement to respect the rights of the bond tenants or, after the freeing of the bondmen under a charter of Henry VII in 1507, their heirs and assigns known as 'ancient native tenants'. There was no manorial system except for monastic and ecclesiastical lands, and the lowest level of administration was the commote or hundred court, which dealt with minor issues of law and order, fines on inheritance or marriage, civil suits and communal regulation.[9]

In the Principality and areas of the Marches where Welsh law still applied, the Acts of Union abolished the medieval 'tribal system' of land tenure and introduced English common law. This allowed land to be bought and sold, and gavelkind – sharing land between all sons – was ended in favour of inheritance by primogeniture. Although the 1542 Act confirmed the landholding rights of those who had been in undisputed possession of lands and tenements for five years, it was silent on the ownership or control of the significant areas of unappropriated share-lands or waste. This left something of a legal vacuum: the Crown assumed that it was the manorial lord of both the Crown bond lands and the free townships, but its equation of Welsh share-lands with English common land where the manorial lord had rights over encroachments met with fierce resistance from the Welsh gentry and freeholders alike. Freeholders' defence of their customary rights was summed up in a 1561 Montgomeryshire inquisition, where jurors maintained that the hundred was 'divided into *gavell*, as well the waste as the land now severed'. Their chief rents were for the whole *gafael* lands and they had never previously nor needed in future to procure any licence for the improvement of the wastes. It was further argued that 'much land though not enclosed had its own bounds and belonged to certain messuages'. This was similar to the system operating in parts of the Lake District.[10]

The breakdown of the tribal system and rapid rise of Welsh gentry landowners after the Acts of Union led to significant encroachment of the wastes, whether share-lands or concealed escheat and former monastic land. After a number of commissions failed to identify concealed lands, the Crown in 1574 awarded the Earl of Leicester a grant of all concealed and encroached lands in Anglesey, Caernarfonshire and Merioneth that might be revealed within the next ten years by survey, inquisition or other information. In the former Marcher Lordship of Denbigh, Leicester's officers had already made substantial endeavours to control the enclosure of the commons and wastes, leading in 1564 to a composition with tenants which established the boundaries of the commons and secured the tenants' rights of common.[11] By contrast, attempts

[8] Ibid., p. 23; G. R. J. Jones, 'The tribal system in Wales: a reassessment in the light of settlement studies', *Welsh History Rev.* 1 (1961), pp. 114–19.

[9] C. Thomas, 'Encroachment onto the common lands of Merioneth in the sixteenth century', *Northern Universities' Geographical J.* (1964), p. 33; T. Jones Pierce, 'Agrarian aspects of the tribal system in medieval Wales', in Smith (ed.), *Medieval Welsh society*, pp. 335–6.

[10] I. Bowen, *The statutes of Wales* (1908), pp. lxx, 122–5; T. Jones Pierce, 'Landlords in Wales', in Thirsk (ed.), *Agrarian history*, IV, p. 372; National Library of Wales (hereafter NLW), Powys Castle 17091, quoted in Evans, 'Settlement and agriculture', p. 291; E. Evans, 'Arwstli and Cyfeiliog in the sixteenth century: an Elizabethan inquisition', *Montgomeryshire Collections* 51 (1949–50), p. 26.

[11] S. L. Adams, 'The composition of 1564 and the Earl of Leicester's tenurial reformation in the Lordship of Denbigh', *Bull. Board of Celtic Studies* 26 (1974–6), p. 504.

by Leicester and his heirs to assert Crown manorial rights in north-west Wales proved largely unsuccessful.[12] Over the period 1540–1600, it is estimated that the proportion of appropriated land in North Wales doubled, mainly involving *ffridd*.[13]

Encroachments were used to extend existing holdings, to convert summer pastures into permanent holdings, or to demarcate areas of rough grazing in severalty, more often by placing boundary stones than by physical enclosure. Enclosure of the wastes continued in the seventeenth century, but as more land was gathered into estates, landowners increasingly became the major beneficiaries, leading to a reduction of common grazing for small freeholders and beneficial tenants, and more frequent local disputes. Detailed analyses of sixteenth-century enclosures have been undertaken for Merioneth, where the existence of Crown rentals of a date close to a 1579 survey of encroachments by Earl of Leicester's agents enabled the distribution of encroachments and encroachers to be identified. But although sixteenth-century enclosures in Caernarfonshire were on a much larger scale – 18,025 acres according to the Earl of Leicester's survey, compared to 12,769 in Merioneth and 791 in Anglesey – their distribution and impact remain largely obscure.[14] Shedding light on this phase of enclosure in the county is vital to understanding the subsequent development of the late eighteenth- and nineteenth-century enclosures.

The parliamentary enclosures of the eighteenth and nineteenth centuries aroused considerable interest both amongst commentators at the time and later historians, who have debated their impact on agricultural improvement and output, the social consequences for small landowners and the poor, and the extent to which enclosure was contested. Enclosure of the upland wastes typically took place later than in lowland areas, and its rationale differed significantly from that advanced for enclosing open fields. While contemporaries believed that great tracts of moorland were a wasted resource that could be used to increase food production and provide employment, or for forestry, landowners might also be interested developing the upland as sporting estates.[15]

[12] E. G. Jones, 'The Caernarvonshire squires, 1558–1625' (unpublished MA thesis, University of Wales, Bangor, 1936), pp. 239–54; C. A. Gresham, 'The Forest of Snowdon, in its relationship to Eifionydd', *Trans. Caernarfonshire Hist. Soc.* 21 (1960), p. 53.

[13] Evans, 'Settlement and agriculture', p. 332.

[14] Ibid.; BL, Lansdowne 45, fos. 190–2; C. Thomas, 'The evolution of rural settlement and land tenure in Merioneth' (unpublished PhD thesis, University of Wales, Aberystwyth, 1965); BL Lansdowne 27 no. 88.

[15] A. Young, *General report on enclosures* (1808); A. Young, 'An inquiry into the propriety of applying wastes to the better maintenance and support of the poor', *Annals of Agriculture* 36 (1801), pp. 497–658; G. E. Mingay, *Parliamentary enclosure in England. An introduction to its causes, incidence and impact, 1750–1850* (1997); R. C. Allen, *Enclosure and the yeoman: the agricultural development of the south Midlands, 1450–1850* (1992); M. Overton, *Agricultural revolution in England; the transformation of the agrarian economy, 1500–1850* (1996); G. E. Mingay, *Enclosure and the small farmer in the age of the Industrial Revolution* (1968); J. V. Beckett, 'The decline of the small landowner in England and Wales, 1660–1900', in F. M. L. Thompson (ed.), *Landowners, capitalists, and entrepreneurs* (1994), pp. 89–112; id., 'The disappearance of the cottager and squatter from the English countryside: the Hammonds revisited', in B. A. Holderness and M. Turner (eds), *Land, labour and agriculture, 1700–1920* (1991), pp. 49–67; J. M. Martin, 'Village traders and the emergence of a proletariat in south Warwickshire, 1750–1851', *AgHR* 32 (1984), pp. 179–88; L. Shaw-Taylor, 'Parliamentary enclosure and the emergence of an English agricultural proletariat', *JEcH* 61 (2001), pp. 640–62; J. Humphries, 'Enclosures, common rights and women: the proletarianization of families in the late eighteenth and early nineteenth centuries', *JEcH* (1990), pp. 17–42; J. M. Neeson, *Commoners: common right, enclosure and*

In Wales, an estimated 84 per cent of land enclosed by act was in the uplands, and consisted almost entirely of common and waste.[16] There were 13 parliamentary enclosure acts in Caernarfonshire covering an estimated 55,880 acres, all common and waste, three-quarters of which was Crown land.[17] Plume's 1935 narrative account of the majority of parliamentary enclosures in the county gives a clear indication of the long and often highly contested processes involved, due in particular to the adverse impact on the large number of smallholders who had encroached on Crown land.[18] There was considerable scepticism about Welsh landowners' motives for enclosure, the majority being less concerned with agricultural improvement and more with settling or redistributing ownership, especially in areas where slate quarrying was becoming big business.[19] Indeed the 1896 Royal Commission on Land in Wales concluded that:

> It would be idle to suppose that the main motive of the Welsh landowners who eagerly used the facilities given by Parliament was to extend the margin of cultivation. They saw clearly enough that the movement gave them the opportunity of acquiring the sheep-walks and pasture lands till then unenclosed as their own in severalty.[20]

Nevertheless, as we shall see later, a large amount of eighteenth- and nineteenth-century enclosure in North Wales took place *without* parliamentary authority, continuing the earlier tendency for encroachment.

I

Land holdings around the time of the English conquest of Gwynedd were detailed in the 1352 *Record of Caernarvon*.[21] The commote or hundred of Nantconwy, encompassed over 50,000 acres, stretching from the Conwy valley to the heights of the Snowdonia mountains, centred on one of the former Welsh Prince's residences at Trefriw in the Conwy valley. The hundred comprised five townships, demesne and escheat land, plus part of the monastic lands of the Knights of St John at Ysbytty Ifan (Table 1 and Figure 2).

A perennial problem for the Crown in North Wales was uncertainty about the precise boundaries of its lands. This was particularly difficult where freehold and Crown lands were intermixed, as in Penmachno township. The first recorded encroachments in Nantconwy took place around 1545, when according to local tradition, two small farms, Tyddyn Meistr (Master's Farm) and Erw'r Clochydd (Bellringer's Acre), were enclosed from the former monastic lands of Ysbytty Ifan to provide a holding for the new Penmachno clergyman. Further enclosure by Bettws and Penmachno freeholders soon followed. The Crown's first attempt to reassert its rights came in 1577, when a commission led by the Bishop of Bangor was established to divide

Note 15 *continued*
social change in England, 1700–1820 (1993); J. Chapman, 'Parliamentary enclosure in the uplands', in I. D. Whyte and A. J. L. Winchester (eds), *Society, landscape and environment in upland Britain* (2004), p. 80.

[16] Ibid., p. 82.

[17] J. Chapman, *A guide to parliamentary enclosures in Wales* (1992), p. 23.

[18] Plume, 'Enclosure movement'.

[19] A. H. Dodd, 'The enclosure movement in north Wales', *Bull. Board of Celtic Studies* (1926–7), pp. 210–21.

[20] BPP 1896, XXXIV (C.8221), Report of the Royal Commission on land in Wales and Monmouthshire, second report, p. 214.

[21] H. Ellis (ed.), *Registrum Vulgariter Nuncupatum* (The Record of Caernarvon) (1837).

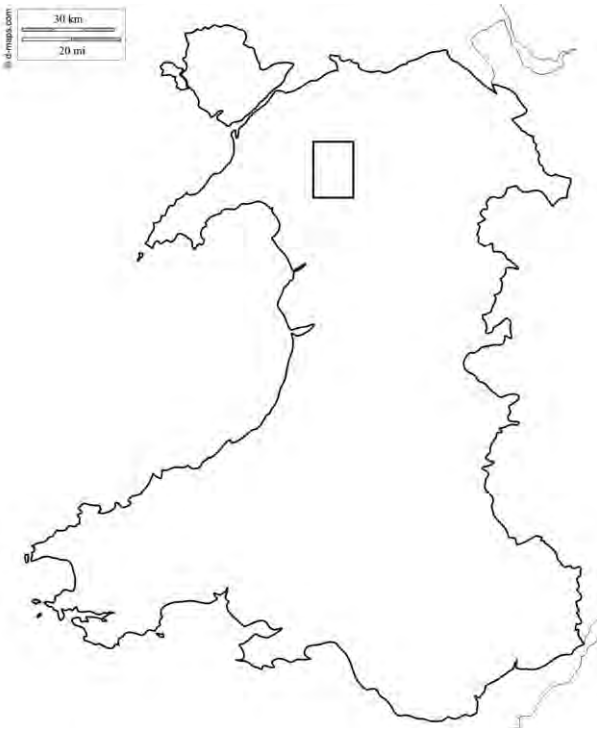


FIGURE 1: Location of Nantconwy

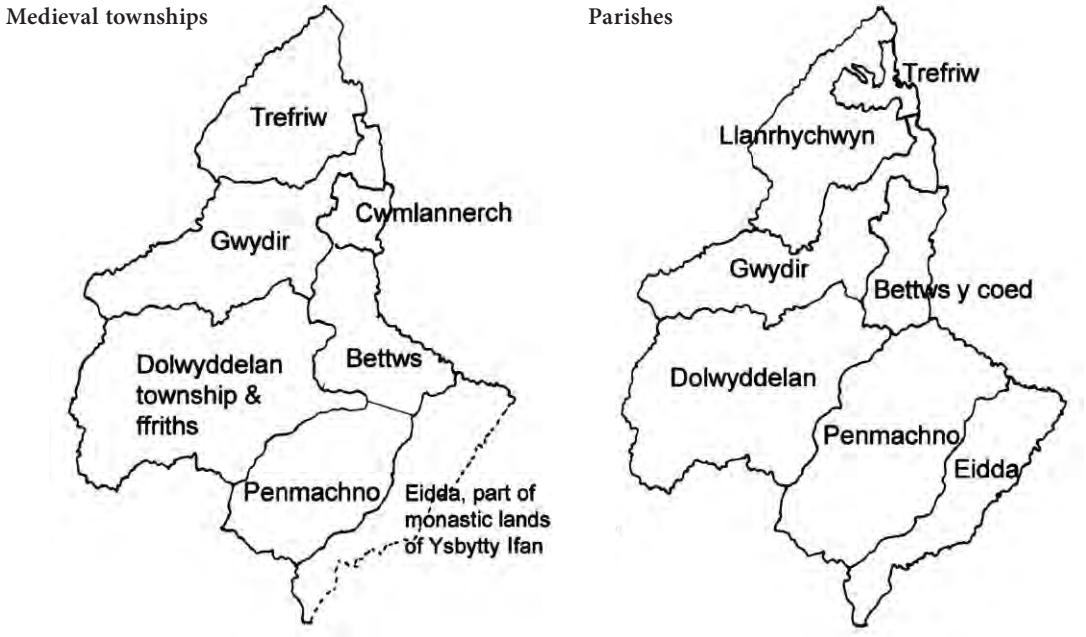


FIGURE 2: Nantconwy townships and parishes

TABLE 1: Nantconwy landholding in 1352

Township	*Status*	*Landholdings*	*Annual rent and dues*
Trefriw	bond	Gavel Neuyd	40*s.*
		Gavel Coyd Wedir	43*s.*
		Gavel Gurgen	37*s.*
		Gavel Gaderod	41*s.*
		Half of Gavel Ruwon ap Meiller	22*s.*
		Demesne, market tolls, mill and fishery of River Conwy	£8
Bettws	free	Gwely John ap Ithon	10*s.*
		Gwely Griffith ap Ithon	10*s.*
		Gwley Ken' ap Ithon,	10*s.*
		including 1 bovate escheat land	3*s.* 8*d.*
Comlannerch (Cwmlannerch)	free	Family of Griffith ap David Goch, and Gruffuth ap Hoell	No rent: held by knight service
Doloythelan (Dolwyddelan)	bond	Gavel Elidir	55*s.*
		Gavel Emanagh	55*s.*
Ffriths of Doloythelan	Crown demesne		£6 6*s.* 8d. incl. Penmachno demesne
Penanmagno (Penmachno)	mixed	Half demesne land	
		Half Gavel Goyhor ap Itgwyn (bond)	43*s.*
		5 areas of free land (6 acres and 9 bovates) mainly held by Bettws tenants	3*s.*
Wedir (Gwydir)	mixed	Gwely Yarthur ap Ruwon (free)	6*s.* 4*d.*
		Gwely Yorwerth ap Ruwon (free)	9*s.*
		Gwely Keferth ap Ruwon (free),	8*s.* 10*d.*
		including 1 bovate escheat land	1*s.*
		Gavel Pengylyet (bond, but vacant due to lack of tenants)	
		Gavel Willym ap Ruathlan (bond),	48*s.*
		including escheat lands	48*s.*
		Hafod of Bentyrgh (Bryntyrch – demesne)	12*s.*
		Hafod of Comcolreyt (Cwmclorad – demesne)	6*s.* 8*d.*

Source: Record of Caernarvon, pp. 9–12.

and separate Crown lands in Penmachno from the lands and tenements of free tenants. A jury of 12 local freeholders was prepared to describe the outer bounds of the township, but when it came to the division between freehold and Crown land, they claimed to be altogether ignorant of how much the free land contained. And when the commissioners travelled to Penmachno to ensure that the boundaries were marked out, the jury clearly wanted to hide the degree of encroachment that had taken place, claiming that they 'could make no perfect division thereof otherwise than by the words of the Record of Caernarvon for that there hath been no particular survey thereof since Edward the third his time'.[22] As we shall see, this failure to clarify the boundaries was to cause endless trouble for the next three and a half centuries.

[22] O. G. Jones, *Gweithiau Gethin* (Gethin's works) (1884), p. 19; Bangor University Archives (hereafter BUA), Penrhyn Add. 2482.



FIGURE 3: Seventeenth-century enclosures in Cwm Penmachno. Fields in the valley bottom were freehold land, while those on the hillside were enclosed from the Crown waste in the seventeenth century. The moorland above was disputed between the Crown and local landowners in the nineteenth century.

However the encroachments in Penmachno were on a small-scale compared to those taking place elsewhere in the hundred. The Earl of Leicester's survey of 1579 brought to light an estimated 2742 acres of encroached land in Nantconwy, and the 32 people named as responsible included a broad cross-section of local landowners, freeholders and ancient native tenants (Tables 2 and 3).[23] Over 80 per cent of the land concerned was Crown land, most significantly in the township of Dolwyddelan, where two brothers, Morris and Robert Wynn of Gwydir who were the Crown lessees, had added 868 acres to ten farms acquired from ancient native tenants. Seven of the remaining ancient native tenants had encroached a further 581 acres, sometimes in partnership with other people. The size of encroachments throughout the hundred ranged from two to 160 acres, but the median size of 40 acres and the low annual value (averaging ¼*d*. an acre) suggests that most must have involved rough pasture. Only in Penmachno, where the unappropriated Crown land extended to the valley floor, is there evidence of new farms being created from the waste.

[23] BL Lansdowne 27 no. 88. As large areas were often given as round figures such as 100 acres, the calculation of encroachments appears very approximate.

TABLE 2: Nantconwy encroachments in the Earl of Leicester's survey of 1579

Township	*Size of encroachments (acres)*	*Annual value*	*No. of encroachers*
Bettws	68	1*s.* 5*d.*	5
Cwmlannerch	130	5*s.* 2*d.*	3
Dolwyddelan	1449	£1 10*s.* 2*d.*	9
Gwydir	496	10*s.* 4*d.*	4
Penmachno	203	4*s.* 2*d.*	4
Trefriw	396	8*s.* 2*d.*	13
Total Nantconwy	2742	£2 19*s.* 5*d.*	32
Median	40		

Source: BL Lansdowne 27, no. 88.

TABLE 3: Major encroachers in the Earl of Leicester's 1579 survey

Major encroachers	*Status*	*Acres*	*%*
Morris Wynn of Gwydir	Landowner of Gwydir estate, joint Crown lessee of Dolwyddelan, parts of Trefriw and Gwydir township	854	31
Robert Wynn of Gwydir	Brother of Morris, joint Crown lessee of Dolwyddelan	412	15
Hoell ap Dafydd ap Hoell et al.	Dolwyddelan	300	11
Retherge ap Richard ap Robert	Ancient native tenant of Dolwyddelan	100	4
John Wyn ap Hugh	Major freeholder in Bettws and Gwydir, lands in Penmachno	100	4
Jevan ap Morgan	Ancient native tenant and Dolwyddelan steward of Gwydir estate	100	4
Hugh ap Harrie	Cwmlannerch freeholder	90	3
Jevan ap Meredith	Ancient native tenant of Trefriw	84	3
Gruffith Wynn	Brother of Morris and Robert Wynn, Crown lessee of Penmachno	80	3
Jevan ap Ieuan	Penmachno tenant	72	3
22 others with up to 50 acres each		550	20
Total		2742	

Source: BL Lansdowne 27 no. 88 with details of status taken from NLW MS 9054E/513; TNA, E 126/1; Flintshire Archives, Soughton Hall 12; NLW, Llanstephan 179; Jones, *Exchequer proceeding,* pp. 77–8; TNA, SP 46/40, fo. 74.

Morris Wynn, the head of the Gwydir estate and a Justice of the Peace, was also responsible for nearly three-quarters of land encroached in Gwydir township, where he was Crown lessee of the two former bond *gafaelion* and escheat lands.[24] With a third brother, Gruffith Wynn, who held the Crown lease of Penmachno, the Gwydir family was responsible altogether for nearly half (49 per cent) the land encroached in Nantconwy.[25] In Trefriw too, one of the encroachers was the Crown farmer of Gavel Gaderod. This mirrored the position elsewhere in North Wales, where it was the landed gentry who benefited most from the encroachment of the wastes during the sixteenth century. The failure of the Earl of Leicester and his successors to extract Crown dues or control encroachment in Caernarfonshire and Merioneth left the way open for the gentry to enhance and consolidate their estates and social pre-eminence, thereby widening the gulf between the estate-builders and the diminishing number of small freeholders and customary tenants.[26]

A number of factors seem to have spurred this spate of enclosure in Nantconwy. Rising population and the growth of the store cattle trade with England placed the rough pastures under pressure but the demise of the tribal system and lack of manor courts meant that there was no effective way of enforcing any regulation of the share-lands. In 1551, an attempt by three yeoman to enclose part of the common on mountain land in Gwydir township and drive away the cattle of other tenants had to be resolved at the Caernarfonshire Quarter Sessions. The following year, a bid by three local yeomen to take in a hundred cattle of strangers to graze on the commons of Moel Siabod in Gwydir and Dolwyddelan also required the intervention of Quarter Sessions.[27] Disputes of this type would have increased the attractiveness of demarcating part of the waste in severalty.

The system of landholding on Crown land also created an incentive for both local landowners and tenants to enclose the waste. Crown land was leased to local landowners on 21-year leases, though, increasingly during Elizabeth's reign, the Crown granted the reversion of leases before they had expired as a way of rewarding courtiers, royal servants, or creditors. If the sitting landowner did not secure the reversion of the lease, he was obliged to compound with the holder of the reversion in order to retain his landholding, often at a vastly enhanced rent.[28] There was a real danger that the local landowner might not retain the Crown lease: in the generation after Leicester's survey, Sir John Wynn of Gwydir was forced to bring an Exchequer court case to retain possession of the Dolwyddelan ffriths and township, and Gruffith Wynn lost control of Penmachno. The ancient native tenants meanwhile held their land from the Crown farmer at customary rents; their right to leasehold of inheritance with an entry fine of four years' rent were confirmed in a 1590 legal case.[29] It was therefore in the landowners' interests to buy out the ancient native tenants' leaseholds, both so that they could

[24] E. A. Lewis and J. C. Davies (eds), *Records of the Court of Augmentations relating to Wales and Monmouthshire* (1954), p. 292.

[25] E. G. Jones, *Exchequer proceedings (Equity) concerning Wales: Henry VIII–Elizabeth* (1939), p. 77.

[26] Thomas, 'Common lands of Merioneth', p. 36.

[27] W. Ogwen Williams, *Calendar of the Caernarvonshire Quarter Session Records, 1541–1558* (1956), pp. 82, 97.

[28] D. Thomas, 'Leases of Crown lands in the reign of Elizabeth I', in R. W. Hoyle (ed.), *The estates of the English Crown, 1558–1640* (1992), pp. 184–7.

[29] T. I. Jeffreys Jones, *Exchequer proceedings concerning Wales in tempore James I* (1955), p. 46; NLW, Elwes 479; TNA, E 178/3383.

retain occupation of the farms at customary rents in the event of losing the Crown lease of the township or *gafael*, but also to enable them to charge market rents to their sub-tenants. This gave the local landowners and the remaining ancient native tenants a shared interest in increasing the size of their farms by encroachment from the waste, which partially explains why there was relatively little opposition to enclosure in Crown townships.

Furthermore, in Nantconwy, where most farms were on the lower slopes of long valleys, demarcating the rough pastures above the appropriated farmland to individual holdings may have amounted to little more than formalizing existing customary use of the share-lands. Taking in rough pasture also allowed the land to be improved, at least by clearing it of stones, and afforded the opportunity of subdividing holdings to provide farms for the growing population. Despite the size of the encroachments, land had not yet become a scarce resource: there was still plenty of unenclosed land left.

By the end of the sixteenth century, most rough pastures in the bond townships controlled by the Wynns of Gwydir had been appropriated, though large areas of mountain waste remained unenclosed. In 1614, Sir John Wynn considerably strengthened the position of the Gwydir estate by buying from the Crown the ffriths and township of Dolwyddelan, plus most of the Trefriw *gafaelion*.[30] As tenants' common rights had never been defined, Gwydir estate owners tended to regard the remaining unenclosed lands as private, and free to be disposed of as they saw fit.

The focus of enclosure in seventeenth-century Nantconwy now shifted to the Crown township of Penmachno, where large amounts of rough pasture and mountain remained unappropriated. The intermixture of freehold and Crown land and the failure of the 1577 survey to identify boundaries afforded ample opportunity for further encroachment. The early seventeenth-century Crown farmer, Edward Wynn of Ystrad in Denbighshire, fought a losing battle through the courts of Exchequer and Star Chamber to identify and obtain rent for Crown land annexed by local tenants and freeholders (Figure 2).[31]

The township was among the Crown lands granted in fee farm to the City of London by Charles I in 1628, to be sold in order to pay off the accumulated sovereign debt. The City apparently failed to find a buyer for Penmachno, so Edward Wynn continued to lease the township at the customary rent of £6 10*s*. a year, devising most of the land to the Lloyds of Dulassau, a local gentry family which had built up the largest estate in the area. A second attempt to establish the extent of Crown lands in Nantconwy was made in 1649, when Parliament ordered a survey of all royal property in England and Wales. The resulting 6000-plus surveys were in general of a high standard, but when it came to Nantconwy, the Commonwealth commissioners reported that Sir Richard Lloyd of Dulassau held the Crown lease of Penmachno, but was now in exile and his mother was managing the estate. They excused the lack of any further detail because 'to go upon the premises to survey or find out anything we durst not being so devilishly threatened by the malignants'. This was the last attempt to regularize the enclosure of Crown land in Nantconwy till the 1820s. When Sir Richard returned after the Restoration, his relatives revealed the extent of further enclosure of Crown waste that had taken place. Altogether,

[30] NLW, MS 9055E/663.

[31] Jeffreys Jones, *Exchequer Proceedings,* pp. 59–60, 81–82.

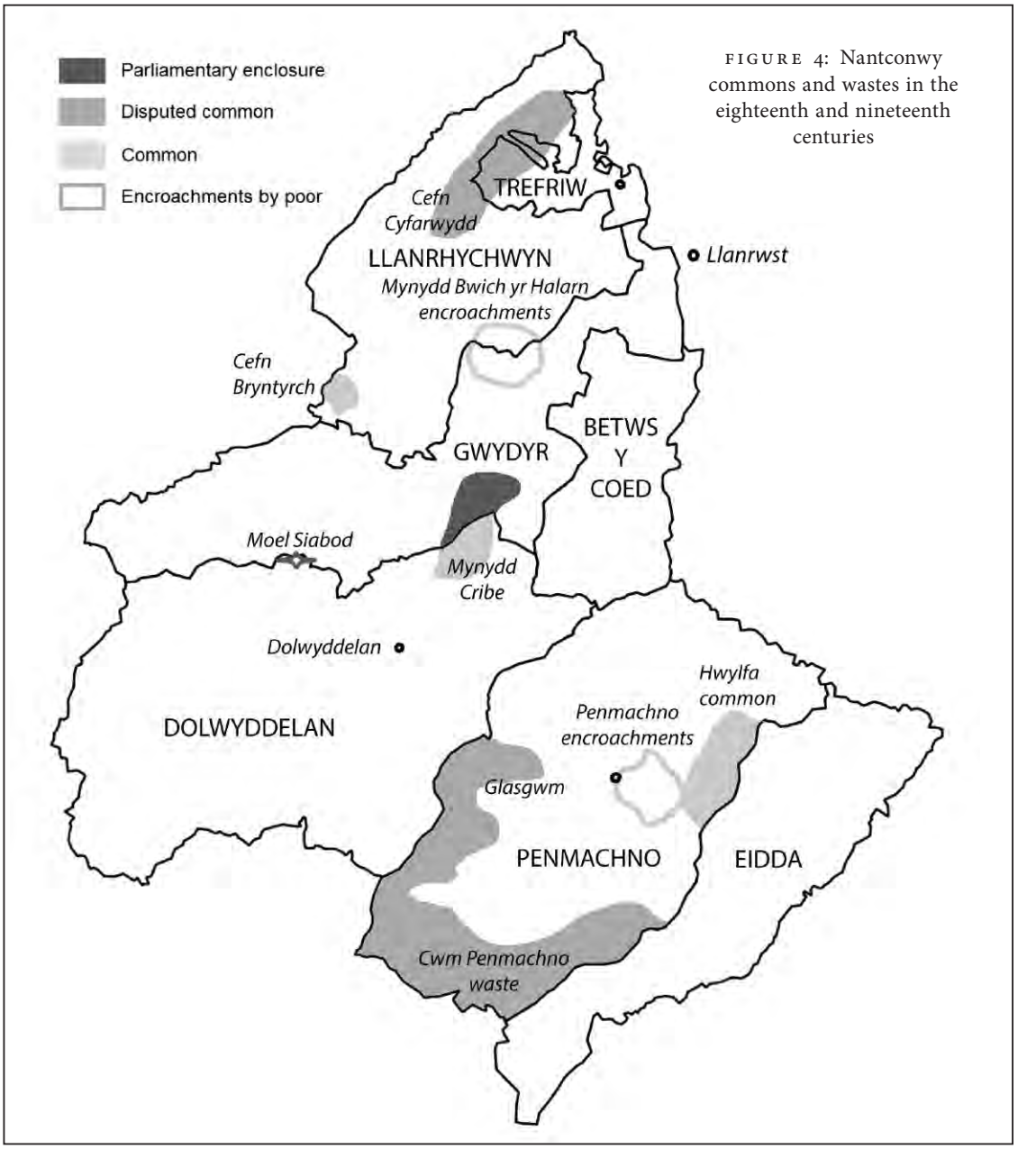


FIGURE 4: Nantconwy commons and wastes in the eighteenth and nineteenth centuries

£28 of Lloyds' annual rental in Penmachno was in respect of freehold lands and £102 was for King's lands, which Sir Richard promptly added to his estate.[32] By 1680, the rough pastures of Penmachno had been largely enclosed by Lloyd and the local freeholders, though still leaving the mountain wastes unappropriated.

[32] London Metropolitan Archives, CLA/044/05/025; BUA, Penrhyn Add. 2503; NLW, Elwes 1229.

II

By the 1760s, most of Nantconwy was in the hands of absentee landowners. The Dukes of Ancaster who had acquired the Gwydir estate through marriage owned 51 per cent of the land, with a further 39 per cent held by 13 large and medium estates based mainly in other North Wales counties and 3 per cent by small absentee owners. Only 7 per cent of land was owned by small estates with local owners or by owner-occupiers.[33] Competition for tenancies increased as the population grew and agricultural prices rose. Nearly all the Nantconwy estates were surveyed over the next two decades to see whether they were capable of 'improvement', at least by way of fetching higher rents, sale or mortgage values. Interest grew in the still substantial areas of unenclosed mountain or moorland waste. Knowledge of the old township and *gwely* or *gafael* boundaries had faded with the growth of parishes as the unit of local government, whose boundaries did not align with the old township structure (Figure 1). Any distinction between freehold and Crown land had become blurred, and the collection of Crown rents was not enforced; the ancient native tenants had acquired the de facto status of freeholders. The Crown made no further attempt to assert its claim as lord of the manor in the former free townships or the bond lands which had been sold to the Gwydir estate. Indeed it appears to have lost sight of its lands in Gwydir township after a 99-year demise to the Duchy of Lancaster expired in 1716, leaving Penmachno as the principle area where the Crown waste remained a source of dispute.[34] Thereafter the Crown's claim to unenclosed waste was severely circumscribed by legislation of 1769–70 preventing the Crown from resuscitating rights that had lain dormant for 60 years. The Gwydir estate, for example, was able to deflect a Crown challenge concerning its title to extensive areas of hill land between Trefriw and Capel Curig when they were put up for sale in the 1890s, by pointing to a terrier of 1784–6 which showed the areas of unenclosed land concerned as part of the estate.[35]

Eighteenth-century surveyors were apparently oblivious to the legal status of the Nantconwy wastes, but their surveys reveal several degrees of shared land usage. Where a single estate owned all the enclosed land on lower hillsides, surveyors typically designated the unenclosed waste as sheepwalks belonging to adjacent farms, sometimes shared between a number of holdings.

Land described in the surveys as common was most likely to remain where farms belonging to different landowners shared unenclosed summer pastures or sheepwalk, for example Hwylfa common between the former free township of Bettws and the former monastic lands in Eidda, where boundary stones marked out each parish's area. However Moel Pen y Bryn to the south of Glasgwm in Penmachno was enclosed by agreement between the adjacent freeholders before 1787 without apparent regard for the Crown's interest.[36] In other cases – like Yr Allt between Penmachno and Dolwyddelan – undivided sheepwalk was shared in a customary ratio between tenants of the Gwydir and Grosvenor estates, and one of the few remaining 'natives of

[33] Based on 1792 Land Tax adjusted for intervening sales: F. A. Richardson, 'Rural Change in north Wales during the period of the Industrial Revolution: Livelihoods, Poverty and Welfare in Nantconwy, 1750–1860' (unpublished DPhil thesis, University of Oxford, 2016), p. 77.

[34] NLW, Peniarth DC114.

[35] Gwynedd Archives (hereafter GA), XD/131/1495, 1497 and 131/278/2.

[36] BUA Bangor Mostyn 6059 (*c*.1787)

Dolwyddelan' with tenant right to inherited leasehold at customary rents. The extensive Crown wastes around the head of Cwm Penmachno were grazed by designated farms, but used by other local inhabitants for cutting peat and rushes and for digging slates.[37]

In 1760, George III surrendered the revenue from Crown lands in return for a guaranteed civil list income and, henceforth, income from Crown lands came to be regarded as part of state revenues. In North Wales, this seems to have prompted landowners to cease paying their quit and fee farm rents to the Crown. By the 1820s, arrears of over £50,000 were uncovered for North Wales on an annual Crown rental of £3000. A drive by the Office of Woods and Forests to reinstitute Crown rents and collect arrears in 1821 was received with indignation by the North Wales landowners. They combined together to argue that the Crown could not compel the payment of 'seigneurial' and chief rents unless the particular parcels of land and their boundaries could be precisely identified, and that the Crown had abandoned its rights by not collecting rent for a long period.[38] The Crown clearly could not accept these arguments, especially as the boundaries of Crown land had never been surveyed in many areas.

Most landowners eventually reached a compromise with the Crown collectors to limit arrears and resume payment of Crown rents, but those in Nantconwy continued their opposition, especially Lord Mostyn and the Wynns of Peniarth, the two major landowners in Penmachno. These gentry were partly motivated by a strong belief in private property rights, but there was also considerably more at stake than the payment of small customary rents for sheepwalks, because the moors of Penmachno abounded in grouse and the mountain lakes in trout. Mineral rights were also becoming increasingly important with the growth of the slate industry, especially important in Cwm Penmachno which was a continuation of the rich Blaenau Ffestiniog slate district.

By the early nineteenth century, the Crown became increasingly concerned at the extent of unregulated encroachment from the waste by farmers and landowners in North Wales, and by the number of smallholders who had thrown up a *tyunnos* (one-night house) in the popular belief that they could lay claim to ownership of a house constructed in a single night and the surrounding land within axe-throwing distance. Indeed the Receiver of Crown rents warned in 1834 that if things went on as they were, the Crown would soon not have one single acre of common land left, due to 'the practice of the landed proprietors to turn the waste into what they call private sheep-walks; that is, each man directing his farmer to graze his sheep upon so much of the waste lands as are contiguous to the respective farms'.[39]

Despite this concerted effort by landowners to claim the waste as their own private property, most owners now acknowledged the Crown as lord of the manor. The Commissioners of Woods and Forests therefore hit on the idea of re-establishing manorial courts in North Wales as a means of regulating encroachment. In Nantconwy, where the hundred court had ceased to operate by the eighteenth century, the Crown's intervention was not welcomed by either

[37] TNA, CRES 49/643.

[38] R. B. Pugh, *The Crown estates* (London, 1960), pp. 16–23; BPP 1834, XV (579), *Select Committee on land revenues of the Crown*, p. vii; BUA, Porth yr Aur 14,040.

[39] G. R. J. Jones, 'Field systems in North Wales', in A. R. H. Baker and R. A. Butlin (eds), *Studies of field systems in the British Isles* (1973), p. 478. *BPP* 1834, XV (579), p. 24.

landowners or tenants, who frustrated the Crown Receiver's initial attempt to convene the court in 1830. He described ruefully to a Select Committee how:

> In attempting to hold a court for the hundred of Nantconway, at a place called Bettws y coed, the public house was taken possession of by the agents and tenants of the present Lord Willoughby de Eresby (Lord Lieutenant of the County) and of Lord Mostyn; I had no place but the kitchen to make the proclamation in, which was also filled with persons opposed to the court being held. Only three persons summoned on the jury answered to their names, though the whole were, I understand, present, and I was obliged to retire without accomplishing my object.[40]

The Crown saved face by its discovery that the court had formerly covered the three hundreds of Nantconwy, Arllechwedd Isaf and Creuddyn as well as the borough of Conway, where it was reconvened the following year. The Nantconwy manor court continued to meet annually into the twentieth century, but it was boycotted throughout by the tenants of the hundred of Nanconwy itself. The court's proceedings nevertheless shed interesting light on the Crown's preferred method of dealing with encroachments. Enclosure of common land for a cottage and garden resulted in fines of between 6*d*. and 2*s*. 6*d*. The highest fine was £1, paid in 1846 by the parishioners of Caerhun in the lower Conwy valley for enclosing about 30 acres for the use of the parish poor. These fines might appear derisory, but in fact the policy of the Office of Woods and Forests until the 1860s was to facilitate enclosure of waste lands; encroachers were required to acknowledge the rights of the Crown by the payment of a nominal rent or by purchasing, which gave them security against their enclosure being demolished. Crown rents were initially charged at about a quarter of the value of the house and land, in recognition of the tenant's investment in enclosing the land and erecting buildings, but rents were increased to a more realistic level after 30 or 40 years.[41]

As a way of deterring his tenants from attending the Crown manor court and acknowledging any Crown rights over his lands, Lord Willoughby de Eresby established a rival manor court for his Gwydir estate. The court met annually from 1833 to 1871 and dealt with the typical range of issues concerning a rural community: the state of the roads and bridges, nuisances, straying animals, boundary disputes, trespass and damage to crops, poaching, and the regulation of the commons. Lord Mostyn also re-established a manor court in Eidda.[42]

In Penmachno, by contrast, the refusal of the major landowners to acknowledge Crown rights over the unenclosed sheepwalks led to a long series of legal disputes. It was important for Crown officials to keep up a claim to the wastes to avoid the Crown losing its rights under the 60-year rule. But they were reluctant to take costly legal action, especially where evidence of Crown right was less than watertight. Instead, the Office of Woods and Forests developed a process of undertaking 'acts of ownership' which challenged the landowner to bring an action for trespass against the Crown, and put the burden of proof of ownership on the landowner.

These acts of ownership were of three main types: use of the soil for pasturage, digging peat and cutting rushes; game rights; and mineral rights. The question of whether pasturage over

[40] Ibid.

[41] TNA, CRES 5/235; *BPP* 1894, XXXVII (C.7439), *RC Land, Minutes of Evidence*, II, p. 478, minutes 27,517–24.

[42] GA, XD/38/1; BUA Bangor Mostyn 6246.

unenclosed land was exercised on an exclusive basis by a single farm or was shared between different farms was therefore crucial. During the eighteenth century, local slaters had used the Penmachno wastes for small-scale quarrying, but when in 1810, a new landlord refused to pay Crown mineral royalties for a larger quarry on Tyddyn Bach farm, the Crown collector forcibly entered the quarry, took over the tools and persuaded the workmen to work for him instead. The landowner maintained that this was private land because the former tenants of Tyddyn Bach had exercised exclusive rights of sheepwalk over this unenclosed area of the mountain and 'drove away the cattle and sheep of all other persons'. The Crown however found a Ffestiniog shepherd who contradicted this story, giving evidence that sheep and cattle from the neighbouring farms intermingled with those from Tyddyn Bach on the mountain and that he had never seen them disturbed or gathered from amongst the others.[43]

In the 1820s, the major Penmachno owner, Lord Mostyn, applied for a Crown lease of mineral and sporting rights, but having beaten off all other bidders, he left the quarries idle, being more interested in preventing development so that he could enjoy undisturbed grouse shooting over the wastes.[44] With further applications being made to the Crown for mineral licences at various places on the Penmachno wastes, the Office of Woods and Forests decided in 1831 that a proper survey was needed. But when the Crown surveyor James Spooner approached the commons, he found his route barred by Lord Mostyn's gamekeeper, David Pierce, and over two hundred local people, including farmers who had been led to believe that the Crown wanted to take away their right of pasture on the wastes. The protestors formed a human wall to block the surveyors' route, and eventually one of the mob pushed Mr Spooner so that he fell. The upshot was that Pierce the gamekeeper and his associates were found guilty of assault at the Caernarvon Assizes, but got off extremely lightly by merely being bound over to keep the peace. Some years earlier, two women ringleaders of a mob which had impeded the enclosure survey of the commons of Pistill and Nevin had been imprisoned for six months, and the leaders of Caernarfonshire anti-enclosure riots at Llanalhaiarn had been sentenced to death (commuted to penal servitude).[45]

The Crown decided to press its advantage. Notice was sent to Sir Edward's steward that the Crown agents intended to enter on the disputed land and commence a trial for minerals. On the appointed day, Mr Spooner the surveyor accompanied by the Crown lawyer and several men armed with spades toiled up the 500m pass of Bwlch Carreg y Fran from the Ffestiniog side, to be met by the Mostyn agent and lawyer coming up from Penmachno. Having identified which patch of moorland was claimed by Lord Mostyn, the Crown party started digging a level and were duly charged with trespass. This had the desired effect for the Crown: Lord Mostyn was clearly insufficiently sure of his ground to pursue the action and gave up his claim to mineral rights, though maintaining his claim to the game. The Crown now lost no time in letting the mineral rights around Cwm Penmachno.[46]

But in 1851, Lord Mostyn was declared bankrupt, and Colonel Pennant (later Lord Penrhyn), bought the Mostyn lands in Penmachno and Eidda as a sporting estate. The Penrhyn estate

[43] BUA, Porth yr Aur 29,904.

[44] TNA, CRES 49/879.

[45] Ibid.; A. H. Dodd, *The Industrial Revolution in North Wales* (1951), p. 78; Plume, 'Enclosure movement', p. 136.

[46] TNA, CRES 49/1632, 643.

owners had been amongst the most steadfast opponents of Crown rights, and dispute over the Penmachno wastes flared up once more. Armed with evidence from the Public Record Office of past failures to define the boundaries of the Crown township, Pennant again claimed ownership of the sheepwalks used by his tenants, as well as buying up other farms in the parish, often at a high price, to ensure his undisputed control of the wastes.[47]

In turn the Crown gathered evidence from 18 long-standing residents, which showed that Pennant had tried to eliminate any taint of common use rights by insisting on the division of shared sheepwalks and the construction of new boundary walls and ditches. The poor who had customarily cut peat and rushes on the sheepwalks were now prevented from doing so. Pennant's tenant farmers all swore that they had long exercised exclusive rights and that no-one was allowed to cut peat without payment, though a tenant of another estate countered that 'he was not aware that Penrhyn tenants had any better claim to the mountain than he had and that several of the poor had always cut turf without payment'. A frustrated Crown lawyer remarked that he had been met by all the parishioners with a determination not to disclose anything tending to throw light upon the claims. The fact that some of the tenant farmers had enclosed further portions of the waste, and that numerous small encroachments had been made by the poor, may have had some influence on the witnesses' reticence.[48]

Privately, both the Crown and Pennant's lawyers were aware of the 1628 grant of Penmachno township to the City of London, and believed that the City was still the rightful owner. This uncertainty blocked development in the parish: the Crown repeatedly refused to grant land for further enclosure around existing encroachments, or mineral leases in areas where quarrying had not yet developed, such as around Llynnau Gamallt where Pennant had a shooting box. The long stand-off between the Crown and North Wales landowners was partially resolved by an 1860s Exchequer court case which gave judgement in favour of the Crown on a similar dispute concerning the mountain of Moelwyn Mawr in the neighbouring county of Merioneth. After this, the Crown was prepared to grant exclusive sheepwalk rights on waste land in Wales, subject to landowners acknowledging the Crown's mineral and sporting rights. In Penmachno however, additional factors made the question of rights over the wastes more difficult to resolve. The failure of sixteenth- and seventeenth-century attempts to survey the township meant that the Crown was uncertain which commons lay within its boundaries. They thought (wrongly) that the medieval township covered the same area as the parish, but had no proof of this. Furthermore, another local landowner, M. Lloyd Williams of Hafodwryd, refused in 1870 to compromise with the Crown concerning sporting rights over 635 acres of commons above his estate, citing the 60-year rule with evidence that his forebears had shot uninterrupted over the area since before 1810. A compromise was eventually reached over part of the Penmachno wastes in 1908, when the Hafodyryd owner sold his sporting rights at a discount to the Crown, who let them to Lord Penrhyn but acquiesced in his sporting rights over part of the waste, while maintaining its title to mineral rights.[49]

The development of lead mining on Mynydd Bwlch yr Haiarn in the nineteenth century also made it important to clarify ownership of the moorland between Trefriw and Capel Curig.

[47] BUA, Penrhyn Add. 2482, 2385, Penrhyn 274.
[48] TNA, CRES 49/643.
[49] TNA CRES 49/1632.

The boundary between the Trefriw *gafael* lands bought by Sir John Wynn of Gwydir and the township of Gwydir remained undefined until a private court case between the Gwydir and Pencraig estates over mine drainage in 1819. Parish boundaries meanwhile were not clarified until the tithe commutation surveys of the 1840s.[50]

The only case of parliamentary enclosure in Nantconwy involved Mynydd Cribe, 221 acres of boggy moorland on the slopes of Moel Siabod in Gwydir township, which was part of Llanrwst parish. Mynedd Cribe was a relic of the share-lands belonging to one of the free Gwydir township *gwelyau* which had remained common land because in addition to the Gwydir estate, two small landowners still had an interest in the surrounding farms. Its enclosure arose as a by-product of an 1812 act to enclose 5000 acres of moorland in the Denbighshire townships of Llanrwst. Because common rights had never been defined, the Gwydir estate was obliged to ask its tenants which farms customarily used the mountainside for rough grazing.

The enclosure award made in 1830 divided Mynydd Cribe between the three landowners, with a 20 per cent share going to the Crown as lord of the manor. It included conditions that the allotments should be fenced and a track crossing the common to Dolwyddelan made into an 18-foot wide carriage road.[51] None of these conditions were fulfilled: the land remained a sterile wasteland, with no walls between the different landowners' allotments or even dividing the 'enclosed' land from the remaining area of waste in Dolwyddelan parish. This was typical of much parliamentary enclosure of the Welsh uplands. The impact of enclosure was that three of the larger farms which had previously used the common continued to do so, but five smaller farms apparently lost their use of Mynydd Cribe, while part of the Gwydir estate's allotment was leased to a non-adjacent farm.[52]

The Mynydd Cribe example highlights why Nantconwy landowners did not make more use of parliamentary enclosure to secure undisputed ownership of the remaining wastes. Even at the height of the Caernarfonshire enclosure movement during the Napoleonic Wars, upland enclosure was only profitable if mineral rights were at stake, and considerable land sales were often needed to cover the legal and other expenses. Landlords had more pressing improvements to invest in, such as farm buildings, mountain walls, drainage and roads. A suggestion made by a small estate owner in the early nineteenth century to seek an enclosure act to control growing encroachment on the Penmachno commons was not supported by the major landowners, who preferred merely to assert their claims to private ownership.[53]

Elsewhere in Nantconwy, landowners largely resolved issues about ownership of the wastes by buying out other interests, including most of the remaining owner-occupiers. In 1805 the future Lord Mostyn gained control of Glasgwm in the parish of Penmachno, formerly part of Dolwyddelan township, after buying out the last remaining ancient native tenant. This enabled him to rationalize intermixed holdings, divide sheepwalks in severalty and shoot uninterrupted over all his farms' sheepwalks. The Gwydir estate similarly consolidated its position on the commons above Trefriw by buying the Gymannog estate comprising the half of Gafael

[50] Lincolnshire Archives (hereafter LA), 3ANC 7/23/2/46; TNA, IR 18/14,158.

[51] Denbighshire Archives, PD/69/1/226.

[52] GA, XD 38/362; Denbighshire Archives, PD 69/1/224 and 226; NLW, Gwydir BRA 79; BUA, David Griffith MS, p. 5; TNA, IR 30/48/25.

[53] Plume, 'Enclosure movement'; BUA, Bangor 102,606.

Gaderod purchased by the ancient native tenants in 1616. Following an exchange of lands with the Mostyn estate in Gwydir township, it was also able to create detached sheepwalks on Moel Siabod which could be rented to the highest bidder.[54]

III

The records of the Gwydir estate's manor court and various legal disputes are also revealing about the use and regulation of the North Wales commons. Although crops of oats, barley, potatoes and some wheat could be grown in the Nantconwy valleys, the natural economy of the hill farms was one of transhumance. The ffriths of Dolwyddelan had been used as summer pasture for the Welsh prince's cattle, and parts were still used as demesne lands by the Wynns of Gwydir into the seventeenth century. The custom of levancy and couchancy was clearly in use in the sixteenth century, being reinforced by the 1552 Quarter Sessions case concerning grazing on the Moel Siabod commons.

There is no direct evidence of how the remaining commons and waste were regulated during the seventeenth century. With the enclosure of many of the *ffriddoedd* (rough pastures) in the sixteenth century, it is likely that pressure on mountain wastes, suitable only for sheep and goats, had not yet arisen. Caernarfonshire farming was still dominated by cattle; the median sheep flock numbered only 15 and was mainly pastured on the enclosed *ffriddoedd*.[55]

As commons shrank and sheep numbers rose in the nineteenth century, the use of stinting in Nantconwy increased. It was normal for tenants to meet annually and determine the number of cattle and sheep that could be sent to the unenclosed pastures and sheepwalks according to the size of each farm.[56] The shortage of winter feed and shelter was partially resolved by a process of reverse transhumance, with mountain farms paying valley farms to graze their yearling lambs over winter.[57] The Gwydir estate manor court dealt with periodic disputes over the regulation of the commons, including, rather predictably, one between the tenants of the privatized but unfenced half of Mynydd Cribe in Gwydir township and the tenants of the remaining area of common land in Dolwyddelan. Communal regulation of farming was at its most sophisticated in the uplands above Trefriw. Here some 14 farms belonging to the Gwydir estate and four other owners ringed a common on the mountain ridge of Cefn Cyfarwydd. Three farms had already enclosed their share of the common, so complaints arose when their sheep and cattle were turned onto the unenclosed remainder. In fact, several cases came before the manor court about tenants over-stocking this common, disputes which were resolved by the introduction of stinting.[58]

Communal regulation was also influenced by the athleticism of Welsh mountain sheep. Mountain walls designed to keep sheep on the mountains and out of the enclosed lands during summer were traditionally 5 ft 9 in. high. As late as the 1860s in Eidda, all sheep had to be

[54] BUA, Bangor Mostyn 8480; LA, 2ANC 7/1/35; NLW, Gwydir 70.

[55] G. H. Williams, 'A Study of Caernarfonshire probate records, 1630–1690' (unpublished MA thesis, UCNW Bangor, 1972), pp. 247, 254.

[56] J. Evans, *Letters written during a tour through north Wales* (1804), p. 378.

[57] GA, XD 38/362.

[58] GA, XD 38/1.

taken to the mountain commons in summer and they were brought down to graze the stubble in autumn. Although the lower fields were enclosed, few farmers could afford the investment to make stock-proof fences, which precluded growing winter crops. When some farmers wished to grow turnips, estates resolved the issue by making wire available to their tenants. In Trefriw too, there was a well-understood usage that no-one was allowed to keep sheep in the vale or meadows, and to prevent sheep coming down from the uplands, custom required the hill farm tenants to make up their section of the mountain wall before 5 April.[59]

The contested ownership of the wastes made the collection of estrays a political issue. The Gwydir estate refused to allow the Crown bailiff to act on its lands. On one occasion when the Crown bailiff collected stray sheep on Moel Siabod in Dolwyddelan and drove them to a cowhouse on another landowner's property, the Gwydir steward gave orders for their release. In Penmachno and on independent farms in Gwydir township, Trefriw and Llanrhychwyn which shared a number of commons with Gwydir estate tenants, the Crown bailiff did collect estrays. A compromise solution was found in the late eighteenth century by both parties appointing the same consortium of local farmers to collect estrays on behalf of the Crown and the Gwydir estate.[60]

Encroachments on the commons and wastes by the poor became more frequent during the Napoleonic Wars. This was a period of rapid population growth, and though agriculture was booming, other employment was scarce, with the demand for slate nearly drying up during wartime. Many *tai un nos* (one-night houses) were built on the commons across Caernarfonshire, including near the village of Penmachno. This was an area of Crown land situated between various areas of freehold land and used as common by the local inhabitants, where several small farms had been enclosed in the previous three centuries. Encroachers who gave evidence in the Penmachno legal disputes afford a rare insight into their world: most of the enclosures had been made in the nineteenth century. The Penmachno encroachments varied in size from less than an acre up to seven acres; they usually contained a house, yard and garden or arable fields where potatoes were grown and a pig was kept. The typical *tyunnos* was built by a man in his mid-20s, but at least one unmarried woman had also cleared land and built a house. In middle age the encroachers might build one or more further houses on their enclosure and some became mini-entrepreneurs. The new ground was broken up for cultivation by manual labour, using pickaxe, mattock and breast plough. The Penmachno tithe schedule reveals 27 small owner occupiers and smallholdings rented from local owners in the same area as the attested encroachments, and these were probably also enclosed from the common.[61]

Only 12 long-standing farms had the right to depasture stock on the Hwylfa common which had been part of the share-lands of the free township of Bettws. None of the Penmachno encroachment witnesses in 1858 mentioned grazing their own stock there, though it had been the custom to cut peat and gather rushes on the Penmachno Crown wastes where there was no regulation of common rights. A great many people also turned their ponies onto the mountain, but once the Penrhyn estate gained de facto control of most of the Cwm Penmachno waste,

[59] Ibid.; Anon., 'Ysbytty Ifan, or the Hospitalers in Wales', *Archaeologia Cambrensis,* third ser., 6 (1860), p. 123.

[60] NLW, Gwydir 125.

[61] Jones, Gweithiau Gethin, p. 6.

its tenant farmers asked the estate to drive the mountain periodically and the owners of any ponies not entitled to be there were charged 7*s*. to release them from the pound.[62]

Encroachments were also made in the wastes of Mynydd Bwlchyrhaearn in Gwydir township, mainly in the first decade of the nineteenth century by miners who enclosed a patch of land and built a house near the expanding lead mines. If these were on Gwydir estate land, the cottagers were usually charged a small rent, typically around 15*s*. a year – well below the normal market rent of a cottage with land.[63]

Some of the largest encroachments were carried out by tenant farmers, like the enterprising tenant of Hafodwryd, who in the 1810s enclosed three sides of a ridge called Llechwedd Hafodwryd and kept a shepherd who lived in a hut on the ridge to prevent sheep from straying across the unfenced boundary from the mountain. He caused great offence to neighbouring farmers and the poor alike by charging for summer grazing, taking in cattle and horses from Penmachno residents and outsiders, and by forcibly preventing local residents from gathering rushes in the traditional way.[64]

IV

The picture that emerges is one of landowners, tenant farmers and the poor all regarding the waste as a no man's land that was up for grabs, but where usage was increasingly contested in the period after 1750. We turn now to evaluating how attitudes to the Nantconwy commons and wastes changed over the period to 1900, and how the various groups fared in the contest.

In the second half of the eighteenth century, Nantconwy landowners considering opportunities for improving their estates received plenty of encouragement to enclose the waste from the proponents of agricultural improvement. For the most part however, enclosure of the commons and wastes for agriculture was not economic, and landowners had more pressing investment requirements. Farmhouses and outbuildings required major improvements, including replacing thatched roofs with slate and the provision of stables for the growing number of working horses. Landowners also invested heavily in turnpike roads which helped tenants bring their produce to market more readily. The late eighteenth and early nineteenth centuries were the period when estates built many of Snowdonia's magnificent mountain walls, designed to keep sheep out of the enclosed lands in summer, enabling a significant expansion in sheep numbers. And after the Napoleonic Wars, it was more profitable to concentrate on investments that would improve the rental value of the best valley lands, typically by improving drainage and flood prevention. Some landowners therefore used the tactic of encouraging tenants to enclose land from waste; Penrhyn estate leases granted to Capel Curig tenants in the 1790s explicitly conferred full liberty and power to enclose any part of the commons or waste to which the occupier might be entitled to right of common.[65]

Obtaining clear title to the waste was more important to landowners as a means of improving the value of their lands, especially for mortgage purposes. Unenclosed commons or

[62] TNA, CRES 49/643.

[63] E. Hyde–Hall, *A description of Caernarvonshire (1809–11)* (1952), p. 126; NLW MS 9727D.

[64] TNA, CRES 49/1632.

[65] BUA, Penrhyn 967.

wastes shared by tenants of more than one estate were of dubious status, and it is noticeable that while the surveys of the 1760s frequently mentioned commons, by the late eighteenth century, surveyors preferred the term 'shared sheepwalk'. A 1784 survey of the Gwydir estate showed its own tenants' shares of the unenclosed Cefn Cyfarwydd common as part of each farm, though intervening land belonging to other landowners was termed 'common'. In the tithe commutation surveys there was even more reluctance to describe land as common: the surveyor appointed by the Gwydir estate declared that there was no common in the parishes of Trefriw, Llanrhychwyn and Dolwyddelan, despite the frequent intervention of the manor court to regulate stints and boundaries on the commons of these parishes. Mineral rights became an added incentive for claiming private ownership of the waste, though in the nineteenth century, aristocratic owners like Lord Mostyn and Col. Pennant were prepared to block development of quarrying in order to preserve the game on their grouse moors.[66]

Farmers were principally concerned to safeguard the mountain sheepwalks which were vital to the upland farming economy. Where parliamentary enclosures in Caernarfonshire and mid-Wales resulted in the conversion of traditional grazing areas into new farms, they were often met with significant opposition. We have seen how Lord Mostyn's gamekeeper was able to involve respectable farmers in obstructing the Crown surveyor's attempt to map the Cwm Penmachno waste, under the mistaken fear that this was a prelude to it being enclosed and let out to others. But providing there was no loss of total grazing area, Nantconwy tenant farmers preferred exclusive sheepwalk to an allocation of common, in order to prevent overstocking by their neighbours at a time when sheep numbers were on the increase. Where large mountain farms were shared amongst several tenants, each sought to mark out their own section of mountain sheepwalk, and some asked the Gwydir manor court to arbitrate on a division. Tenants therefore needed little encouragement to enclose 'their' share of common, and generally supported landowners' attempts to claim ownership or establish exclusive sheepwalk rights. Some farmers were also not averse to charging the poor for use rights such as cutting peat or to accepting payment from landowners to preserve the game by excluding the poor from the former commons.[67]

The attitudes of Crown officials underwent the greatest change over the period. The local agents of the Crown in the eighteenth century adopted a laissez-faire attitude towards the administration of the Crown lands, allowing rents to go unpaid and common land to be enclosed without reference to the rights of the Crown. This changed after 1820 with renewed parliamentary oversight and the increasing professionalization of the Civil Service. Against the background of increasing population, food shortages and riots during the Napoleonic wars, the Crown extended its role as a facilitator of enclosure, its aim in Wales being more to regulate rather than to prevent encroachment. Indeed the 1844 Commission on Commons Inclosure found that there was generally no attempt in Wales to evict *tyunnos* squatters and suggested that local residents, even those with common rights, tended to connive at them because they were usually built by friends and relatives. The community supported the expansion of these subsistence smallholdings, which were essential to livelihoods and keeping down the poor rates

[66] Ancaster Estate private papers, William Hall Hawarden Agent, 'Plan of the Gwydir estate' (1784); TNA, IR 18/14,112, 14,158.

[67] GA, XD 38/1; TNA, CRES 49/643.

at least until the mid-nineteenth century. The Crown merely asked that encroachers should acknowledge its rights by paying a small rent or by purchasing before encroachments had existed for 60 years. A further major shift in the Crown's attitude took place after 1860, allied to the growth of the Commons Preservation Society, which campaigned for greater emphasis on the public amenity value of commons. Henceforth the Crown agents for Caernarfonshire adopted a policy of maintaining wastes as wastes, though they were prepared to reach agreements with landowners granting exclusive rights of sheepwalk on unenclosed land.[68]

Amongst the poor of Caernarfonshire, parliamentary enclosure aroused considerable opposition in parishes where they had traditionally pastured their animals or dug for slates on the commons, especially from those who had enclosed and cleared waste land through backbreaking labour and were faced with eviction or paying market rents for their smallholdings. The curtailment of use rights, especially peat cutting, could also add significantly to household costs or deprive them of fuel altogether. Following the Llanrwst enclosures, the poor who were no longer allowed to cut peat from the commons were unable to heat their homes or cook their food owing to coal being too expensive.[69]

In Nantconwy, the poor were spared the hardships of eviction from their smallholdings encroached from the waste, though creeping privatization affected some through the reduction of summer grazing areas on the unenclosed mountain, and the ability to cut peat and rushes. In Capel Curig, Lord Penrhyn excluded Gwydir estate tenants from their traditional turf grounds on a disputed area of waste, though one of the farms sharing the Cefn Bryntyrch common subsequently let rights of cow-keep and turbary to its sub-tenants and other villagers. Elsewhere, the poor retained their use rights of the traditional commons, despite the attitude of landowners. In Dolwyddelan, the mountain of Moel Siabod was by the 1780s designated as separate sheepwalks to the major farms; but it is clear that cottagers were still cutting turf there in the mid-nineteenth century when an estate official tried unsuccessfully to persuade the Gwydir manor court to apportion areas of turbary to tenants according to the size of their tenements, and that all cottagers residing in Dolwyddelan should cut no more turf than sufficient for their own use. Even in Penmachno, the poor could still cut peat on Penrhyn farms provided they paid an acknowledgement. And where customary use of commons was lost, the development of a market in grazing rights during the nineteenth century provided the poor with some substitute, albeit at a cost.[70]

V

The Nantconwy case study demonstrates clearly how the pattern of landholding at the time of the English conquest had a continuing impact on the evolving ownership, regulation and use and of the commons and wastes throughout the period 1540 to 1900. The refusal of landowners, freeholders and ancient native tenants to accept Crown manorial rights in the wastes after the Acts of Union allowed unregulated encroachment across the social spectrum, though increasingly, landowners emerged as the major beneficiaries. Commons were most likely to

[68] *BPP 1896*, XXXIV (C.8221), I, p. 590, II, p. 479.

[69] Plume, 'Enclosure movement'; DA, DD/WY 6840.

[70] W. Williams, *Observations on the Snowdon mountains* (1802), p. 133; NLW MS 16/49; GA, XD 38/1.

survive in the former free townships, or where they were shared by tenants of different estates. The gradual loss of memory concerning the boundaries of the old townships and *gafaelion* enabled landowners and tenants, and later the poor, to encroach significantly on the Crown wastes from the sixteenth to the nineteenth centuries.

Where ownership of the waste was disputed, traditional methods of regulating use rights tended to break down. Landlords and their agents tackled the increasing exploitation of the commons and wastes in different ways. The Gwydir estate's newly invented manor court was successful in regulating communal agricultural affairs including introducing stints, dividing shared sheepwalks between farms, and the maintenance of mountain walls. In Penmachno on the other hand, might tended to prevail over custom and recourse to the law was the only avenue for resolving disputes. At times, uncertainty over ownership could nevertheless act to the advantage of the numerous local inhabitants who carved out subsistence smallholdings from the commons, and were eventually able to claim ownership. Whatever their normal differences, landowners, tenants and the poor made common cause throughout the period against the Crown in defence of their local interests.

In the end, most parties achieved a satisfactory outcome. Having established its general legal right to the wastes of the former Crown townships in Wales through the 1860s Exchequer court case, the Crown was prepared to compromise in Penmachno by granting exclusive rights of sheepwalk, which was the farmers' main concern. Lord Penrhyn eventually reached agreement with the Crown on exclusive sheepwalk rights for his farms and sporting rights over all the Penmachno wastes. The poor were gradually excluded from their customary grazing, turf and rush cutting on many areas which had been regarded as common in the eighteenth century, but were still able to gain access to these resources in some places, or through the development of a market in shares of grazing land, cow-keep and turf grounds. And the unresolved dispute over the Penmachno wastes blocked further development for smallholdings or slate quarrying until the Crown adopted a policy of maintaining commons for their public amenity value, so that today, everyone can enjoy them.

Feeding in the forest: How Scottish settlers learned to raise livestock in the old-growth forests of Upper Canada, 1814 to 1850*

by Elizabeth Ritchie

Abstract

In the first half of the nineteenth century, Scots were among the many European immigrants who tried to turn North American forests into productive farms. They understood how livestock were integral to this project, providing draught power, meat, leather, wool, tallow, manure and income. However they had no experience of rearing and sustaining pigs, cattle and sheep in the old growth forest of Upper Canada. They brought some skills and knowledge from Scotland, but much was learned from neighbours, books and by experimentation. Emigrant guides, agricultural reports and personal letters indicate how exactly settlers utilized woodlands to feed and shelter animals in those first few years. As Scottish immigrants became more settled, they transformed much of the forest which had initially sustained them into arable and high quality pasture and meadow.

Between 1819 and the 1830s three Scottish emigrants, intent on becoming colonial farmers, encountered Upper Canada's forest for the first time. Andrew Bell was an urban Scot. On arrival in Perth County he was horror-struck: 'we thought the land would be covered with grass, and only a few trees here and there. But how great was our disappointment, when we found the ground was all covered with large trees, and not a pile of grass growing, except in beaver meadows'.[1] Robert MacDougall from Fortingall, Perthshire, settled in the Huron Tract. An experienced mixed farmer, he adapted to the forest explaining it 'is a good habitat for [cattle] in the summer, when the two-year-olds have calves; and though the winter snowstorms rage, if there are only a few of them, the cattle will not be terribly difficult to

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[1] Andrew Bell, 17 May 1819, quoted in Robert Lamond, *A narrative of the rise and progress of emigration from the counties of Lanark and Renfrew to the new settlements in Upper Canada* (1821), p. 73.

maintain'.[2] The energetic Mr Johnson from Berwickshire forewent the slow boat up the St Lawrence, instead walking from Lachine with his dog. As he passed through Glengarry he saw what could be achieved after a few decades of backbreaking clearance: 'good grass with large flocks of black cattle'.[3] Livestock were integral to farms. They provided draught power for work and transport, meat, leather, wool and tallow. They were a movable good, a source of income, a way to accumulate and pass on wealth, as well as a source of pride and identity. Manure, especially from cattle, was crucial in transferring nutrients from forests and meadows to arable land.[4] Scots, like most European immigrants, came from urban backgrounds or well-established farming regions. In order to survive their first years in partially or uncleared lots, they had to learn how to raise livestock in the old growth forest of Upper Canada.

The forest has loomed in the minds of historians as well as immigrant farmers. Since the work of Harold Innis and Arthur Lower, the importance of the environment and natural resources in Canada's development has been recognized.[5] While the staples thesis proposed by these economic historians posited that first fur, then timber and wheat exports were the essence of Upper Canada's economy, Douglas McCalla, David Wood and Béatrice Craig have shown it had a much broader base.[6] Farms like Robert MacDougall's had many outputs, mostly for family consumption or the local market rather than export. Such family farms were only 'weakly integrated within the international economy'.[7] Not only was arable used for much more than wheat, but the forest could produce much more than timber. Indeed the first crops on a new lot might be potash, wood fuel and charcoal.[8] Neither was the second crop necessarily wheat, especially in the backwoods. It was more likely to be the produce of animals: dairy, calves, pork. The tactics of the earliest years have been overlooked in emigration literature and underplayed in Ontario's agricultural history.[9] Developing mixed agriculture was the strategy of most new farmers, and this continued to be the case as farms matured. But before meadows and fields had been cut out of the forest, how were the cattle, pigs and sheep which were so vital to surviving and to developing a family agricultural business kept alive and pushed towards thriving? The resources of the forest itself were vital to raising the livestock that settlers required.

[2] Robert MacDougall, *Ceann-Iuil an fhir imrich* or *The emigrant's guide to North America* (1841) edited by Elizabeth Thompson (1998), p. 96.

[3] Library and Archives Canada [hereafter LAC], R6243-0-3-E, MG24-I35, Journal of Mr. Johnson, 13 Sept. 1819.

[4] Elizabeth Ritchie, 'Cows, sheep and Scots: Livestock and immigrant strategies in rural Upper Canada, 1814–1851', *Ontario History* 109 (2017), pp. 1–26.

[5] For example, Harold Innis, *The fur trade in Canada: An introduction to Canadian economic history* (1930), and Arthur Lower, *The North American assault on the Canadian forest: a history of the lumber trade between Canada and the United States* (1938); id., *Great Britain's woodyard: British America and the timber trade, 1763–1867* (1973).

[6] Douglas McCalla, *Planting the province: The economic history of Upper Canada, 1784–1870* (1993), pp. 6, 67, 77; J. David Wood, *Making Ontario: Agricultural colonization and landscape re-creation before the railway* (2000); Béatrice Craig, *Backwoods consumers and homespun capitalists: The rise of a market culture in eastern Canada* (2009).

[7] R. Cole Harris (ed.), *Historical atlas of Canada,* I, *from the beginning to 1800* (1987), plate 68, 'Eastern Canada in 1800'.

[8] Wood, *Making Ontario*, pp. 13, 109.

[9] A notable exception in the American literature being Brian Donahue's study of English settlers in Massachusetts, *The great meadow: Farmers and the land in colonial Concord* (2004).

The farmers who harvested the forests and created the fields were the key figures in Upper Canada's colonization. Although there were many well-developed farms along the American border, the region's main story between the War of 1812 and mid-century was the assault on the forest. Wood has argued convincingly that settlers clearing trees to create an agricultural landscape were the main agents of change. Many were immigrants. By 1842, at least 50.4 per cent and perhaps as many as 55.9 per cent of Upper Canadian farmers were British and Irish migrants or the children of British and Irish migrants.[10] The 1842 census indicates 8.6 per cent of residents were Scottish-born.[11] Whilst over half the population were Canadian-born, this group included many children of Scottish parents. Of the immigrant groups, the Scots were almost equal in number with the 8.8 per cent who were English-born, behind the 17 per cent Irish-born.[12] These were the people who extended the agricultural frontier north and west from the Johnstown district, from the west of Lake Ontario, and from the London district.[13]

This study focuses on Scots as representative of new settlers, in order to examine how immigrant farmers in Upper Canada developed the skills to raise livestock in the backwoods as part of the typical first-generation mixed farm. Analysing their strategy also reveals the agricultural methods of the mythic, but under-examined, pioneer phase of North American farming. We end in the middle of the century when immigration and population growth slowed, when most viable agricultural land in Upper Canada had been appropriated, and when the colony entered a period of economic transition.

Settlers brought with them a variety of previous experience and knowledge. Lowland Scots were often agricultural labourers or tenant farmers used to an undulating, fertile landscape of enclosed fields increasingly oriented towards specialization and commercialization. Although the economy was rapidly changing, most Highlanders were familiar with diversified production which aimed to provide a comfortable subsistence. Hills supported cattle and sheep, raised for consumption and cash, and valley bottoms provided grain, and latterly hay and root crops. Urban Scots usually had experience of keeping a milk cow and a garden, but knew little of ploughing or sowing crops. All were accustomed to a milder, wetter, windier climate than Upper Canada's hot, humid summers and cold, snowy winters. With the exception of some from places like Rothiemurchus, few had experience of extensive, mature woodlands.[14] The first section of the article therefore examines how Scots fed their livestock at home to get a sense of what skills or knowledge they brought to their new location and what had to be learned from neighbours, from guide books, or by trial and error. It then uses emigrant guides, agricultural reports and personal letters to explore how settlers used the Upper Canadian forest to feed and

[10] Donald Akenson calculated percentages which acknowledge the children of settlers and concluded that between 12.6% and 14.0% of Upper Canada's population should be classed as 'born in Scotland or born in Canada of Scottish parentage'. English and Welsh were between 12.9% and 14.3% and Irish between 24.9% and 27.6%. Donald Harman Akenson, *The Irish in Ontario: A study in rural history* (1984, 1999), pp. 17–20.

[11] *Censuses of Canada, 1667 to 1871: Statistics of Canada,* IV (1876), p. 136. The total population was 487,053. However as 27,309 did not give a place of birth, the percentage of Scots is calculated from the total of those who did declare: 459,744.

[12] Americans and 'Europeans' trailed behind with 7.1% and 1.4%, with French Canadians making up the final 3%.

[13] McCalla, *Planting the province*, p. 37.

[14] T. C. Smout, 'The history of Rothiemurchus woodlands', in T. C. Smout and R. A. Lambert (eds), *Rothiemurchus: Nature and people on a Highland estate, 1500–2000* (1999), pp. 65–73.

shelter animals in summer and in winter. It concludes by showing how over the first decade or so of settlement, immigrants focused their energy on developing more secure sources of animal feed and enhancing commercial grain production through transforming much of the forest which initially sustained them into arable and higher quality pasture and meadow. They remade the landscape in the model of the enclosed, improved arable farms of Lowland Britain.

I

The *Statistical Accounts of Scotland* detail the animal husbandry practices of the emigrant generations. The properties of the home landscape were carefully managed and adapted to raise cattle, horses, sheep, goats and pigs. It is this knowledge, experience and aspiration that many Scottish settlers brought to their forest plots.

William MacKenzie, who wrote the 1793 *Account* for Assynt in the north-west Highlands, had a detailed and sympathetic knowledge of local agriculture. While written slightly earlier than the period of study, most Highland emigrants to Upper Canada in the early nineteenth century would have raised stock using similar methods, or would have been aware of them from childhood. MacKenzie's account predates the massive structural change from subsistence to commercialized sheep farming which swept the region. While there were local variations, practices in Assynt, one of the more topographically challenging Scottish parishes, show how people carefully managed resources to raise livestock. The hills provided pasture, especially for the yell cattle, which grazed in common for the three summer months.[15] Lower down there were 'interjacent little glens, fields, plains and meadows, which, during summer and harvest, abound with rich pasture for milk cows, some goat and sheep'.[16] From them hay was cut in August or September to keep the beasts through the winter. A sophisticated system of transhumance involved moving herds of specific types of cattle to new pastures every few weeks throughout the summer to prepare beasts for market or slaughter.[17] The small islands just off the coast provided an easy way to control grazing. The carrying capacity of each was understood and the resources well stewarded. Cronay could fatten half a dozen sheep or one cow.[18] Oldnay's pasture was used for milk cows through the summer. At harvest they were removed so the grass could recover before cattle were swum back across in November. There they were out-wintered until they were gradually taken off the island again 'to be housed … as they may appear to need provender'.[19] The main winter grazings were in the middle of the parish: 'a perfect wild, covered with heath, moss, heathery hills, and rocks of small size, and fresh water lochs'.[20] Milk cows were again given preferential treatment, on bad days being 'supported sparingly within doors'. By February most cattle were housed and fed.[21] The only woodland in the parish was sparse and of no commercial value, but it was important. During 'great storms and falls of snow, every species of cattle resort to them for shelter; nay they browse

[15] *Old Statistical Account* [hereafter *OSA*], 16, p. 168. Yell, yeld, eild were all terms used for a non-breeding animal.

[16] Ibid., p. 185.

[17] David Taylor, *The wild black region: Badenoch, 1750–1800* (2016), pp. 60–75.

[18] *OSA*, 16, p. 178.

[19] Ibid, p. 177.

[20] Ibid, p. 165.

[21] Ibid, p. 164.

on the copse'.[22] Although as many as half the calves were slaughtered in November to reduce the strain of winter feeding, many beasts were in a terrible state by spring.[23] A Perthshire observer commented that in May cattle were 'reduced to a skeleton and covered with a blanket, while they picked up any spires of grass which had begun to rise in the kailyard'. As a last resort the people took 'half-rotten thatch from the roofs of their houses and [gave] it to the half-dead animal'.[24] Even in lowland areas, where cattle were primarily raised for working the large new farms, feed could be sparse. On the fertile coast of Easter Ross, G. S. MacKenzie noted how six cattle were turned onto a weedy field to feed after they had ploughed it. He 'never observed that they got any other sort of food during the day, except a small quantity of oats just before they went to work. At night the horses and cattle were turned to some patches of waste ground to pick up a miserable pittance of grass'.[25] Keeping cattle sufficiently nourished to provide beef, milk or labour was a complex business, involving supplementary feed and shelter in the winter to prevent catastrophic loss of condition, and access to natural grazing, well away from growing crops, in summer. Despite the negativity of observers, the system, which was common in lowland Britain and New England until overly stretched by population pressures, succeeded in raising a large number of livestock and supporting the population by balancing the diverse components of a difficult environment.[26]

While cattle were the mainstay, many Scottish farmers also brought experience of raising horses, sheep and pigs for home use and for sale. By the 1830s most horses were bred for farm work and were fed hay, oats and grass year round.[27] Some small, sturdy garrons, which had no such careful feeding regime and grazed in common on the outfield, were still used in northern Scotland.[28] Smaller, less expensive animals were easier to raise. By the early nineteenth century the Scottish prejudice against pigs had receded.[29] Across the south, and increasingly in the north, families bought one or two at the end of the harvest for home use. These were often permitted to 'roam at large' with other animals, but they tended to damage grass and corn lands badly.[30] They were easy to feed on the dairy by-products that every rural family had at hand. Their winter staple was potatoes with additions of oatmeal and kitchen offal. Pigs provided the only meat in the diet of the poor. Pork was 'a good morsel at the end of March and affords a mouthful now and then throughout the summer'.[31] Similarly the small flocks of sheep and goats were kept for family use. As the market for cattle declined, commercial sheep and pig rearing become more widespread, first among Borderers and Galwegians with easy

[22] Ibid, p. 196.

[23] James Loch, *An account of the improvements on the estates of the Marquess of Stafford: In the counties of Stafford and Salop, and on the estate of Sutherland* (1820), pp. 64–5.

[24] Anon, *Perthshire husbandry* (1808), p. 436, quoted in John R. Baldwin, 'The long trek: Agricultural change and the great northern drove', in John R. Baldwin (ed.), *Firthlands of Ross and Sutherland* (1986), p. 189.

[25] G. S. MacKenzie, *General survey of the agriculture of the counties of Ross and Cromarty* (1810), p. 82.

[26] Donahue, *Great meadow*, pp. xv, xvii; Robert A. Dodgshon and E. Gunilla Olsson, 'Productivity and nutrient use in eighteenth-century Scottish Highland townships', *Geografiska Annaler* 70 (1988), pp. 39–51.

[27] For example in Hounam, Dalserf, Alford, Elgin. *New Statistical Account* [hereafter *NSA*], 3, p. 202; 6, p. 743; 12, p. 516; 13, p. 13.

[28] For example in Wick and Unst. *NSA*, 15, pp. 129, 44.

[29] For example in Ardchattan, Avondale, Kirkpatrick-Irongray, Linton, Mouswald, Sorn. *OSA*, 6, p. 177; 9, p. 385; 4, p. 531; 1, p. 133; 7, p. 301; 20, p. 151.

[30] *OSA*, 8, p. 51; 8, p. 150.

[31] *OSA*, 4, p. 531.

access to the English market. Landlords like the Duke of Buccleugh specifically redeveloped the landscape to suit sheep, creating hay meadows by flooding to ensure a supply of winter feed, and planting shelter belts of trees.[32] Highland tenant farmers varied their stocking ratios to respond to market demand.[33] Pigs were also sold on a commercial scale at local markets, such as at Thurso in Caithness.[34] Some of these breeders emigrated, starting commercial flocks and herds in Upper Canada.

To raise livestock successfully, farmers needed an intimate knowledge of the ecologies, climate and topography of their land. In his study of peasant agriculture in western India, Sandip Hazareesingh shows how 'over time landscape becomes legible and meaningful to humans partly through physical activity and labour'.[35] Dharwar's peasants knew their environment and devised strategies to gain optimum outcomes for subsistence. Similarly in Scotland, the dense naming of places, frequently after the types of work done there and their physical characteristics, including their properties of shelter, fertility, windiness or wetness, shows a deep understanding of how familiar landscapes affected human activity and how human activity had affected the landscape.[36] The properties of Upper Canada's old growth forests were unfamiliar, and therefore threatening, environments for Europeans.

II

Livestock were vital to Upper Canada's economy: in 1842 there were approximately 576,000 sheep, 505,000 cattle, 394,000 pigs and 114,000 horses.[37] Few backwoods settlers had horses, but cattle, sheep and pigs were prevalent. While MacDougall warned that trees in Upper Canada were 'so plentiful and so close together in the forest, that neither grass nor grain can grow there, only plants and young saplings', he also claimed 'the forests of America [were] famous for how well they support livestock' as they were permitted 'to roam through the forest all summer'.[38] As we have seen, Scottish farmers were not unfamiliar with such controlled foraging, though they were more accustomed to rough open pasture. A form of woodland grazing had been widespread in Scotland until the generation or two before the great transatlantic migrations. Cattle, sheep, horses and goats wandered among the scattered birch, rowan, willow, alder, hazel and pine found on lower slopes and by sheltered streams.[39] Sheep in Creich, Sutherland, found the 'leaves of trees … their favourite food in summer; and the bark … their medicine, as well as food in winter'.[40] By the nineteenth century such

[32] Brian Bonnyman, *The third Duke of Buccleugh and Adam Smith: Estate management and improvement in Enlightenment Scotland* (2014), pp. 119, 135, 138–9, 142–3, 146.

[33] Robert A. Dodgshon, 'Livestock production in the Scottish Highlands before and after the Clearances', *Rural Hist.* 9 (1998), pp. 19–42.

[34] For example *OSA* 7, pp. 301, 309; 12, p. 159; 17, p. 569.

[35] Sandip Hazareesingh, 'Territories of conquest, landscapes of resistance: The political ecology of peasant cultivation in Dharwar, western India, 1818–1840', *J. Historical Geography* 42 (2013), p. 92.

[36] John Murray, *Reading the Gaelic landscape: Leughadh aghaidh na tìre* (2014), particularly ch. 8.

[37] R. Louis Gentilcore (ed.), *Atlas historique du Canada*, II (1993), Planche 14, 'La transformation du terroire, 1800–1861'.

[38] MacDougall, *Ceann-Iuil*, pp. 84, 86, 95.

[39] T. C. Smout, Alan R. MacDonald, Fiona Watson, *A history of the native woodlands of Scotland, 1500–1920* (2005), pp. 102–23.

[40] *OSA*, 8, p. 349.

woodland grazing was less common, especially in the Lowlands, except when animals were 'hard pressed for food' and drawn to small trees.[41] The transition from utilizing open, lightly wooded landscapes to old growth forest was not easy, practically or psychologically. William Smith observed that the settler 'looks upon trees as enemies'.[42] While the new farmer quickly learned the beneficial properties of woodlands, cultural perceptions only really changed after swathes of forest were cut through by roads, railways, farms and towns.[43] At an optimistic average of initially clearing four acres a year (other estimates suggest a single man without oxen could only clear one and a half), immigrants had to learn to use an unfamiliar ecosystem to their advantage.[44] They quickly discovered woods were a vital grazing resource. Even assuming a level of exaggeration in settlers' accounts, most found them serviceable pasture from April until November. What type of grazing was available in the forest? Which animals fed there, where and when?

Upper Canada is geographically varied so settlers had to learn their local topography with its implications for erosion and drainage, and soil type with its resulting vegetation. Some cleared parts of Grenville County were irredeemably stony and best for permanent pasture, whereas the deep, grey-brown podzols of Wellington and Oxford Counties were ideal for arable after the ground was cleared and stumped.[45] In a few parts of Upper Canada settlers found good pre-existing pasture. Near the St Clair River, Loyalists raised cattle cheaply and commercially on the oak plains and in wet areas.[46] Near Rice Lake the Mississauga had created pasture through strategic burning.[47] However, most of the colony was wooded. Tree cover varied, but most was mixed deciduous.[48] Andrew Bell noted maple, hemlock, cedar, white cedar, hickory, while Alexander Watt added beech and ash.[49] Trees provided clues to the soil: on well-drained sites sugar maple, beech and perhaps birch, ash or elm dominated whereas on poorly drained sites elm grew with tamarack, pine, aspen, grey birch, white cedar or black ash.[50] Bell, horrified at the ecology of Perth County, saw hope in the 'pile of grass growing … in beaver meadows'.[51]

[41] *NSA*, 15, p. 108.

[42] William H. Smith, *Canada: Past, present and future: Being a historical, geographical, geological and statistical account of Canada West* (2 vols, 1852), I, p. 283.

[43] Allan Smith, 'Farms, forest and cities: The image of the land and the rise of the metropolis in Ontario, 1860–1914', in David Keane and Colin Read (eds), *Old Ontario: Essays in honour of J. M. S. Careless* (1990), p. 74. Smith summarises the debates of historians and literary scholars about the variety of attitudes to forest on p. 91.

[44] McCalla, *Planting the province*, p. 69; Peter Russell, 'Forest into farmland: Upper Canada clearing rates, 1822–1839', *Agricultural Hist.* 57 (1983), p. 335.

[45] N. R. Richards, B. C. Matthews, F. F. Morwick, *Soil survey of Grenville County Ontario* (Report 12 of the Ontario Soil Survey, 1949), p. 15; D. W. Hoffman, B. C. Matthews, R. E. Wickland, *Soil survey of Wellington County Ontario* (Report 35 of the Ontario Soil Survey, 1963), p. 25; R. E. Wicklund, N. R. Richards, *Soil survey of Oxford County Ontario* (Report 28 of the Ontario Soil Survey), 1961), pp. 11, 24.

[46] W. S. Wallace, 'Captain Miles MacDonell's "Journal of a jaunt to Amherstburg" in 1801', *Canadian Historical Rev.* 25 (1944), p. 171; Robert Jones, *History of agriculture in Ontario, 1613–1880* (1946), p. 31; Smith, *Canada: Past, present and future*, pp. 19, 29.

[47] Neil S. Forkey, *Shaping the Upper Canadian frontier: Environment, society and culture in the Trent Valley* (2003), pp. 7, 29.

[48] Wood describes regional variation. Wood, *Making Ontario*, pp. 106–108.

[49] Bell and Watt quoted in Lamond, *Rise and progress*, pp. 73, 85.

[50] B. C. Matthews, N. R. Richards, R. E. Wicklund, *Soil Survey of Glengarry County Ontario* (Report 24 of the Ontario Soil Survey, 1957), pp. 31, 49.

[51] Bell quoted in Lamond, *Rise and progress*, p. 73.

When beaver build dams, the resulting ponds kill the trees on the river bank upstream. Sediment is deposited on the pond bed. When beaver abandon the site and the dam breaks, the former pond bed becomes a nutrient-rich, open meadow hosting a wide range of herbaceous plants.[52] Experienced Scottish farmers explored their lots for wet pasture, knowing their value for feed.[53] Bell found meadows as large as 20 acres and growing 'a sort of coarse grass which is used for feeding cattle in winter'.[54] Watt was pleased with his 'small swamp for grass, and a fine beaver meadow: I could keep a cow on it: it is, I think, 6 acres, all with a fine long grass'.[55] Near Goderich, MacDougall found 'fine, natural grass grows on low pools beside rivers … and tough, strong grass … here and there throughout the forest, around hollows and marshes' which was useful for grazing but not for growing crops.[56] In his delight at exploring such a meadow at Moir's Creek in Nicol Township Andrew Dalgarno, armed with his scythe, lost himself in the forest for two days.[57] It is easy to underestimate the amount of wetland in Upper Canada in the early nineteenth century as settlers actively drained many swamps to create or improve meadows, and others evaporated when they lost the protection of the forest canopy.[58] A study of wetland loss between 1800 and 2002 found that in southwest Ontario, the western sector had lost over 85 per cent and the south-eastern sector approximately 70 per cent.[59] The forest was not monolithic and parts provided settlers with the natural grazing which was so important when they first arrived.

Even in more densely wooded areas, the forest floor provided some grazing. In spring those cattle still in decent condition built up their strength in heavily timbered areas. These were clear of snow and more hospitable to tender new growth.[60] In fortunate southern parts, such as around the River Thames, the forest was 'covered with grass, in a state of nature'.[61] However in most regions undergrowth was a succession of plants. The wild onion was a springtime saviour for the desperate livestock owner. It was a 'most substantial, powerful meal, strengthening the cattle'. Unfortunately it left 'a memorial behind, as long as a piece of spring butter or cheese remains', which tasted 'as sour as garlic'.[62] Catharine Parr Traill, the English wife of an Orcadian Scot, appreciated that this 'wild leek' – which sprang up 'in the rich leafy soil of the woods' – restored to health 'the cattle that are poor and weak, and often in a diseased condition from poor feed during the long winters'. However she recommended the resulting 'odious' milk only be used for calves.[63] The next plant to appear, cattle cabbage, was more satisfactory.[64] By May, the grass in the fields of more developed farms could support cattle.[65] However in some townships the woods were the only source of feed. This was particularly so in newly settled areas like Southwold where in 1817 they had 'as yet only made use of the pasture

[52] J. P. Wright, C. G. Jones, A. S. Flecker, 'An ecosystem engineer, the beaver, increases species richness at the landscape scale', *Oecologia* 132 (2002), pp. 96–101.

[53] NSA, 14, 48; Taylor, *Wild black region*, pp. 48, 50.

[54] Bell quoted in Lamond, *Rise and progress*, p. 73.

[55] Alexander Watt to his friend in Quebec, 10 Oct. 1820, quoted in Lamond, *Rise and progress*, p. 85.

[56] MacDougall, *Ceann-Iuil*, p. 87.

[57] Wellington County Archives [hereafter WCA], A1991.46, p. 23, quoted from *The Elora Observer*, 1866.

[58] Wood, *Making Ontario*, pp. 12, 17.

[59] Environment Canada report: Southern Ontario wetland conversion analysis (Mar. 2010) www.ducks.ca/assets/2010/10/duc_ontariowca_optimized.pdf.

[60] Robert Gourlay, *Statistical account of Upper Canada* (1822), pp. 410, 413.

[61] Ibid, pp. 343, 103.

[62] MacDougall, *Ceann-Iuil*, p. 85.

[63] Catharine Parr Traill, *The female emigrant's guide, and hints on Canadian housekeeping* (1854), p. 184.

[64] MacDougall, *Ceann-Iuil*, p. 86.

[65] Gourlay, *Statistical account*, p. 505.

in the woods, in a state of nature'.[66] Similarly, Yarmouth's residents rejoiced in the quantities of milk produced by grazing their cattle on their 'forest pasture'.[67] Farmers in Grantham estimated that a four-year-old ox would gain 200–250 lb if fed. It would still gain 150–170 lb if simply grazed in the woods.[68] Those in Norwich agreed, maintaining an ox would gain a third in a summer's run in the woods and become excellent beef.[69] These beasts may well have been accessing natural meadowland as well as consuming the produce of the forest floor.

Pigs were adept at foraging as well as eating farm and household leftovers: abandoned grain, windfall apples, vegetable peelings, frozen potatoes, and dairy by-products. *The Skilful Housewife's Guide* suggested even the otherwise unusable milk of a cow with infected teats could be fed to swine.[70] They were usually an early purchase of new settlers. MacDougall declared the 'farmer without pigs in America, is not worth much; he is a senseless man, a useless husband, and a bad neighbour'.[71] MacDougall made his point using a form reminiscent of Gaelic satire to shame fellow Highlanders out of their trailing suspicion of the animals. He argued a piglet could be obtained for a mere day's work and at six weeks old it could support itself in the forest. In a good year for nuts, even snow did not discourage them from spending all day digging for them. These razorback hogs were apparently 'long snouted, long legged, ravenous looking brutes'.[72] They did not fatten easily but did well running loose in the woods.[73] For hogs destined for market, the *Colonial Advocate* suggested more lavish fare. Piglets were fed boiled apples, pears, pumpkins, potatoes and squash. After harvest they should run in the orchard before being fattened on a thrice daily thick mash of rye, buck wheat, Indian corn (maize), potatoes and pumpkins. These choice creatures would then luxuriate on beds of fresh straw.[74] This level of care was for the well-established settler rather than those primarily relying on the forest.

As it took time to build up stock, in early years people relied on forest wildlife as a source of protein. Bell noted the abundance of 'deer, martins, otters, fishers, beavers, foxes, squirrels, hares, musk-rats, racoons, geese, ducks, eagles, partridges, woodcocks, and a great many small birds and beasts'. His new home also abounded 'with small rivers and lakes, which swarm with fishes of all sorts and sizes; in the spring, when they are so fat that they won't take bait, we spear them … They are caught with nets too'.[75] Further west, Robert Scott commented on bass, salmon and trout, weighing up to eight pounds, in the stream running near his log house. He hunted pigeon, partridge and deer in the summer.[76] John Carnegie's dog Coaly was expert in flushing out deer and he was often tempted to go hunting.[77]

[66] Ibid, p. 345.

[67] Ibid, p. 343.

[68] Ibid, p. 423.

[69] Ibid, p. 334.

[70] Anon, *The skilful housewife's guide: A book of domestic cookery* (1848), p. 114.

[71] Ibid, p. 105.

[72] J. F. Johnston, *Report on the agricultural capabilities of the province of New Brunswick* (1850), p. 65; id., *Notes on North America: Agricultural, economical and social* (1851), p. 74. Quoted in Craig, *Backwoods consumers*, p. 146.

[73] Percy Bidwell and John Falconer, *History of agriculture in the northern United States, 1620–1860* (1941), pp. 229–30; Jones, *History of agriculture in Ontario*, p. 77.

[74] *Colonial Advocate*, 15 Apr. 1830.

[75] Bell quoted in Lamond, *Rise and progress*, p. 74.

[76] Provincial Archives of Ontario [hereafter PAO], F496, Scott Family Letters, Robert Scott to Joseph Scott, 24 Aug. 1835.

[77] PAO, MU4788, Carnegie Family Papers, F103, B286682, John Carnegie jun. to George Carnegie, 7 Jun. 1836.

Carnegie did occasionally provide venison and fish for the table, but recognized that hunting, although enjoyable and productive, took him away from the farmwork.[78] As domestic livestock increased, hunting declined.

Woodlands are capable of sustaining a low level nutrient loss over the long term.[79] The consensus of settlers across a wide swathe of Upper Canada is that, when necessary, the forest was a passable larder for a family and its livestock, at least throughout the summer. Hunting provided fresh meat for the table and natural grassland, beaver meadow, and the forest floor provided a diet that could sustain a few sheep and cattle and many pigs. There is no indication that forest lands were held or managed in common, unlike upland grazing in Scotland, especially the Highlands. In summer individual forested lots were therefore a vital resource for the first generation of settlers. Winter was even more of a challenge.

III

MacDougall found 'wintering livestock in Canada is a distressing business, and losing them in spring is the most vexing thing that can happen to a person'.[80] William Webster's first winter, 1842–3, was long. Many farmers were without feed for a month and a 'vast lot of cattle died for want of provisions'.[81] Successfully bringing stock through the winter required careful strategic decisions throughout the year: how many beasts to purchase, how many to slaughter in November, what shelters to build, and what crops to grow. Even for settlers with agricultural experience, the greatest challenge was their inexperience of the climate and ecology and their lack of hay and farm infrastructure. Farmers with some cleared land prioritized a significant proportion for hay; others relied on leaf fodder, spoiled crops and reducing calorie loss by providing animals with shelter from the elements. The forest was an important resource for winter stock keeping.

Hay production was the limiting factor for keeping livestock over the winter. Seasonal prices tell their own story. A milk cow cost $25–30 at the end of spring with the summer's free grazing imminent, but $15–20 at the beginning of winter when months of feeding loomed.[82] Farmers endeavoured to keep costs low by growing their own hay. John McIntyre exclaimed that with 'as much hay in the State of Ohio I would have foddered four times the stock on it'.[83] He complained of having to feed his cattle for nearly three-quarters of the year so 'consequently can never keep proper stock'. By early May the hay was finished but the grass was still marginal and his twelve sheep could scarcely 'pick enough from our snow bleached fields to keep them in life'. In 1833, John Crerar decided emigration was a better option than being prosecuted for whisky smuggling in Glenquaich. Crerar knew cattle, having leased an eight-acre Perthshire farm with rights to common hill pasture. Then aged 44, he set himself up on 300 acres in Upper Canada. In Marvin McInnis' classification, a large farm was 170 acres so Crerar was at

[78] PAO, MU4788, F103, B286682, John Carnegie jun. to John Carnegie sen., 30 Aug, 1834.

[79] Donahue, *Great meadow*, p. 62.

[80] MacDougall, *Ceann-Iuil*, p. 96.

[81] Aberdeen University Special Collections [hereafter AUSC], MS2844, William Webster to James Webster, Jun. 1843.

[82] MacDougall, *Ceann-Iuil*, p. 96.

[83] WCA, McCorkindale Family (Guelph) letters, A2004.88, John MacIntyre to Archibald McCorkindale, 9 May 1837.

the top end of the scale.[84] He had enough credit or cash for the land, to provide for his family until the next harvest, and to purchase a yoke of oxen and two cows at $20 each. That by 1842 he had 80 acres cleared also shows he could afford to hire hands for felling. In his first decade in Canada he became a successful mixed farmer. He had selected fertile land underlain by the limestone which would keep his crops supplied with calcium. The undulating topography meant it was well-drained with some marshy depressions.[85] On this he harvested 14 acres of wheat, ten of oats and seven of other crops. He devoted 25 acres to hay which he used for three yoke of oxen, three steers, six milk cows, four heifers, six yearling steers, five calves, 29 sheep, and 18 hogs.[86] While Crerar was an exceptionally well-off and successful immigrant, establishing hay as a priority crop was a typical strategy. Crerar could support his stock with hay because, as well as possessing significant resources when he immigrated, he had been clearing and farming in Upper Canada for nine years. But how did newly arrived settlers, who had no opportunity to grow a hay crop, overwinter their stock?

Winters were longer and harsher than those to which Scots were accustomed. MacDougall warned new arrivals against bankrupting themselves through buying more stock than they could support.[87] Forest resources were critical in those initial winters. Elizabeth Dickson from Roxburghshire was nervous about the snows in McKillop Township. She was assured by her neighbour that her cattle would obtain enough nourishment if she cut 'down branches of certain trees'. Leaf fodder, known in Scandinavia and parts of England, was clearly unknown in the Scottish Borders.[88] Woodlands there were scarce and for commercial purposes, not grazing.[89] Roxburghshire's cattle were fed grass, hay and turnips.[90] Dickson's neighbour in Canada optimistically claimed her cattle would look 'better than at home fed on more expensive keep'.[91] He was not unusual in this opinion. Catharine Parr noted cattle browsing on the shoots of felled bass, elm and beech during the winter 'chopping season'.[92] MacDougall described the tops of maples as 'juicy' and one Aberdeen man found them 'sumptuous' fare.[93] His opinion may have developed from experience in north-east Scotland where it was common to use the crushed shoots of whin and pine as feed.[94] Along with a weekly dish of salt, this leaf fodder was considered adequate for the Canadian winter. A little knowledge meant animals could be nourished directly from the forest.

Animals were also fed from the forest indirectly. New arrivals usually managed to get in some seeds among the stumps of their initial clearings and these grew prolifically in the virgin soil, fertilized by the burning of brush and branches. While intended for human

[84] Marvin McInnis, 'Marketable surpluses in Ontario farming, 1860', *Social Science Hist.* 8 (1984), pp. 410–11.

[85] Hoffman *et al.*, *Soil survey of Wellington County*, p. 23; Wicklund *et al.*, *Soil survey of Oxford County*, p. 10.

[86] 'Letters collected by the Canada Company to encourage emigration, 1842', Fisher family from Aberfeldy, accessed 19 Mar. 2014, www.fisherfamily.me.uk/history/canada.html.

[87] MacDougall, *Ceann-Iuil*, p. 96.

[88] T. C. Smout, *Exploring environmental history* (2005), p. 62; Donahue, *Great meadow*, p. 62.

[89] This was partly due to extensive sheep farming. Smout, *Exploring environmental history*, p. 55.

[90] *NSA*, 3, pp. 183, 271, 275, 445.

[91] PAO, F496, Mrs Archibald Dickson to James Turnbull, 29 Sept. 1834.

[92] Traill, *Female emigrant's guide*, p. 184.

[93] MacDougall, *Ceann-Iuil*, 99; National Library of Scotland, RB.s.956 (a), *Counsel for emigrants*, pp. 33–4.

[94] Alexander Fenton, *Scottish country life* (1976), p. 141.

consumption, that first winter lack of knowledge meant spoiled crops were often on the menu for livestock. Scots were used to storing potatoes in 'tattie pits', self-draining hollows in the ground, close enough to the house that a child could be sent out to burrow for a handful for each dinner. Immigrants quickly discovered the bitter cold destroyed buried potatoes. Crop damage remained a peril for the experienced. Dalhousie Township's inedible potatoes of 1836; Brantford's rust-damaged wheat of the warm, damp year of 1844; and the 1846 crop in parts of Esquesing all ended up in the bellies of beasts.[95] When part of his 1836 oat crop was too late to be edible, John Millar fed it to his 'two very smart little horses', six cows, eleven sheep and ten swine.[96] While well-settled farmers as well as new arrivals might use 'forest brousing' and recycle spoiled crops as winter feed, those who had been longer in-country had an advantage when it came to overwintering: they could bring their animals in from the cold.

Winter underfeeding and improvising animal feed was typical in New England, Nova Scotia and New Brunswick as well as in Upper Canada and Scotland.[97] Although loss of condition was acceptable, farmers tried to mitigate this not only through 'inputs' of feed, but by reducing 'outputs' of calorie loss. In a relatively treeless landscape, Scots were accustomed to housing livestock, especially milk cows, with timings dependent on the local climate. Regional patterns developed in Upper Canada. By Lakes Ontario and Erie, stock were brought in around early December. In more north-easterly areas it was November. There they remained until the snow was off the ground. In mild Niagara this was early March, but in most areas grass was not through until April or May.[98] Settlers built barns, sheds and 'shelters'. In Grenville County John Millar observed some Scots 'put them up in a house'. His meaning is unclear. Normal usage suggests he was using 'house' and 'barn' synonymously, but he then explains he has just built a log barn '42 feet by 22 [feet] which will hold the cattle in one end'.[99] It is therefore possible his neighbours built homes in which humans and livestock shared a roof. This was the ordinary living situation for most rural Scots well into the nineteenth century.[100] While such houses were usually dark and inhabitants ran the risk of tuberculosis, it was an efficient use of building supplies and the livestock acted as a type of central heating. Cattle were kept in the lower end where dung and bedding was easily collected to fertilize the fields.[101] This management transferred nutrients and organic matter from the forest and meadow to tilled land via the dung and the straw which absorbed urine, binding its nitrogen.[102]

Not all overwintering facilities for stock were as substantial as shared accommodation or John Millar's log barn, so certain types of animal were prioritized. In Sandwich horned cattle were 'better in sheds' whereas in Kingston horses were stabled, but not cattle.[103] In

[95] Alexander Carlyle to Thomas Carlyle, 14 Mar. 1845, in Edwin Marrs, *The letters of Thomas Carlyle to his brother Alexander* (1968), 609–10; WCA, A2004.88, 9 May 1837; PAO, F555, MU1979, Malcolm McNaughton Papers, Malcolm McNaughton to John McNaughton, 22 Aug. 1846.

[96] LAC, R4416-0-9-E, John Millar and Family Collection, John Millar to James Millar, 20 May 1837.

[97] Craig, *Backwoods consumers*, p. 162.

[98] Gourlay, *Statistical account*, p. 413.

[99] LAC, R4416-0-9-E, 14 Nov. 1834.

[100] Alexander Fenton, 'The housing of agricultural workers in the nineteenth century', in T. M. Devine (ed.), *Farm servants and labour in Lowland Scotland, 1770–1914* (1984), p. 196.

[101] *OSA*, 8, p. 344.

[102] Donahue, *Great meadow*, p. 161.

[103] Gourlay, *Statistical account*, pp. 278, 474.

Malden in the milder southwest only cattle which were being used, presumably for logging, were taken in.[104] In Willoughby and Stamford townships young cattle, and sometimes horses, were expected to find what shelter they could in the woods.[105] New settlers with no time to build barns or sheds, had to be strategic. Traill recommended a night enclosure for cattle that roamed 'at large in the woods and wastes', pointing out that warm yards were as useful as a good feeding.[106] She held that cattle should be milked early and then turned out. To ensure they returned they should be given occasional fodder and milked in the same place each evening. Some settlers trained cattle to respond to the sound of a horn. This method avoided wasting days searching for strays and it mitigated the more dramatic risk of children, sent out to retrieve them, meeting a frozen fate in the woods.[107] It did not reduce the risk of stock being eaten by wild animals. MacDougall advised those planning to outwinter cattle to select a hardy breed. He explained the common type of cow in Upper Canada was different to those to which his Highland compatriots were accustomed, being 'long-legged, smooth, lean – with slender thighs … long, narrow, elegant necks' and producing a good yield of milk.[108] However, the small Highland cattle with their double coat were well adapted for tough conditions.[109] He reassured potential settlers that, despite what they had heard, it was possible to outwinter them 'from Hallowtide to May Day, with only the remains of the fodder they get in the evening between them and the snow', a diet similar in its sparsity to that in Scotland.[110] He describes his herd, lingering by the forest edge, close to the house, trampling round hollows in the snow for a bed. Covered in snow, icicles hung from their noses. So, the well-informed backwoods settler carefully selected a hardy breed which could outwinter, grazed them in the forest with occasional feed supplements, and provided some shelter by using the forest and a yard. On more developed farms, barns were selectively used to house and feed priority beasts such as milk cows and working oxen. Settlers raising sheep were equally attentive and strategic.

Alexander Brown, an experienced shepherd from Glencairn in Galloway, optimized the performance of his commercial flock in Flamborough by evaluating climate and feed. He raised cheviots and cheviot crosses sufficiently hardy for snowy winters, carefully organizing the winter routine.

> I keep my ewes of two years old and upwards, with my wethers, in a body apart by themselves, and give them plenty of good hay, but not red clover hay, which is not good for them. I have sheds for them at night; when the weather is stormy, and the snow deep, they are kept in these sheds in the day time; but only in such cases, as it is of the utmost importance to sheep to have freedom, when the weather renders it at all possible. The spring lambs, and the wether sheep, I keep apart by themselves in a comfortable place, giving them, besides good hay, occasionally a little grain, oats, pease or maize are good, I do not think much of buck-wheat, but though I have not had much experience of oil-cake, I know that

[104] Ibid, p. 282.
[105] Ibid, pp. 413, 418.
[106] Traill *Female emigrant's guide*, p. 184.
[107] Ibid., pp. 180–81.
[108] MacDougall, *Ceann-Iuil*, p. 94.
[109] Ibid, 98; conversation with Issie MacPhail, Jan. 2015.
[110] MacDougall, *Ceann-Iuil*, p. 98.

its mixture with wheat, or bran, will answer well. I give all my sheep salt, once a week, two quarts serve 100 sheep.[111]

Settlers varied in their approach to wintering depending on location, breed, type of animal, availability of feed and professional opinion. Most new arrivals in the backwoods had little choice but to outwinter their stock as they lacked barns and fodder. Those on longer-established farms could shelter stock and supply relatively large flocks and herds with home-grown feed. Every winter strained settlers' resources, and periodically harsh seasons caused great suffering. Political ecologists have pointed out that natural environments are not passive, waiting to be moulded into patterns by humans, but possess their own power to impinge on and subvert human intentions.[112] This must have been starkly apparent as Bell stared at the thick forest and Dickson worried about feeding her cattle through the winter. It is unsurprising that the reactions of settlers, particularly those coming from highly managed landscapes, could initially be hostile to Upper Canada's forest. However once they learned to utilize these resources they continued to do so for many years. As McCalla has shown, the forest was harvested for many products.[113] Its capacity to feed and shelter animals should be added to this list. However settlers did not see the forest as sufficiently abundant for their agricultural ambitions. Their aim was to replace much of it with the hay, roots and grain which could support the family and keep larger herds and flocks more securely throughout the year.

IV

Arable land, painfully claimed from the forest, was used optimally to ensure the existence of the embryonic farm. The staples approach, which focused on commercial exports, created the impression that Upper Canadian farmers primarily used cleared land for wheat.[114] McCalla, Wood and Craig have shown how much more sophisticated was the rural economy. A deeper exploration of the complexity of pioneer farms is profitable in understanding this economy, the nature of farmwork, farmers' tactics and their relationship to the forest. Wheat sold off the farm was undoubtedly important, but the evidence of settlers' letters and of the 1842 census shows farming, including choice of crops, was diverse. Much of this strategy revolved around the need for winter feed.

The requirements of livestock and the requirements of initial clearing worked symbiotically. Oxen were necessary for speedy logging, and once sufficient daylight penetrated the canopy and the undergrowth was cleared, feed crops could be planted. The tendency of the ubiquitous pigs to churn up land, so problematic in Scottish farms where they roamed free, became an advantage when settlers wanted to break up underlying root systems.[115] Turnips and potatoes, recognized in Scotland as good for breaking in land, were often planted

[111] 'Sheep farming in Canada', *Colonial Advocate*, 3 June 1824, cited at www.electricscotland.com/History/canada/sheep_farming.htm (accessed 4 Feb. 2014).

[112] Paul Robbins, *Political ecology: A critical introduction* (2012), p. 5, cited in Hazareesingh, 'Territories of conquest', p. 89.

[113] McCalla, *Planting the province*, pp. 64–5.

[114] Ibid, p. 5.

[115] Conversation with Issie MacPhail, Jan. 2015.

early, as was maize which grew well in recently cleared ground.[116] This process of claiming forest land was messy, and offensive to the eye that equated good practice with Britain's improvement agriculture. W. G. Mack described the Upper Canadian landscape in the midst of this process: 'the number of acres cleared around the unseemly-looking log houses; the black stumps and ragged patches of grain or potatoes giving the whole an air of desolation and discomfort'.[117] Despite aesthetic inadequacies, these 'ragged patches' fed humans and stock. Charlottenburgh was settled in 1784 by Highland Loyalists. Thirty-five years later the MacIntyres, Mackenzies, Camerons and their neighbours assembled and explained how they managed the land admired by Mr Johnston as he walked through with his dog. Immediately after clearing they raised a crop of potatoes; or wheat on dry land; or oats on low land. Following innovative 'high farming' techniques, the grains were seeded with timothy. The ground was given over to four or five crops of hay after which it was dedicated to pasture for a few years. This hay allowed each Charlottenburgh cow to produce 4–6lbs of dairy per week and an ox to gain a third more weight. Any remaining tree roots had by then rotted sufficiently to be removed and the land was ready for ploughing and a few years of wheat before being returned to pasture.[118] The farmer was then well on the way to developing one of the 'very beautiful farms cleared of stumps, laid out into neat fields, with good frame houses and large barns' characteristic of successful established farmers.[119] Thereafter a crop rotation was employed. These varied regionally, but – as in Scotland – all used grass as an integral part of restoring fertility as well as for feeding stock.[120] The feeding needs of livestock, including hay, root crops and pasture, as well as their labour, especially their production of manure, made livestock a driving force in the creation of viable farms.

Using cleared land for growing winter feed was a primary strategy. John MacIntyre explained how he fed his animals through the winter of 1840–41: 'I had a good many fine Swedish Turnips that was a great help. I had hay till the middle of this month[. W]e have the horses and oxen working every day[:] the horses get pease and oats, and the oxen boiled pease and scalded chaff and potatoes'.[121] Similarly, Traill recommended a diet of turnips supplemented with a quart of boiled oats in water or bran twice a day. The residual taste of turnip in the milk could be dealt with by adding a little saltpetre in warm water. A more 'troublesome' feed supplement was boiling hay to make a warm drink for cattle.[122] A close analysis of what some settlers chose to grow and their own explanations of how they used this harvest, demonstrates that they dedicated large proportions of their cleared land, as well as their forest and meadow, to sustaining livestock.

A typical range of crops included oats, barley, wheat, maize, grass, hay, turnips and potatoes. While some was for eating and some for sale, a goodly amount was for livestock, as was straw

[116] *OSA*, 16, p. 187; *NSA*, 14, p. 369; Dodgshon and Olsson, 'Productivity and nutrient use', p. 42; Robert A. Dodgshon, 'Strategies of farming in the western Highlands and Islands of Scotland prior to crofting and the clearances', *EcHR* 46 (1993), pp. 689; Donahue, *Great meadow*, p. 88; Forkey, *Upper Canadian frontier*, p. 35.

[117] W. G. Mack, *A letter from the Eastern Townships of Canada* (1837), p. 6.

[118] Gourlay, *Statistical account*, p. 562.

[119] Mack, *Letter from the Eastern Townships*, p. 6.

[120] Gourlay, *Statistical account*, p. 398.

[121] WCA, A2004.88, John MacIntyre to John McCorkindale jun., 4 Mar. 1841.

[122] Traill, *Female emigrant's guide*, pp. 180, 183.

and stubble, providing a balanced diet of nutrients and roughage.[123] In Grenville County, John Millar's first crop was focused on the needs of livestock.[124] He harvested 110 bushels of oats, 100 bushels of potatoes, and 200 stones of hay from the semi-cleared farm. Nearby in Lower Canada, William Buchan commented that barley was excellent for fattening pigs 'which fetch, as pork, a much higher price than any other meat'.[125] Three years after emigrating to Peterborough, John and Charlotte Carnegie listed six acres of potatoes, two of Chevalier barley, four of common oats, two of Indian corn, three of potatoes, two to three of Swedish turnips, two of peas and about eight of hay.[126] This resembles the range in pastoral areas of Lowland Scotland where the winter diet of dairy cattle included swedes, beanmeal, hay and straw.[127] By the 1820s, the long-standing Scottish dependence on oats, bere (a form of barley) and pease was supplemented by the turnip.[128] Even if the Carnegies had broken with agricultural practices in Scotland and Canada, consuming all the potatoes, corn and peas themselves, out of the 30 acres they cropped that summer season, still a full third was dedicated to hay and turnips. This range of crops, selected with animals as much as humans or markets in mind, was not unusual. Table 1 details proportions of crops grown by Scots settlers in the 1830s and early '40s. The small sample means it is only suggestive. Nonetheless, the importance of fodder in the early decades of settlement is striking.

Each of these settlers began farming by felling old growth forest, each operated the typical mixed farm, and each had been settled for under ten years, so they are roughly comparable. The proportions given over to feed crops vary from 46 per cent to 70 per cent.[129] As previously noted, Crerar, but also Frazer and Stewart, were atypical in their rate of clearing. Presumably the Canada Company, who published accounts of these men's achievements, wished to emphasize the most successful. However this does not affect the clear pattern: that new farmers used their land to grow a wide variety of crops, a significant proportion of which was oriented towards overwintering livestock.

Two examples show why settlers planted a variety. Twenty years after settling in Esquesing, Malcolm McNaughton's letters to his brother in Glen Lyon, Perthshire, show he prepared for the annual unpredictabilites of weather. He and his son John maintained a balance of grains, root crops, hay and pasture. In 1830 they cut their 'indifferent' wheat and rye crop but failed

[123] The use of these crops for feed is detailed in many sources including MacDougall, *Ceann-Iuil*, p. 85; PAO, F496, Robert Scott to Joseph Scott, 24 Aug. 1835; McInnis, 'Marketable surpluses', pp. 412–16. A low estimate of animal feed in Nova Scotia allocates annually 28 bushels of oats/barley to oxen, half as much to young cattle and 1 bushel to each sheep. Rusty Bittermann, Robert A. MacKinnon, Graeme Wynn, 'Of inequality and interdependence in the Nova Scotian countryside, 1850–70', *Canadian Historical Rev.* 74 (1993), p. 21.

[124] LAC, R4416-0-9-E, 14 Nov. 1834.

[125] William F. Buchan, *Remarks on emigration: more particularly applicable to the Eastern Townships Lower Canada* (1842), pp. 46–8.

[126] PAO, MU4788, F103, B286682, John Carnegie to George Carnegie, 7 Jun. 1836. Carnegie lists potatoes twice, possibly intending to list another crop.

[127] R. H. Campbell, 'Agricultural labour in the South-West', in Devine (ed.), *Farm servants and labour*, p. 62.

[128] Malcolm Gray, 'Farm workers in North-East Scotland', in Devine (ed.), *Farm servants and labour*, p. 15.

[129] These examples could not be contextualised within the 1842 agricultural census as it did not record hay or pasture. Although the topography and soils are very different from Upper Canada, in his Cape Breton case study Bittermann found that mixed farming with a heavy emphasis on stock required 20–25% of improved land devoted to hay, slightly less to grains and 5% to pasture. The rest of the cleared area was pasture. Bittermann *et al.*, 'Of inequality and interdependence', p. 12.

TABLE 1: Proportion of feed crops

Date	*Name*	*Region of origin*	*Upper Canadian location*	*Acreage of feed crops*	*Acreage of other crops*	*% feed crops*
1824	Malcolm and Peggy McNaughton	Highland Perthshire	Esquesing	5.5	6.5	46
1836	Ninian Logan	Probably Lothian	Dundas	38	22	63
1836	John and Charlotte Carnegie	Berwickshire	Peterborough	15	15	50
1842	Robert Frazer	Highland Perthshire	North Easthope	59	26	69
1842	John Stewart	Highland Perthshire	North Easthope	63.5	27.5	70
1842	John Crerar	Highland Perthshire	North Easthope	55	26	68

Note: 'Feed crops' includes acreage designated as pasture, hay, Indian corn/maize, turnips. I have designated half of the oat acreage to animal feed and half to human consumption. This may be underestimating the quantity raised for feed as there is evidence that some Scottish settlers devoted all their oats to stock. Lamond, *Rise and progress*, p. 73. Turnips and Indian corn are not designated in the cases of Frazer, Stewart and Crerar so their animal-oriented crops are probably an underestimate.
Sources: McNaughton, PAO, F555, MU1979, 26 July 1824. McNaughton intended to clear a further nine acres by fall and plant it with winter wheat; James Logan, *Notes of a journey through Canada, the United States of America and the West Indies* (1838), p. 47; Carnegie, PAO, MU4788, F103, B286682, 7 June 1836; Frazer, 'Letters collected by the Canada Company to encourage emigration, 1842', Fisher family from Aberfeldy, accessed 19 Mar. 2014, www.fisherfamily.me.uk/history/canada.html; Stewart and Crerar, Ibid. Stewart assessed his acreage of oats and barley together as being 14 acres. I have assumed seven acres for each and have thus added seven acres to the feed and non-feed categories.

to get it in. In 1846 the farm's success depended not on their wheat which was unpromising owing to 'a great drouth' and 'the snow being so light and the cold frost snap', but on their potato, pea, oat, hay and apple harvest.[130] The next year hay was bountiful and wheat rust-free, but oats were 'rather light and so is peas'. Additionally potatoes were 'going to be a failure owing to the drouth. Pastures failed and water was scarce for stock'.[131] To rely on only one or two sources of feed to get stock through the winter, or on a dominant crop, such as wheat, for a farm's annual survival, was to court disaster. A range also enabled farmers to rotate crops, replenishing the soil. Even for well-established and well-prepared farmers like John MacIntyre in Lanark County, getting the right proportions could be difficult. The long winters of 1830–31, 1836–37 and 1840–41, in which there was no substantial grass growth before May, caused 'great distress' and cattle could 'hardly subsist'.[132] McIntyre's hay and summer grain crop had been bountiful but he had failed to anticipate the poor wheat harvest and the long winter. In addition to 16 tons of hay he had:

[130] 'Drouth' is a Scots word for thirsty or, in this context, a drought.

[131] PAO, F555, MU1979, 2 Aug. 1830, 29 Apr. 1845, 22 Aug. 1846. Craig noted farmers in Madawaska (New Brunswick and Maine) varied their crops in response to the 1840s wheat rust. Craig, *Backwoods consumers*, p. 152.

[132] WCA, A2004.88, 4 Mar. 1841; Middleville and District Museum, Reference No 122.86, George Easton Diary, 5 Nov. 1830, 10 May 1831. Thanks to Catharine Wilson for pointing me to this diary.

> above 600 stooks of different kinds of straw besides pease straw, but I threw it out very unsparingly at the time of threshing never dreaming that the winter would continue so long … I think I will always be more careful of straw than I have been. I gave a good deal of it away.[133]

He supplemented with his good crop of swedes. Assuming turnip fly was kept at bay, most farmers produced several acres for winter fodder.[134] Emigrants used cheap root crops to reduce the demand on hay, just as they had done in Scotland.[135] The disadvantage was that they were tough on teeth.[136]

Just as settlers would have eaten some of the root crop themselves, so they consumed a proportion of their grain. Indeed while most ethnic groups used oats for livestock, many Scots maintained their food culture by eating porridge and oatcakes.[137] However, not only was some grain intended as animal feed, in bad winters unspoiled crops set aside for human consumption were sometimes sacrificed to prevent stock starving. In Dalhousie in 1841–43 farmers employed a number of strategies to keep herds and flocks alive. Some bought hay at vastly inflated prices and, even worse, others fed them seed grain and provisions intended for their family.[138] Even then many beasts died. In common with most Europeans, poorer Scots were familiar with a summer hungry season. That year even the reasonably well-off MacIntyres had no meal left and just enough grain to keep them until the next harvest.[139] When partial crop failure or a long winter could cause belt-tightening for the MacIntyres, they had many assets they could sell to buy supplies or to borrow against. For newly arrived settlers who had not yet built up assets or cleared substantial acreages, or backwoods farmers with marginal land, the seasonal round brought the possibility of seasonal want. As well as adverse weather or an infestation, fragile farm economies could be tipped over the edge by an accident like a housefire or injury, by a life stage such as old age or by having young children who took up a woman's time and energy but contributed nothing to the farm's productivity.[140] Hedging bets with a range of crops was then especially important.[141] Variety was a normal strategy for settlers: Craig found that, until the 1830s, Madawaska settlers grew as wide a selection as conditions allowed. While wheat was often the main grain crop, grown for cash, farmers grew a variety of grains, root crops and hay, much intended for livestock rather than sale or human consumption. Planting a variety was important for nutritional reasons, and to guard against pest, disease and weather.

[133] WCA, A2004.88, 4 Mar. 1841.

[134] AUSC, MS2137/3, Papers of Rev. Patrick Bell, p. 267. In Scotland this was the case both in the Highlands and the Lowlands. Alexander Fenton, 'Agricultural change around Loch Ness, post Culloden' in *Loch Ness and thereabouts* (1991), p. 35; *NSA*, 2, p. 24. These examples from Inverness-shire and East Lothian are two of many.

[135] R. J. Colyer, 'Some Welsh breeds of cattle in the nineteenth century', *AgHR* 22 (1974), pp. 4–5; *OSA*, 20, p. 326; Fenton, 'Agricultural change', p. 35.

[136] G. G. S. Bowie, 'New sheep for old: changes in sheep farming in Hampshire, 1792–1879', *AgHR* 35 (1987), p. 23.

[137] AUSC, MS2137/3, pp. 240–1.

[138] WCA, A2004.88, 4 Mar. 1841.

[139] Ibid.

[140] Just when the Carnegies were managing to establish themselves, their house burned down requiring them to rely on the generosity of neighbours and of family in Scotland who provided goods and financial loans for several years. PAO, MU4788, F103, B286682.

[141] Craig, *Backwoods consumers*, p. 146.

The desire and the intent of most new settlers was to establish a mixed farm. The range of crops grown by Scottish immigrants in the early years and how they were used demonstrates that livestock were central to how settlers strategically approached land use. As much as 50 to 70 per cent of crops grown on the laboriously reclaimed fields was destined to be animal feed. Livestock were so vital that farmers would pay over the odds for hay and sacrifice seed grain and their own food supplies to keep the animals alive. While leaf fodder and hay from beaver meadows was useful for the winter, the best way to feed stock was not directly through the forest but by replacing it with pasture, meadows of more nutritious British grasses and cropland.

V

At any one moment during the first half of the nineteenth century, significant swathes of Upper Canada consisted not of well-established arable, but of backwoods farms: small fields of mixed crops wound around blackened stumps and surrounded by trees in whose shade browsed pigs, sheep and cattle. These were all hacked out of old-growth forest. Bell was not the only immigrant initially overwhelmed by being cast into this alien environment. Living in deep forest, rather than on open farm land or beneath treeless mountain horizons, had an emotional effect on some. Possibly the most famous reaction is that of John MacLean who emigrated from Tiree to Barney's River, Cape Breton. This is some distance from Upper Canada, but MacLean may have articulated the thoughts of our farmers too.

> I'm here alone in the gloomy forest,
> My mind wanders, I cannot raise a tune.
> Everything is barren in Barney's River,
> With nothing better than the bare potato.
> Before I build a place here, and I plant a crop,
> and fell the dense forest
> With the strength of my shoulder, I shall be tired
> And my strength failing before the children grow.
> When you came to the place you cannot see anything
> But the tall forest blocking out the skies.[142]

Keeping family and livestock alike was difficult for Scots unfamiliar with the ecology, and lacking detailed knowledge of the topography and how it interacted with seasons, climate and plant life.[143] Elizabeth Dickson, John MacIntyre, John Crerar, Peggy and Malcolm McNaughton were a few of those who experimented, read manuals, and crossed their fingers

[142] Memorial University of Newfoundland Folklore and Language Archive, Memorial University of Newfoundland, www.mun.ca/folklore/leach/songs/CB/1-04.htm (Accessed 3 Mar. 2015). This poem was refuted by Allan 'the Ridge' MacDonald (b. 1794) from Lochaber, who settled on the Mabou Ridge in 1816 and who viewed his new home positively: www.mun.ca/folklore/leach/singers/amacdonald.htm (accessed 16 Mar 2017).

[143] Meto Vroom classified landscape into three horizontal layers – the abiotic (non-living), biotic (living) and cultural (human) – each of which interacts with each other. Cited in Murray, *Reading the Gaelic landscape*, p. 36.

as the slow years of knowledge built. Adapting their minimal or extensive knowledge of old country agriculture, they came to understand that the forest could be a friend. Not only was it a source of timber and potash, but a pastoral resource providing summer grazing, limited winter grazing and some shelter. It was best for pigs, but passable for cattle too. However, a successful mixed farm in Upper Canada relied on extracting many products from the land. Livestock were essential through their labour in hauling timber and ploughing; the products of their bodies for sale and domestic use; and their manure, which replenished the soil for crops. Providing for them was therefore a priority for new settlers. Relying on the forest as a direct feed source was possible but usually a short-term expedient, particularly important in the first few years. Settlers recognized its agricultural limitations and decided the best way to provide for stock was to replace large sections of woodland with meadow, pasture and tillage. They therefore had an ambivalent relationship with the forest. They retained woodland for firewood, building materials and maple syrup, but intended to bring their lot as close to an improved Lowland farm as topography would permit. There were doubtless aesthetic aspects to this, as J. I. Little has found among emigrant gentry.[144] There were certainly deep ideological motivations, informed by Enlightenment attitudes and high-farming techniques, which were being simultaneously enacted on the Scottish landscape.[145] On the pragmatic side was the absolute need to feed family and livestock. Livestock were a vital resource in this project and their need for year round feeding strongly influenced settlers' strategies as they created mixed farms with a wide range of crops.

[144] J. I. Little, 'Canadian pastoral: promotional images of British colonization in Lower Canada's Eastern Townships during the 1830s', *J. Historical Geography*, 29 (2003), pp. 189–91.

[145] Bonnyman, *Third Duke*, pp. 129–30.

The spread of the potato blight in the Russian Empire, 1846 to 1852*

by Marten Seppel

Abstract

Recent scholarship has immensely increased our understanding of the spread of the potato blight in Western Europe in the 1840s, but its presence in Eastern Europe and in Russia has been neglected. The aim of this paper is first to look at the spread of the potato blight in the Baltic provinces from whence it started to spread throughout the Russian Empire. Second, this study shows the impact of the disease on the agricultural policies of the central government at St Petersburg as well as on the scope of potato cultivation. The main consequence of the potato blight was a delay in the adoption of mass potato cultivation and consumption in Russia of at least a decade. The potato was supposed to shield the peasants against famine but the arrival of blight caused economic crisis.

One of the main driving forces behind the spread of potato crops in Europe was the belief that the potato could solve the problem of frequent cereal crop failures.[1] Well into the mid-nineteenth century, a crop failure affected some part of the Russian Empire in virtually every year. Thus the need to find a solution to subsistence crises was permanently on the agenda for St Petersburg.[2] The first order issued by Catherine II in 1765 on the introduction of the potato crop in the Russian Empire strongly emphasized the great benefits and reliability of the potato in the event of cereal crop failures and bread shortages.[3] In issuing her order, Catherine II was obviously inspired by the Prussian potato edicts of Frederick II from the 1740s and 1750s.[4] Furthermore, in the eighteenth-century literature from the Baltic provinces,

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[1] A. Bourke, *The visitation of God? The potato and the Irish famine* (1993), pp. 12–14; C. Ó Gráda, *Black '47 and beyond. The great Irish famine in history, economy, and memory* (1999), pp. 20–1.

[2] N. M. Druzhinin, *Gosudarstvennye krest'jane i reforma P. D. Kiseleva*, II, *Realizatsija i posledstvija reformy [State peasants and the reform of P. D. Kiselev,* II, *Realization and aftermath of the reforms]* (1958), p. 223.

[3] *Polnoe sobranie zakonov Rossiiskoi imperii* [hereafter *PSZ*], *sobranie pervoe [Complete law collection of the Russian Empire, first part]* (1830), no. 12,406 (31 May 1765). For the order of 1765 see V. S. Lehnovich, *K istorii kul'tury kartofelja v Rossii [On the history of the potato culture in Russia]*, in *Materialy po istorii zemledelija SSSR, II [Materials on the agriculture of USSR, II]* (1956), pp. 279–93.

[4] See A. Humm, 'Friedrich II. und der Kartoffelanbau in Brandenburg-Preussen', in F. Göse (ed.), *Friedrich der Große und die Mark Brandenburg. Herrschaftspraxis in der Provinz* (2012), pp. 183–215.

the potato was frequently mentioned as a means to solve the annual famine season suffered by the peasantry.[5]

However, in the first half of the nineteenth century the diet in Russia was still so overwhelmingly based on grain that even as late as the 1840s it was still not self-evident to the peasantry that the potato was a highly nutritious food which could substitute for bread in the event of grain shortages or famine.[6] In 1840 the Emperor Nicholas I returned to the idea that the potato could be a means to combat famines. The promotion of potato growing has been seen as the most determined effort made to encourage innovation in agriculture under Nicholas I.[7]

In 1846, however, a devastating potato disease hit the Russian Empire. By 1849, thirty-three Russian provinces were already affected and by 1851 the epidemic had spread over the whole of European Russia up to the Urals in the east and possibly to some places in Siberia and Ussuri Krai.[8] This was a huge shock to Russia. Until the autumn of 1846 the potato in Russia had been free from any major diseases.[9] There had been instances of potato crop failures but only due to adverse weather conditions.[10] Most likely this dangerous new disease started to spread in Russia from the Baltic provinces to the province of St Petersburg and then to Finland and other bordering regions.[11] The reported course of the disease and its description[12] leaves no doubt that it was part of the same potato (late) blight epidemic (*Phytophthora infestans* [Mont.] de Bary) that had begun to spread from Belgium in 1845 and caused the Great Famine of 1846–49 in Ireland.[13]

The potato blight has been given plenty of attention in the context of the Great Famine and also, more recently, in relation to continental Europe, but its existence in Eastern Europe

[5] See e.g. J. B. v. Fischer, *Liefländisches Landwirthschaftsbuch auf die Erdgegend von Lief- Est- und Curland* (1753), p. 322; P. Fr. Körber, 'Ueber die jährliche Hungersnoth der lief- und ehstländischen Bauern', in *Der nordischen Miscellaneen*, 8 (1784), p. 86; W. C. Friebe, 'Erster Anfang zur Cultur der liefländischen Bauern', in *Der nordischen Miscellaneen*, 18/19 (1789), pp. 540–3; K. P. M. Snell, *Beschreibung der russischen Provinzen an der Ostsee* (1794), p. 155; J. Kahk, *Die Krise der feudalen Landwirtschaft in Estland (das zweite Viertel des 19. Jahrhunderts)* (1969), p. 31; L. Dumpe, 'Hunger und Notnahrung in Lettland', in K. D. Sievers (ed.), *Hunger und Elend in Ländern des Mare Balticum. Zum Pauperismus im Ostseeraum zwischen 1600 und 1900* (1998), pp. 62–3.

[6] See R. E. F. Smith, D. Christian, *Bread and salt. A social and economic history of food and drink in Russia* (1984), pp. 8, 200, 278.

[7] W. M. Pinter, *Russian economic policy under Nicholas I* (1967), pp. 176, 178.

[8] M. Prishvin, *Kartofel' v polevoj i ogorodnoj kul'ture [The potato in the field and garden]* (1908), pp. 14, 212–13.

[9] 'Geschichte des Kartoffelbaues in Russland', in *Archiv für wissenschaftliche Kunde von Russland* 7 (1849), p. 588; 'Kartofel' v Rossii [The potato in Russia]', in *Sovremennik: Literaturnyj Zhurnal'* 16 (1849), p. 105; Lehnovich, *K istorii*, p. 388.

[10] E.g. 'Benutzung der erfrorenen und faulenden Kartoffeln', in *Das Inland* 39, 27 Sept. 1839, col. 609–10.

[11] 'Geschichte des Kartoffelbaues', p. 588. Mikhail Prishvin also argued that the potato blight started from the Baltic provinces: Prishvin, *Kartofel'*, p. 14.

[12] E.g. J. H. Zigra, 'Ueber die Kartoffelkrankheit in Esthland im Jahre 1846', in *Das Inland*, 9, 5 Mar. 1847, col. 184–6; C. v. Mercklin, 'Kartoffelkrankheit in Livland', in *Correspondenzblatt des Naturforschenden Vereins zu Riga*, 2 (1847), no. 15, pp. 74–6.

[13] A. Schanbacher, '"The all-absorbing horror of the day": Wahrnehmung und Deutung der Kartoffelkrankheit in Westeuropa 1845–1847', in M. Jakubowski-Tiessen, J. Sprenger (eds), *Natur und Gesellschaft. Perspektiven der interdisziplinären Umweltgeschichte* (2014), 219–42; H. H. Lamb, *Weather, climate and human affairs. A book of essays and other papers* (sec. edn, 2011), p. 168; J. C. Zadoks, 'The Potato murrain on the European continent and the Revolution of 1848', in *Potato Research* 51 (2008), pp. 6, 9.

(beyond Germany) has been but scantily discussed.[14] Mikhail Prishvin and Vadim Lehnovich have contributed a short overview of the spread of the potato blight (in Russian known as *fitoftor*), in Russia.[15] The emergence of this disease in the Baltic provinces in the 1840s, from whence it started to spread, has been mentioned even more briefly.[16]

This paper argues that the potato blight had a much larger impact on the Russian Empire than has been assumed in the current historiography, even if it did not cause famine in Russia, blight appearing at a time when the potato had yet to be adopted as a staple food. The first part of the paper studies early reports of the potato blight in the Baltic provinces and looks at the expectations that the Russian central government had of potato crops in the 1840s. The second part discusses the longer-term impact that the disease had on potato cultivation in the Russian Empire in the mid-nineteenth century.

I

In the Russian Empire the potato blight came to notice in the summer of 1846 in the province of Estland before the flowering of the early potato varieties.[17] Direct reports on the effect of the blight on potato crops came from the westernmost island and northern part of Estland in the autumn of 1846.[18] In the province of Livland the botanist Karl Eugen von Mercklin found traces of the disease in the potatoes harvested around Riga and Courland (Libau and Goldingen) in the autumn of 1846.[19] In mid-September 1846 diseased potatoes were found for sale in a Tallinn market and following the subsequent report and recommendations from the Department of Medical Affairs the provincial government of Estland banned the selling of diseased potatoes in the markets of Tallinn.[20] The official brief on the sowing and harvesting of potato crops in 1846 compiled in the provincial government of Estland included a note stating that the disease had

[14] C. Ó Gráda *et al.* (eds), *When the potato failed. Causes and effects of the 'last' European subsistence crisis, 1845–1850* (2007); P. M. Solar, 'The potato famine in Europe', in C. Ó Gráda (ed.), *Famine 150: commemorative lecture series* (1997), pp. 113–27; Zadoks, 'Potato Murrain', pp. 5–45. Zadoks mentions twice that the blight reached Ukraine and Western Russia but other studies on Europe have not mentioned Eastern Europe. However, the Baltic and Russian case has been acknowledged most recently by A. Schanbacher, *Kartoffelkrankheit und Nahrungskrise in Nordwestdeutschland 1845–1848* (2016).

[15] Prishvin, Kartofel'; Lehnovich, *K istorii*.

[16] Kahk, *Die Krise*, p. 164; M. Svarāne, 'Kurzemes un Vidzemes zemnieku saimniecības XIX gs. 40.–50. gados (pēc pagastu arhīvu materiāliem) [Peasant farming of Courland and Livland in the 1840s–1850s (on the materials of parish archives)]', in *Latvijas agrārā vēsture (XVI–XIX gs.). Lauksaimniecība un tirgus feodālisma laikā* [*Agrarian history of Latvia (16th–19th c.). Agriculture and market in the feudal period*] (1966), pp. 140–1; Kersti Lust, *Võitlus näljaga: 19. sajandi näljahädad Eesti külas. Dokumentide kogumik [Struggle with hunger: Relief to the needy during times of famine in nineteenth-century Estonia. Document collection]* (2015), p. 28.

[17] Zigra, 'Ueber die Kartoffelkrankheit in Esthland', col. 184.

[18] Estonian Historical Archives [hereafter EHA], 29-1-6495, fo. 371, Aufgabe in Aussaat und Erndte in Kartoffeln auf den gutsherrlichen Gütern in dem Insularwieckschen Districte für das Jahr 1846; EHA, 29-1-4107, Acta betreffend die Kartoffelkranckheit in den Jahren 1846 und 1847.

[19] C. E. v. Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen Kur-, Liv- und Ehstland in den Jahren 1846 und 1847. Anatomisch-physiologische Untersuchungen* (1848), pp. 5–6, 54. Mercklin also published the first report on the detection of the potato blight in Livland in October 1846 in *Correspondenzblatt des Naturforschenden Vereins zu Riga*, 1846, no. 13.

[20] EHA, 29-1-4107, fos. 1–2, Administration of medical affairs of Estland to the civil governor of Estland, 18 Sept. 1846; fo. 3, Civil governor of Estland to the police administration of Tallinn, 18 Sept. 1846.

hit potatoes in some locations, but it is not mentioned as the main cause of the decrease in the potato harvest. A long-lasting summer drought had damaged the growth and yield of potato crops.[21] Therefore, the potato harvest of 1846 did not seem to have had major losses caused by disease at this point.[22] This great drought apparently halted the spread of the blight that year, since the organism needs humidity and water to spread and infect a new plant.[23]

The first observations of diseased potato plants in 1847 were made in the Järva district in Estland in the second half of July, when the leaves of the plants wrinkled up and died; spots were later also found on the tubers. Eventually most of the district was struck by the disease so that the potato harvest of 1847 only doubled the number of seed potatoes in size; on some estates not even the seed potatoes were recovered.[24] In Estland, besides the district of Järva, the districts of Viru and Harju in the outskirts of Tallinn were also hit by the disease. However, the district physician of Harju found only two cases of potatoes sold with signs of the disease in September 1847.[25]

In the province of Livland the spread of the potato disease began in late July 1847 in the district of Tartu (initially on the manors of Rojel and Ellistfer).[26] The district magistrate of Tartu sent the first alarmed note to the provincial government of Livland on the 'most dangerous manifestations' of the potato disease in the district at the beginning of August in 1847.[27] From the district of Tartu the disease quickly spread to the districts of Cēsis, Viljandi and later Pärnu. According to estimations, in the district of Viljandi the disease caused the destruction of at least two-thirds of the harvest and half of the expected crop in the district of Pärnu. By the second half of August of 1847 the first reports on the disease were coming also from the districts of Valga, Võru, Valmiera, and Riga. In many places the potato was harvested before ripening for fear of the disease spreading. In the district of Riga a small quantity of potatoes was harvested only on sandy soils in September 1847.[28] According to accounts from

[21] EHA, 29-1-6495, fo. 377, Sowing and harvest of the potatoes in the province of Estland in 1846.

[22] In Estland the potato yield ratio of 1846 was 3.8 to 1 (in 1845 it was 4.5 to 1). At the same time in the district of Saare-Lääne struck by the disease in Estlandthe yield ration was barely two to one in 1846: EHA, 29-1-6495, fo. 371. Cf. Zigra, 'Ueber die Kartoffelkrankheit in Esthland', col. 184; 29-1-6495, fos. 353, 355, 369, 375v, Sowing and harvest reports of 1846 on the potato from the districts of Ida-Harju, Maa-Lääne, Lõuna-Järva and Lõuna-Harju; 296-4-1408, fo. 82v, District magistrate of Valmiera to the civil governor of Livland, 16 Nov. 1846.

[23] As was similarly the case in the Netherlands in 1846: M. Bergman, 'The potato blight in the Netherlands and its social consequences (1845–1847)', in *International Rev. of Social History* 12 (1967), p. 394; see also Lamb, *Weather,* p. 168; A. Schanbacher, 'Vulnerabilität, Kartoffelkrankheit und Nahrungskrise vor Ort: Das Fürstentum Osnabrück 1845–1847', in D. Collet *et al.* (eds), *Handeln in Hungerkrisen. Neue Perspektiven auf soziale und klimatische Vulnerabilität* (2012), pp. 117, 119.

[24] EHA, 31-1-309, fo. 488, District magistrate of Lõuna-Järva to district physician of Järva, 4 Oct. 1847; 31-1-309, fo. 536, District magistrate of Ida-Järva to district physician of Järva, 8 Aug. 1847; 29-1-4762, fo. 9, Aufgabe der Größe der Aussaat und Erndte der Kartoffeln auf den gutsherrlichen Gütern in dem Districte Süd-Jerwen für das Jahr 1847; EHA, 29-1-4762, fo. 16, District magistrate of Ida-Järva to the civil governor of Estland, 27 Nov. 1847.

[25] EHA 31-1-309, fo. 611-611v; EHA, 29-1-4762, fos. 17, 20, Verscläge über die Aussaat und Ernte der Kartoffeln pro 1847; EHA, 31-1-309, fos. 47r-v, 712, District physician of Harju to the administration of medical affairs of Estland, 15 Sept. and 4 Dec. 1847.

[26] Latvian State Historical Archives [hereafter LSHA], 1-4-1119, fos. 3v-5, Civil governor of Livland to the Baltic governor-general, 25 Aug. 1847.

[27] LSHA, 1-4-1119, fos. 1, 10, District magistrate of Tartu to the Baltic governor-general, 2 and 23 Aug. 1847.

[28] LSHA 1-4-1119, fos. 3v-4, 11v, Civil governor of Livland to the Baltic governor-general, 25 Aug. and 30 Sept. 1847. In the district of Cēsis the first traces of the blight was found on 2 Aug. 1847.

1847, travellers between Riga and Tartu could see field after field covered only by black and rotten potato plants.[29]

1847 was the year of the greatest devastation caused by this disease in the Baltic provinces. According to the statistics report of the province the total potato harvest yield in 1847 was only 46 per cent in Livland (317,149 tchetverts) and 60 per cent in Estland (254,818 tchetverts) of the average of the previous five years.[30] This was a substantial shortfall in potato yields (comparable to the loss in Flanders or Württemberg but not comparable to Ireland where, in 1846–47, 75–86 per cent of the crop was lost).[31]

The symptoms described of the disease in Estland and Livland were similar to those characteristic of the *phytophthora infestans*: first, a few black or brown spots appear (especially during flowering) which start to expand until the whole plant above ground is affected, turns black and withers in the course of a few days, 'as if caught by night frost'.[32] This process stops the growth of tubers, on which brown spots also appear.[33] A stench of rot or mould comes to pervade the fields.[34] Generally the damage caused by the blight on sandy soil is milder and this connection was noted in the very early days of the spread of the blight in the Baltic provinces.[35]

In January 1847 the journal of the Ministry of the Internal Affairs already noted that the potato disease 'coincides with the one occurring in Ireland, England, Germany and elsewhere'.[36] At the same time, the journal wrongly indicated that it was the 'Curl' disease which was spreading through England and Ireland.[37] In March 1847 the horticulturist Johann Hermann Zigra wrote in the *Das Inland* weekly, distributed in all three Baltic provinces, that according to the observations by botanists and agronomists, the potato disease that had started to spread in Estland was an epidemic that began in Ireland and had expanded eastwards, that has been identified in all areas of Western Europe, but also in America, the

[29] Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, p. 56.

[30] H. Sepp *et al.* (eds), *Eesti majandusajalugu* [*Economic history of Estonia*] (1937), p. 387.

[31] E. Vanhaute, '"So worthy and example to Ireland". The subsistence and industrial crisis of 1845–1850 in Flanders', in Ó Gráda *et al.* (eds), *When the pottao failed*, pp. 130, 143; G. Mahlerwein, 'The consequences of the potato blight in South Germany', in ibid., pp. 215–6; T. M. Devine, 'Why the Highlands did not starve. Ireland and Highland Scotland during the potato famine', also ibid., p. 111.

[32] The discription of 'as if caught by night frost' was a very popular characterization of the disease in Livland at that time, e.g.: Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, pp. 35, 56; LSHA, 1-4-1119, fo. 3v. Cf. T. P. McIntosh, *The potato: Its history, varieties, culture and diseases* (1927), pp. 194–5; A. O. Hannukkala, 'History and consequences of migrations, changes in epidemiology and population structure of potato late blight, phytophthora infestans, in Finland from 1845 to 2011' (Ph.D thesis, Jokioinen 2012), p. 11.

[33] LSHA, 1-4-1119, fo. 10, District magistrate of Tartu to the Baltic governor-general, 23 Aug. 1847; EHA, 31-1-309, fo. 47r–v, District physician of Harju to the administration of medical affairs of Estland, 4 Dec. 1847; EHA, 31-1-309, fos. 488, 536, The reports to the district physician of Järva and the district magistrates of Lõuna-Järva and Ida-Järva, 4 and 8 Oct. 1847.

[34] LSHA, 1-4-1119, fo. 1, District magistrate of Tartu to the Baltic governor-general, 2 Aug. 1847; 1-4-1119, fo. 3v; Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, p. 56. Cf. R. N. Salaman, *The history and social influence of the potato* (1949), p. 290.

[35] *Revalsche Wöchentliche Nachrichten*, 24 Feb. 1847; cf. Bergman, 'Potato blight', p. 394.

[36] Zigra, 'Ueber die Kartoffelkrankheit in Esthland', col. 184.

[37] *Revalsche*; EHA, 29-1-4107, fos. 11–17, Baltic governor-general to the civil governor of Estland, 4 Febr. 1847. Although the potato disease called 'curl' that started to spread in the 18th c. was a rather loosely used term for different potato diseases, in fact, the 'curl' differed so radically from the blight that they cannot be confused: McIntosh, *Potato*, p. 181; Bourke, *Visitation*, pp. 27, 130, 147.

potato's native land.[38] Thus, the simultaneous spread of the disease in Western Europe and its unprecedented character were understood in the Baltic provinces from early on.[39]

As happened in the rest of Europe, the causes and course of the spread of the disease began to be studied in the Baltic provinces: whether the blight spread faster among early or late sown potatoes, on lower or higher grounds, on new soil or on older fields, on fertilized or unfertilized fields (it was found that the proportion of potato harvest affected by this disease was particularly low on well-fertilized fields).[40] It was clear that the spread of and damage caused by the potato blight was at that time similar on both demesne and peasant lands. Naturally, an attempt was made to find out which potato varieties suffered the most (the number of potato varieties grown in Livland was already over 80 at the beginning of the 1840s and by the end of this decade it had reached 95).[41] No clear connections were detected anywhere. The cause of the potato disease remained a mystery.[42] Furthermore, there was a debate on the causes of the blight in the Baltic provinces; the factors discussed included were pests, parasites, a fungus, or the effect of bad air.[43] Johann Hermann Zigra claimed that the higher the humidity, the greater the potato rot, and concluded that humid air and land were to be blamed.[44] It soon became clear that all suggested chemicals for curing the disease were useless and brought nothing but large unnecessary expenditures.[45] In August 1847 the civil governor of Livland reported to the Baltic governor-general that based on the accounts of local professors, the director of the Imperial Botanical Gardens and reports from abroad, the problem was a lack of proper expertise on how to stop the spread of the disease.[46]

In the summer of 1847 St Petersburg received reports not only from the Baltic provinces but also from other parts of the Russian Empire on the devastation caused by the blight, which had its greatest impact in the westernmost provinces: Grodno, Kaunas, Vilnius, Minsk, Mogilev, Vitebsk, Pskov and Novgorod.[47] By the 1850s, it had spread to a greater or lesser extent over all European Russia.[48] In Finland, the first confirmed report on the emergence of the potato blight in Vyborg comes from the autumn of 1845; this was a year before it was noticed in Estland. However, it seems that the actual spread of the disease from southern

[38] J. H. Zigra, 'Ueber die Kartoffelkrankheit', in *Das Inland,* 10, 10 Mar. 1847, col. 206–8; Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, pp. 4–5.

[39] See also N. L. Derks, 'Ueber die Kartoffelfäule', in *Das Inland*, 1, 7 Jan. 1847, col. 4–6; 'Ueber die Annahme, daß Pilze die Ursache des Uebels der Kartoffelkrankheit seien, und die Vorschläge, dieselben durch Beitzmittel etc. zu entfernen', in *Das Inland*, 37, 15 Sept. 1847, col. 793.

[40] EHA, 29-1-4762, fo. 9, Aufgabe der Größe der Aussaat und Erndte der Kartoffeln auf den gutsherrlichen Gütern in dem Districte Süd-Jerwen für das Jahr 1847.

[41] EHA, 1185-1-100, fo. 138, Livonian Public Benefit and Economics Society to the civil governor of Livland, 9 Dec. 1841; 'Geschichte des Kartoffelbaues', p. 583; 31-1-309, fo. 47r–v; 31-1-309, fo. 488, District magistrate of Lõuna-Järva to the district physician of Järva, 4 Oct. 1847; cf. Lehnovich, *K istorii*, pp. 388–9; Bourke, *Visitation*, p. 148.

[42] The blight was misunderstood until the 1860s and the Frenchman Alexis Millardet discovered a remedy only in 1882: Ó Grada, *Black '47*, p. 21. For the debates on different theories see: Bourke, *Visitation*, pp. 130–9; Schanbacher, '"All-absorbing horror"', pp. 227–9.

[43] 'Ueber die Annahme', col. 792–6; J. H. Zigra, 'Bemerkungen über die Kartoffelkrankheit', in *Das Inland*, 43, 27 Oct. 1847, col. 1017; Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, pp. 39–44.

[44] Zigra, 'Bemerkungen', col. 1017–8.

[45] Zigra, 'Bemerkungen', col. 1018; Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, pp. 29–34.

[46] LSHA, 1-4-1119, fo. 4; see also *Revalsche*.

[47] Mercklin, *Die Kartoffelkrankheit in den Ostseeprovinzen*, p. 55.

[48] Lehnovich, *K istorii*, p. 389.

Finland started only in the late summer of 1847 and therefore it could still have originated in Estland.[49]

In 1848 the potato disease had not completely disappeared from the Baltic provinces, but it had weakened. According to the reports by the district magistrates of Estland in 1848, the potato blight was still observable but on a smaller scale than the previous year and the potato harvest was expected to be much better than that of 1847. Potato growing was damaged in 1848 by a long-lasting summer drought and early frosts, which might have also helped stop the spread of the blight. The overall potato yield ratio in Estland was 3.9 to 1, which was quite similar to other years and twice as high as that of 1847.[50] The potato harvest in Livland in 1848 was also similar to that in the years before 1847.[51] In 1849 the spread and damage caused by the potato blight were once again stronger. It was another excessively humid summer due to incessant rain, and the weather also inhibited the growth of the potato crop in Estland.[52] In November 1849 the civil governor of Livland noted that according to reports 'the potato disease had again spread almost everywhere' so that in some regions hardly any potato harvesting was done.[53]

The potato blight was observed locally in the Baltic provinces also over the following years (1850, 1851, and 1852).[54] In one of the reports circulated in St Petersburg, the potato disease was declared to have disappeared by 1850 in the province of Estland.[55] This was, however, premature as the disease remained in Estland until at least 1852 in the southern Harju district and especially in the southern Järva district (small-scale damage caused by the potato disease in the southern Järva district was also reported in 1855 and 1857).[56] In 1851 the Ministry of State Domains in St Petersburg announced that over the very dry summer of the previous year the potato disease had been spotted only in the west and in certain northern provinces. It had already disappeared in other provinces previously hit by the disease.[57] By the mid-1850s the potato blight epidemic seemed to have largely ended.[58]

[49] Hannukkala, '*History and consequences*', pp. 42–3; A. M. Soininen, *Vanha maataloutemme. Maatalous ja maatalousväestö Suomessa perinnäisen maatalouden loppukaudella 1720-luvulta 1870-luvulle* [*The Old Agriculture. Agriculture and the Rural Population in Finland from the End of the 1720s to the 1870s*] (1974), p. 185.

[50] EHA, 29-1-7337, fos. 5, 7, 13, 26, 28, Akte betreffend die Aussaat und Ernte der Kartoffeln pro 1848.

[51] H. Strods, *Latvijas lauksaimniecības vēsture no vissenākajiem laikiem līdz XX gs. 90. gadiem* [*Agrarian history of Latvia from the ancient times to the 1990s*] (1992), p. 131.

[52] EHA, 29-3-718, fos. 4, 7, 11, 22, Akte betreffend die Aussaat und Ernte der Kartoffeln, 1849–59.

[53] EHA, 2054-1-1199, not paginated, Civil governor of Livland to the Baltic governor-general, 21 Nov. 1849; Svarāne, 'Kurzemes un Vidzemes', p. 141.

[54] See e.g. A. Rost, T. Mäeväli (eds), *Die Kirchenchronik von Kusal* (2014), p. 195.

[55] Lehnovich, *K istorii*, p. 390.

[56] EHA, 29-3-718, Akte betreffend die Aussaat und Ernte der Kartoffeln, 1849–59.

[57] Lehnovich, *K istorii*, p. 390. On the contrary, Prishvin has brought out that in 1851 the potato blight was the harshest all over Russia: Prishvin, *Kartofel'*, pp. 13–4, 213.

[58] C. E. v. Mercklin, *Nachträgliche Bemerkungen zur Kartoffelkrankheit* (Moscow 1856), p. 3. Also in Finland the first wave of the potato blight lasted until the mid-1850s (the years of 1847, 1848, and 1851 were the severest): Soininen, *Vanha maataloutemme*, p. 185.

II

The potato blight hit the Russian Empire at a very bad moment for the central government. It was one more catastrophic factor to add to the severe cholera epidemic, a general shortfall in grain supply, devastating fires, and the political upheavals in Europe that coincided in the closing years of the 1840s, especially in 1848.[59] The 1840s saw very poor cereal harvests in many regions but the year 1848 brought the most serious crop failure in the whole empire during the reign of Nicholas I. The Russian economy suffered a great crisis and more than a million people died in the years 1847–51.[60] However, it is hard to assess to what extent the potato blight played a role in this mortality crisis. Cholera reached its highest intensity in the regions where the potato cultivation was one of the lowest in European Russia; the Don Cossack region, Astrakhan', and Saratov.[61]

One thing is clear; the potato blight deflated the great hope held for the potato as a solution to the frequent failures of other crops. As recently as 1840 St Petersburg had launched a new campaign for the promote potato growing all over the Empire.[62] The introduction of the potato crop was officially presented as the direct will and 'fatherly foresight' of Emperor Nicholas in the 1840s.[63] However, the potato campaign should be attributed to the Minister of State Domains, Pavel Kiselev, who saw the potato crop as an important instrument for the subsistence of the peasantry and the relief of poverty. Within the administrative hierarchy, potato cultivation issues fell under his Ministry. The economic policy of Kiselev, who had hold the post since 1838, was focused on advancing Russian agriculture, the central aim being to find solutions for the systemic poverty and hunger among the peasantry.[64] Since the potato as an alternative staple food had been sanctioned by the Russian authorities in 1765 and 1797, Kiselev obviously just returned to a stalled solution from the past.[65]

The orders from the early 1840s clearly indicate that the renewed interest of the government was a response to the cereal crop failures in some Russian provinces in 1839 and 1840.[66] The promotion of potato growing was seen as the best means for ensuring provisions for the people (*obezpechenija narodnago prodovol'stvija*) in times of grain harvest failures.[67] Kiselev stated it very clearly, 'The main goal of potato cultivation is ensuring food provision for the population

[59] A. S. Nifontov, *Rossija v 1848 godu* (1949), pp. 19–26.

[60] A. S. Ermolov, *Nashi neurozhai i prodovol'stvennyi vopros*', part 1 (1909), pp. 55–6; R. E. McGrew, *Russia and the cholera, 1823–1832* (1965), p. 5.

[61] C. E. Henze, *Disease, health care and government in late imperial Russia. Life and death on the Volga, 1823–1914* (2011), p. 163.

[62] Smith, Christian, *Bread and salt*, pp. 280, 283; Druzhinin, *Gosudarstvennye krest'jane*, pp. 53, 236, 247; H. Strods, 'Kartupeļu audzēšanas sākums Latvijā XVII gs. beigās – XIX gs. pirmā pusē [The beginning of the potato cultivation in Latvia from the end of the 17th c. to the first half of the 19th c.]', in *Latvijas PSR Zinātņu Akadēmijas Vēstis* 10 (1958), p. 55; 'Kartofel' v Rossii', p. 104; 'Geschichte des Kartoffelbaues', p. 585.

[63] E.g. EHA, 1185-1-100, fo. 149r–v, Economic department of the ministry of the internal affairs to the civil governor of Estland, 24 Feb. 1841; 29-1-6495, fos. 39–41, P. Kiselev to the civil governor of Estland, 17 July 1841.

[64] Druzhinin, *Gosudarstvennye krest'jane*, pp. 51, 235.

[65] E. Iu. Ivanova-Malofeeva, *Reforma gosudarstvennoj derevnii v Tambovskoj guvernij (seredina 30-h – seredina 50-h gg. XIX v.)* (2005), p. 84.

[66] *PSZ, Sobranie vtoroe [Second Part]* (1830–1884), no. 15296, 16 Feb. 1842; EHA, 29-1-6495, fo. 7, List of the circular letters from the ministry of state domains in 1840; A. P. Zablotskii-Desyatovskii, *Graf P. D. Kiselev i ego vremya*, II (1882), pp. 102–3.

[67] E.g. EHA, 1185-1-100, fo. 149–149v; 29-1-6495, fos. 6v, 75, P. Kiselev to civil governor of Estland, 31 Jan. 1841 and 31 Mar. 1842.

in the case of cereal crop failures or high prices of grain. The question of developing the potato as a raw material or as processed food is secondary'.[68] In his order of 1842, Nicholas I mentioned the potential positive effect of potato crops on the transition to four-field farming as one of the reasons for introducing them.[69] Indeed, the potato was seen as an improver of land and the diversification of field cultures.[70] The potato growing campaign also focused on the use of potato as fodder (with particular emphasis on this after 1843–44).[71] Kiselev had been speaking of further uses for the potato as goals in themselves from at least 1842. The potato started to be regarded not only as a human and animal foodstuff but as the basis of industries, focused on its reprocessing into starch, syrup, etc.[72]

One of the main goals was the development of potato growing not only in gardens, but also in fields and in side plots.[73] In July 1840 a secret committee led by the Minister of War Count Chernyshev ordered that state peasants should sow enough seed potatoes to achieve a net gain of one tchetvert (131 kg) per 'revisional soul'.[74] However, in the order issued by the Emperor on 8 August, the potato production aimed for on state estates was set at half tchetvert (or one *os'moj*) per soul.[75] In 1841 Kiselev established his potato growing target for the Russian Empire as follows: each peasant (on both private and state estates) should plant enough seed potatoes so that the expected annual harvest would ensure at least half of the yearly food consumption for his family (the whole farm) to secure food in the event of a cereal crop failure.[76] In 1843 this was set as an all-Russian norm of 1 tchetverik (i.e one eighth of a tchetvert) per soul.[77]

The expansion of potato cultivation and the reaching of expected harvest targets were seen as objectives by the central government, but which could not be achieved without systematic organization and contribution from local government. All officials and landlords responsible for potato growing had to work towards this goal. The central government repeatedly emphasized the need for government measures to promote potato cultivation in Russia.[78] According to an order by Nicholas I of 16 February 1842, the provincial governments had to continue with

[68] EHA, 29-1-6495, fo. 40; 1185-1-100, fo. 133, Civil governor of Livland to the Livonian Public Benefit and Economics Society, 22 Nov. 1841.

[69] *PSZ, Sobranie vtoroe*, no. 15,296, 16 Feb. 1842; LSHA, 3-1-1928, fo. 14, P. Kiselev to the civil governor of Livland, 31 Mar. 1842; EHA, 29-1-6495, fo. 75, P. Kiselev to the civil governor of Estland, 31 Mar. 1842.

[70] M. Confino, *Systèmes agraires et progrès agricole: L'assolement triennal en Russie aux XVIIIe–XIX siècles* (1969), p. 304.

[71] Druzhinin, *Gosudarstvennye krest'jane*, p. 53.

[72] LSHA, 3-1-1928, fo. 13, P. Kiselev to the administration of state domains of Livland, 31 Mar. 1842; EHA, 29-1-6495, fo. 136, P. Kiselev's circular letter to the civil governors, 26 Mar. 1843; *PSZ, Sobranie vtoroe*, no. 16,538, 15 Feb. 1843; EHA, 203-1-282, fo. 2, Nicholas I to P. Kiselev, 15 Feb. 1843, a copy; 'Geschichte des Kartoffelbaues', p. 586.

[73] LSHA, 3-1-1928, fo. 13; EHA, 203-1-218, fos. 50–1, Administration of state domains of Estland to the state estates, 21 May 1842; Druzhinin, *Gosudarstvennye krest'jane*, p. 235.

[74] S. V. Tokarev, *Krest'janskie kartofel'nye bunty [The peasants' potato riots]* (1939), p. 24; Zablotskii-Desyatovskii, *Graf P. D. Kiselev*, p. 105.

[75] Prishvin, *Kartofel'*, p. 8; Zablotskii-Desyatovskii, *Graf P. D. Kiselev*, pp. 106–7. The same amount was noted by the minister of state domains in his circular letter of 28 Aug. 1840: Tokarev, *Krest'janskie*, p. 25.

[76] EHA, 29-1-6495, fos. 40–1; 1185-1-100, fo. 133, Civil governor of Livland to the Livonian Public Benefit and Economics Society, 22 Nov. 1841.

[77] *PSZ, Sobranie vtoroe*, no. 16,538, 15 Feb. 1843. By 1850 the sowing norm of 1 tchetverik potatoes per soul was achieved in 16 provinces out of 48, incl. the Baltic provinces: I. D. Koval'chenko, *Russkoe krepostnoe krest'janstvo v pervoj polovine XIX v. [Russian serf peasantry in the first half of the 19th c.]* (1967), pp. 389–91 (appendix table 3).

[78] E.g. EHA, 29-1-6495, fos. 40, 53r–v, Ministry of state domains to the civil governor of Estland, 14 Nov. 1841.

the implementation of measures and monitor potato cultivation even in the provinces where peasants were already growing potatoes.[79] Still, in 1843 the civil governor of Estland expressed his fears that local Estonian peasants would not adopt the potato crop and would lose interest in its cultivation unless additional measures were applied. As he wrote in his letter to the Estland nobility, 'So there remain fears that due to the distrust already generated amongst the peasantry, reluctant towards innovations ("highly unresponsive" crossed out) potato cultivation will slowly wear off or maybe disappear totally'.[80]

A strong emphasis was laid on education to encourage people to accept the potato as an alternative staple food. According to the regulation issued by the Emperor in 1840, brief but clear guidelines explaining the growing, storage and use of the potato had to be printed and disseminated.[81] Kiselev also regarded the advocacy of potato growing as highly important. As he noted in 1847, improvements in agriculture were never successful or enduring if implemented by force; peasants should be persuaded of the advantages of improved agriculture.[82]

In 1840, following the wishes of the Emperor, a brief instruction brochure on potato cultivation (*Kratkoe nastavlenie o poseve, uborke, khranenii i upotreblenii kartofelja*) was compiled and printed according to an order by the Ministry of State Domains.[83] It provided farmers with instructions on how to plant, harvest and store potatoes and even guidelines on different ways to prepare and use them. From January 1841, on Kiselev's orders, these instructions were actively disseminated all over the Russian Empire.[84] In the Baltic provinces (in Tallinn) the brochure was translated and printed in German.[85] In the case of the crown estates of the Baltic provinces, copies were sent separately from St Petersburg.[86] However, distribution was never on a massive scale. The civil governor of Estland, for example, sent less than 20 copies in German to each district magistrate for private estates, and not for free distribution, but for sale at a price of 15 silver kopecks each. According to the orders by the civil governor of Estland, the brochure had to be distributed amongst landlords (rather than the peasantry).[87] It is not known that it was translated into the local languages (Estonian or

[79] *PSZ, Sobranie vtoroe*, no. 15,296, 16 Feb. 1842.

[80] '[...] daß der bereits angeregte Eifer für die gute Sache bey unserem für den Neuerungen so wenig empfänglichen abgeneigten Landvolke, allmälig wieder erkalten und vielleicht sogar gänzlich nachlassen könnte': EHA, 29-1-6495, fo. 155v, Civil governor of Estland to the head of the nobility of Estland, 2 Sept. 1843, a draft.

[81] EHA, 29-1-6495, fo. 7, List of the circular letters by the ministry of state domains in 1840; Prishvin, *Kartofel'*, p. 9.

[82] Druzhinin, *Gosudarstvennye krest'jane*, p. 236.

[83] *Kratkoe nastavlenie o poseve, uborke, khranenii i upotreblenii kartofelja* (St Petersburg 1841). Already in the spring of 1840, before the publication of this brochure, the ministry of the internal affairs disseminated another manuscript on potato cultivation ('Kratkoe nastavlenie o pazvedenii kartofelja'). The latter was translated into German in Livland but was not published. However, it also appeared in the Gazette of the province of Olonets: *Oloneckija Gubernskja Vedomosti*, 18, 4 May 1840; EHA, 1185-1-89, fo. 78, Kurze Anleitung über den Kartoffelbau.

[84] EHA, 29-1-6495, fo. 6, P. Kiselev to the civil governor of Estland, 31 Jan. 1841; 1185-1-100, fo. 142, P. Kiselev to the civil governor of Livland, 31 Jan. 1841; 902-1-1133, not paginated, Civil governor of Estland to the district magistrate of Maa-Viru, 20 Mar. 1841.

[85] *Kurze Belehrung über die Aussaat, Ernte, Aufbewahrung und den Gebrauch der Kartoffeln. (Zufolge Allerhöchsten Befehls im 3. Departement der Reichs-Domainen angefertigt im Jahre 1841)* (Reval [1841]).

[86] EHA, 203-1-214, fo. 92, Ministry of state domains to the administration of state domains of Estland, 26 Feb. 1841.

[87] EHA, 29-1-6495, fo. 27, Circular letter of the civil governor of Estland to all the district magistrates, 21 Mar. 1841; 29-1-6495, fo. 32, District magistrate of Maa-Viru to the civil governor of Estland, 25 Apr. 1841.

Latvian). The income from sales and the reports by the district magistrate from late spring that same year show that the copies sold out quickly.[88] Besides the German version, a few Russian copies of the brochure were sent out for free distribution.[89]

The introductory lines of the brochure emphasize that the potato could be a solution to famines in the event of a shortage of grain. Furthermore, it stresses that the potato is a healthy and nutritious food item for human consumption; it can be used as fodder, for vodka production and converted into sugar and starch. Potatoes could be grown everywhere, even on clay, sandy, and chalky soils. Unlike grains, seed potatoes did not have to be high quality. Practically all seed potatoes (except frostbitten ones) can be planted. Furthermore, one seed potato can be cut into several pieces as long as each piece contains 1–2 potato eyes. They could be picked for consumption even before harvest time.[90]

One of the main arguments by Kiselev in the early 1840s was that potatoes are more resistant to failure than other field crops.[91] Until the epidemic of 1847 potatoes were advocated as an almost perfect foodstuff, the cultivation of which had no drawbacks. Potato crops were clearly seen as more resilient to the 'harmful changes in the atmosphere' as they needed less rainfall due to their large leaves and bigger roots, which suffer less during droughts. It was claimed that as long as good and timely cultivation was observed, the weather had little impact on potato crops. The potato was only sensitive to frost, which had to be considered when planning harvesting. Even if the crop was affected by frostbite and excessive rainfall caused tuber rot, this did not necessarily imply harvest failure. Guidelines were provided on how to make potato flour from frostbitten potatoes which might be even more long lasting than grain flour. It was also possible to partially use rotten potatoes and old seed potatoes for fodder and distilling.[92]

The leading agricultural society in the Baltic provinces, the Livonian Public Benefit and Economics Society (*die Livländische Gemeinnützige und Ökonomische Sozietät*) gave a more balanced overview of the potato in 1841. The Society emphasized that keeping in mind the longitudes of Livland, the potato offered the best yield from any given, but it also demanded the greatest care and effort. The potato could ensure food provision on a large scale only if grown 'by a diligent farmer with care and attention'.[93] Thus the Society highlighted one of the most problematic drawbacks of potato cultivation. The expansion of more labour-intensive potato cultivation on the estates also meant a greater need for peasants' labour in the form of corvée, even though, as pointed out by Juhan Kahk, the corvée regulations that had been established at the beginning of the century did not foresee potato harvesting work.[94] The

[88] EHA, 29-1-6495, fo. 72, District magistrate of Alutaguse to civil governor of Estland, 8 Mar. 1842; 29-1-6495, fos. 33, 35, 46, 47, Civil governor of Estland to the district magistrates of Maa-Viru, Ranna-Viru, Lõuna-Järva, Maa-Lääne 13 June, 20 June, 5 Aug. and 19 Aug. 1841.

[89] EHA, 902-1-1133, not paginated, Civil governor of Estland to the district magistrate of Maa-Viru, 20 Mar. 1841; 29-1-6495, fo. 6.

[90] *Kurze Belehrung*, pp. 3–4, 8; 1185-1-89, fos. 76, 81v.

[91] EHA, 29-1-6495, fo. 6.

[92] EHA, 1185-1-89, fos. 76, 79, 82v–83v; 1185-1-100, fo. 133; see also A. Hueck, *Darstellung der landwirtschaftlichen Verhältnisse in Esth-, Liv- und Curland* (1845), pp. 210–1; 'Benutzung der erfrorenen', col. 609–10.

[93] EHA, 1185-1-100, fos. 134v–5r, President of the Livonian Public Benefit and Economics Society to the civil governor of Livland, 9 Dec. 1841.

[94] J. Kahk, *Murrangulised neljakümnendad [The Upheaval Forties]* (1978), pp. 26, 28. See also Strods, *Latvijas*, p. 105.

potato brought the need to negotiate even more intense seasonal corvée or forced landowners to hire more labour.[95]

However, the Society did not regard the labour-intensive nature of potato growing as the biggest problem but rather the fact that seed potatoes needed storage (especially in large quantities and keeping different varieties separately) and protecting them from degradation was much more difficult than grain seed storage. The potato needs a good dry cellar which protects it from the cold, which 'our peasantry rarely have access to'.[96] In fact, even manors were not always ready to provide the peasantry with storage for seed potatoes through the winter and so prevent rot.[97] The Society concluded that as opposed to wheat and rye, of high nutritional value, the potato cannot fully substitute for bread amongst 'the classes who perform strong physical labour'.[98]

III

Any idealized perception of the potato was crushed by the blight that started to spread in 1846.[99] The potato blight, with its rapid spread and devastating consequences, was unexpected across Europe.[100] In 1841 the Livonian Public Benefit and Economics Society had claimed that if the potato was cultivated under more or less favourable conditions 'the harvest will not fall below the level of three potatoes to one seed potato'.[101] The average yield in Livland in 1847 was only 1.5 potatoes per seed potato due to the blight. It was the lowest figure in Livland ever (the average between 1842 and 1846 had been 3.27 per seed).[102]

As early as August 1847 the civil governor of Estland expressed concerns that the spread of the potato disease would lead to 'a dangerous crisis' and a setback in potato growing amongst the peasantry, as 'peasants' reluctance to adopt innovations related to economic methods is already well known'.[103] The civil governor's greatest fear was the large losses in food provision (*Volksversorgung*), which would mostly affect peasants. If during previous years the potato harvest had been rather poor on peasants' lands but at least average on estate fields, then due to the potato disease the estates would lose the necessary income for supporting peasants. Several landlords from the district of Viljandi estimated in private conversations with the civil governor that their direct losses resulting from the potato disease of 1847 reached 8–10,000 silver roubles each.[104]

[95] Confino, *Systèmes agraires*, p. 304.

[96] EHA, 1185-1-100, fos. 135, 137.

[97] E.g. LSHA, 3-1-1929, fo. 62v, Third parish judge of the district of Cēsis to the civil governor of Livland, 3 Nov. 1842; Rost, Mäeväli (eds), *Die Kirchenchronik*, p. 190.

[98] EHA, 1185-1-100, fo. 136. It is not, of course, true since the potato supports life better than grain when eaten as the sole element of the diet: N. Nunn and N. Qian, 'The potato's contribution to population and urbanization: Evidence from a historical experiment', in *Quarterly J. Economics*, 126 (2011), p. 599.

[99] For the moods after realizing that the European potato disease had reached Russia, see e.g. I. Reshetnikov, 'O bolezni kartofelja' ['About the potato disease]', in *Sovremennik: Literaturnyj Zhurnal'* 16 (1849), pp. 98–100.

[100] Salaman, *History and social influence*, p. 289; E. Vanhaute, R. Paping, C. Ó Gráda, 'The European subsistence crisis of 1845–1850: a comparative perspective', in Ó Gráda *et al.* (eds), *When the potato failed*, p. 20.

[101] EHA, 1185-1-100, fo. 136v.

[102] Strods, *Latvijas*, p. 131.

[103] LSHA, 1-4-1119, fo. 5.

[104] LSHA, 1-4-1119, fos. 5, 11v.



FIGURE 1: The total amount of potato planting and harvesting in the 50 provinces of European Russia, 1841–95 (in thousand tchetverts).

Source: The figure is based on the data presented by M. Prishvin, *Kartofel' v polevoj i ogorodnoj kul'ture [The potato in the field and garden]* (1908), pp. 13–14.

Walter McKenzie Pinter has pointed out that in Russia potato sowing rose only until the mid-1840s and that throughout the later years of Kiselev's administration it remained virtually unchanged.[105] At the beginning of the potato campaign in 1840 the amount of potatoes planted in Russia was about 1 million tchetverts; by 1844 it had increased over six times to 6 million tchetverts but after that it remained at this level (or below) until the 1860s (see Figure 1). The average total amount of potato planting in Russia was smaller in 1851–60 than it had been from 1841 to 1850 (5.5 million and 5.75 million tchetverts respectively).[106] The amount of potatoes planted and harvested in many of the regions of European Russia not only stalled in the late 1840s and early 1850s, but fell until it started to grow again gradually in the late 1850s.[107] This rapid slowdown and even decline in potato growing was mostly due to the setback caused by the potato blight (both in moral and yield terms). An overview of potato cultivation in the province of Pskov in the Journal of State Domains in 1853 said that 'about ten years ago the potato was planted in this province in remarkable amounts, but since the disease emerged farmers have started to limit planting, so that nowadays both landlords and peasants plant it only for their

[105] Pinter, *Russian economic*, p. 177; cf. A. S. Nifontov, *Zernovoe proizvodstvo Rossii vo vtoroj polovine XIX veka* [*Russian grain production in the second half of the 19th century*] (1974), p. 227; A. Z. Baraboj, 'Posevy i urozhai khlebov, kartofelja, saharnoj svekly v pomeshhich'em i krest'janskom khozjastvah Pravoberezhnoj Ukrainy v pervoj polovine XIX v. ['Sowing and harvest of grain, potatoes, sugar beet on manorial and peasants' lands in the right-bank Ukraine in the first half of the 19th century'], in *Ezhegodnik po agrarnoj istorii Vostochnoj Evropy 1962 g* (1964), pp. 344–5.

[106] Koval'chenko, *Russkoe krepostnoe*, pp. 386 (Appendix Table 1), 389–91 (Appendix Table 3). The most evident drop in the amount of potatoes sowed took place in the provinces of Mogilev, Vilnius, Kaunas, Pskov, Kaluga, Tver, Vitebsk and Volhynia. The Baltic provinces stayed more or less at the same level.

[107] Data from the provinces of Kiev, Volhynia and Podolsk show a decrease in the first half of the 1850s and a new increase at the end of the decade: Baraboj, 'Posevy i urozhai', p. 345.

own consumption'.[108] However, there was no potato famine in the Russian Empire and there are no references to cases of death by starvation due to the potato disease in the sources from the Baltic provinces, where the share of potato cultivation was the highest in Russia. Thus the potato blight was mostly an economic, administrative and moral setback. In the late 1840s it not only put an end to Kiselev's potato campaign; its major effect was that it thwarted the spread of potato cultivation and caused the (in parts drastic) fall in potato production in the Russian Empire. If in Ireland the potato blight decreased potato production for 35 years,[109] in the Baltic provinces and many other Russian provinces this fall went on for five to ten years.

IV

In the Russian Empire the potato was not adopted from below by the peasantry as a food crop but was rather imposed top-down as a famine relief measure. The promotion of potato growing was implemented through Emperor's edicts and required a systematic campaign led by the central government and the elites of society. At the same time, the state attempted to change peasants' eating habits. The potato was depicted as good food and the official instructions on potato cultivation included direct guidelines on how to prepare it.

The potato was seen as an escape route from cereal crop failures and the problem of hunger amongst the peasantry. A large part of European Russia was indeed very suitable for potato cultivation from the point of view of both the climate and soil characteristics.[110] Thus, the Russian central government played this card in an attempt to find a solution to the frequent food shortages the county continued to suffer.

In 1840 the Emperor vigorously demanded an increase in potato growing in the whole Russian Empire. This potato campaign was definitely a major turning point for the introduction of potatoes in Russia. Until the mid-1840s everything seemed be going as planned by Kiselev. Potato growing was expanding in Russia and the measures applied seemed to be bearing fruit. But before this decisive breakthrough was fulfilled a devastating potato blight epidemic broke forth in the Russian Empire in 1846 and went on until 1852, spreading from the Baltic provinces. The main consequence of the potato blight was the postponement of potato mass cultivation and consumption at least for a decade in Russia. Until the late 1860s the scope of potato cultivation remained more or less at the same level as in the 1840s. Only after that decade, especially in the 1870s, did potato growing increase three to four times on both estate and peasant lands in the Baltic provinces.[111] The potato became not only urgent famine food for poor peasants but a versatile substitute for grain and a staple food for everyone by the last quarter of the nineteenth century. By the end of the nineteenth century Russia was only surpassed by Germany for potato production in Europe.[112]

[108] Lehnovich, *K istorii*, p. 390.

[109] Ó Grada, *Black '47*, pp. 13, 23–4; S. Rosen, 'Potato Paradoxes', in *J. Political Economy* 107 (1999), p. 303.

[110] Nunn and Qian, 'Potato's contribution', pp. 611–2.

[111] J. Kahk, 'Die Getreide- und Kartoffelproduktion in Estland im 19. Jahrhundert im Spiegel der Gouverneursberichte. Gedanken über die Parallelentwicklung von Guts- und Bauernwirtschaften im Baltikum', in *Proc. Estonian Academy of Sciences. Humanities and Social Sciences* 42 (1993), p. 12.

[112] Prishvin, *Kartofel'*, p. 2; K. F. Kiple, K. Coneè Ornelas (eds), *The Cambridge World History of Food* (2 vols, 2000), II, p. 1879.

World War I and the reconstruction of rural landscapes in Belgium and France: a historiographical essay*

by Dries Claeys

Abstract

This historiographical article assesses the ways in which (agricultural) historians have examined the reconstruction of rural landscapes in Belgium and France after the First World War. It reveals three axes of research, each of which emerged from the 1980s onwards. The first axis mainly focuses on the key actors of reconstruction. It is argued that a top-down perspective was gradually replaced by an emphasis on the agency of private organizations and the mentalities of the countrymen. A second set of publications examines the landscape itself. However, while in some articles the reconstructed landscape is approached as a material object, others put the constructed meanings of these landscapes to the fore. This emphasis on 'ways of seeing' is even more present in the third axis of research, which explores the regionalist rebuilding of farmsteads. As a conclusion, this article argues that through the broadening of chronological and geographical boundaries and by seeing the reconstruction process in a long-term and transnational perspective, this area of research can transcend its largely descriptive character.

The consequences of the First World War were almost as dramatic for the rural landscapes over which the war was fought as they were for the inhabitants of the war-torn countries.[1] This was particularly the case on the Western Front. A rapid German invasion through Belgium and northern France during the autumn of 1914 had, by the end of that year, been halted by Allied forces. When the frontline eventually stabilized, the plains of western Belgium and northern France served as the locale for four years of trench warfare. During this period, landscapes were reshaped beyond recognition. More than 3,430,000 ha of land was destroyed in Belgium and France alone. In France 4,926 towns and villages and 866,844 dwellings and farmsteads had to be (at least partially) rebuilt. The Belgian numbers are less impressive, but still 242 municipalities had witnessed destruction to some degree. Almost 100,000 public and private buildings had to be reconstructed, including some 24,000 farms.[2]

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[1] We use the concepts 'countryside' and 'rural landscape' interchangeably, referring to a physical entity that contrasts with townscapes and cityscapes.

Large numbers of people were displaced by military activity or had property damaged by military action: in French these were referred to as the *sinistrés*.

Given the enormous degree of destruction, it is no surprise that even while the war continued, French and Belgian policy makers, civil servants, academics and architects published booklets which dealt with the reconstruction of the so-called 'devastated regions'. They continued to do so over the next decade. These early writings had a national perspective, focusing mainly on the role of the government and specially established state services such as the Emergency Works Service (Office des Travaux de Première Urgence) in France or its Belgian counterpart, the Devastated Regions Service (Office des Régions Dévastées). The most powerful pressure groups used their own publicity channels to advertise their efforts. As a matter of course, these had a narrow thematic scope. The authors' primary purpose was to give an overview of the steps that had already been taken to recover the countryside.[3] This wave of publications ceased when the reconstruction process was completed at the end of the 1920s.

It was only from the 1980s onwards that the subject of the reconstruction of landscapes devastated by the First World War was rediscovered, for most part in the slipstream of studies on urban reconstruction. This reflected a broader rehabilitation of the First World War as an object of study,[4] and in particular a renewed appreciation of the war's impact on (European) agriculture. This revival was undoubtedly fostered by the approaching centenary, an awareness of the gradual loss of the generation who had fought in the war and the availability of new source material. In contrast with earlier publications on war and agriculture, perspectives had shifted towards social and cultural history. With regard to the rural economy and agriculture, emphasis was now placed on (female) farm labour, government policies on agricultural production, trade and food supply and the diffusion of new technologies.[5] In a more qualitative and transnational vein, historians in recent years have contributed to our understanding how the scarcity of foodstuffs determined the specific survival strategies of soldiers and civilians

[2] By 'reconstruction' we mean the material recovery, whether identical or not, of buildings and other landscape elements during and after the First World War. The term reconstruction does not exclude modernization, rationalization and adaptation of pre-war real properties. H. Clout, 'Restoring the ruins: the social context of reconstruction in the countrysides of northern France in the aftermath of the Great War', *Landscape Research* 21 (1996), pp. 214–5; id., *After the ruins: restoring the countryside in Northern France after the Great War* (1996), p. 280; G. Smets, 'Les régions dévastées', in E. Mahaim (ed.), *La Belgique restaurée. Etude sociologique* (1926), pp. 102–7 and 116–17; E. Leplae, *La restauration agricole des régions dévastées: son coût et ses exigences* (1920), pp. 12–13.

[3] Some examples for Belgium are the *Rapport spécial sur le fonctionnement et les opérations de la section agricole du Comité National de Secours & d'Alimentation* (1920), *Onze werking in verwoest Vlaanderen: beknopt overzicht der werkzaamheden van onzen Dienst voor herstel van Westvlaanderen* (1921). For France, J. Brisac, *Rapport du préfet sur le fonctionnement des services de la reconstitution de la Marne* (1923) and A. Naudin, *Département du Nord: trois ans de reconstitution* (1922).

[4] J. Winter, 'Introduction', in J. Winter (ed.), *The legacy of the Great War: ninety years on* (2009), pp. 1–17.

[5] Significant publications on these issues include P. Dewey, *British agriculture in the First World War* (1989); L. Margaret Barnett, *British food policy during the First World War* (1985); C. Gibson, 'The British Army, French farmers, and the war on the western front, 1914–1918', *Past and Present* 180 (2003), pp. 175–239; B. White, *The Women's Land Army in First World War Britain* (2014), H. Crowe, 'Keeping the wheels of the farm in motion: labour shortages in the Uplands during the Great War', *Rural Hist.*, 19 (2008), pp. 201–16; ead., 'Profitable ploughing of the Uplands? The food production campaign in the First World War', *AgHR*, 55 (2007), pp. 205–28, H. Smidt, 'Dutch and Danish agricultural exports during the First World War', *Scandinavian Economic Hist. Rev.* 44 (1996), pp. 140–60.

on both sides of the frontline.[6] Some work has furthermore been done on the particular war experiences in rural areas.[7]

Unfortunately, the material recovery of the countryside has rarely been taken into account.[8] The post-war reconstruction process was nevertheless an important episode in the modern history of European agriculture and, more generally, its countryside. After all, the recovery of agricultural land use and landscape structures and the rebuilding of farmsteads both reflected and determined broader socio-economic developments. However, it remains unclear to what extent farmers and countrymen adopted changes such as the mechanization of agriculture or new forms of rural architecture.[9] The integration of the rural reconstruction after the First World War within the broader field of agricultural history can mutually enrich our understanding of the impact of short-term disturbances on longitudinal evolutions and the role of underlying socio-economic driving forces during the immediate aftermath of war.

The reconstruction of rural landscapes has largely remained outside the scope of rural historians. Instead, this void was partially filled by social historians, human geographers and architectural historians. While the research domain has certainly profited from this heterogeneity of academic backgrounds, providing a kaleidoscopic view of the subject, it simultaneously risks losing common ground. Firstly, the reconstruction of the rural landscape has been studied as an activity. Public and private organizations as well as the local countrymen were involved of the reshaping of the landscape, each actor having their specific approach and goals. Secondly, scholars have made the reconstructed landscapes their main object of study. Nonetheless they have acknowledged the subjectivity of the process by incorporating underlying human activities, interests or (less frequently) experiences. Architectural historians have done similar work on the reconstruction of farmsteads, although more attention has been paid to the meanings of the regionalist architecture that dominated on both sides of the Franco-Belgian border.

These three axes of study form the framework of this article. In the next paragraphs, I explore how scholars have examined, respectively, the role of some key actors, the recovery

[6] I. Zweiniger-Bargielowska, R. Duffett and A. Drouard (eds), *Food and war in twentieth-century Europe* (2011); R. Duffett, *The stomach for fighting: food and the soldiers of the Great War* (2012); B. Demasure and Y. Segers, 'Eten in oorlogstijd. Voedselaanbevelingen en keukentips in België tijdens de Eerste Wereldoorlog', *Volkskunde. Tijdschrift over de cultuur van het dagelijkse leven* 114 (2013), pp. 257–78; M. Teich, 'Science and food during the Great War: Britain and Germany', in H. Kamminga and A. Cunningham (eds), *The science and culture of nutrition, 1840–1940* (1995), pp. 213–34.

[7] B. Ziemann, *War experiences in rural Germany 1914–1923* (2007); B. White, 'Feeding the war effort: agricultural experiences in First World War Devon, 1914–17', *AgHR* 58 (2010), pp. 95–112.

[8] Noteworthy exceptions are E. Köhler, 'Inflation and black marketeering in the Rhenish agricultural economy, 1919–1922', *German Studies Rev.* 8 (1985), pp. 43–64; C. Lockwood, 'From soldier to peasant? The land settlement scheme of East Sussex, 1919–1939', *Albion* 30 (1998), pp. 439–62; P. Barral, 'Les conséquences de la Première Guerre mondiale dans l'agriculture française', *Francia* 2 (1974), pp. 551–65.

[9] It has often been argued that the First World War had only minor effects on agriculture and the countryside in general, for example with regard to property ratios and rural migration. L. Van Molle, *Katholieken en Landbouw: Landbouwpolitiek in België, 1884–1914* (1989), pp. 347–9; Y. Segers, L. Van Molle and G. Vanpaemel, 'In de greep van de vooruitgang, 1880–1950', in Y. Segers and L. Van Molle (eds), *Leven van het Land: Boeren in België, 1750–2000* (2004), pp. 56–7; H. Byls, 'Rester catholique en France' (unpublished PhD thesis, KU Leuven, 2013), pp. 287–98.

of rural landscapes, and the rebuilding of farmsteads. In addition to this, I trace the parallels that exist between the broader historiography on agriculture and the First World War and the existing literature on the reconstruction of the countryside in Belgium and France. Following this, in the concluding section, I put forward some suggestions for further research.

I

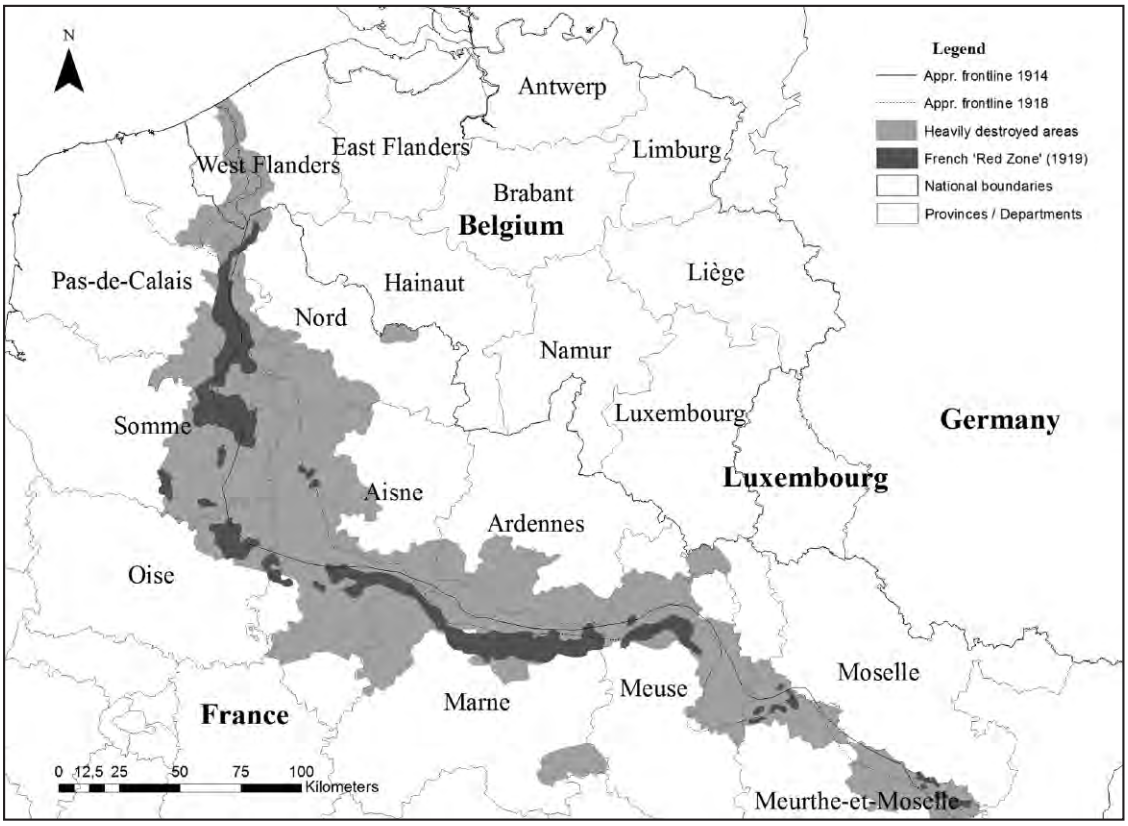
The redevelopment of the devastated regions was the work of many hands. Already during the war, the French and Belgian governments were making preparations for the post-war recovery of these areas (see Map 1). The King Albert Fund (Fonds du Roi Albert I) was set up by the Belgian government as early as 1916 to provide temporary housing for returning refugees. The year before, the government in exile had issued a decree that had compelled the local authorities of devastated villages to develop layout plans and building regulations. These documents would then serve as the basis for post-war reconstruction.[10] A similar law passed the French parliament in 1919. This was also the year that the French Sinistrés Charter and the Belgian law on war damage, which defined the right to war indemnities in both countries, came into effect. The flows between the legislative bodies of the two countries have yet to be studied.[11] Non-governmental organizations also played an important role in the reconstruction process. Local cooperatives defended the rights of the *sinistrés*, while farmers' unions did the same for the agricultural sector. Architects, contractors and building companies tried to capitalize on the temporary rise of building activities. Historians generally agree that the reconstruction of the rural landscape was interventionist in nature but the question of the degree to which state services controlled the recovery of the countryside remains open to debate.

A first set of historical writings analysed the effect of government policy on the efficiency and effectiveness of the post-war reconstruction process. It is striking that this perspective looms large within the modest Belgian historiography on the subject. One possible explanation is the greater involvement of the Belgian Devastated Regions Service in erecting permanent housing. In one of the few Belgian writings devoted solely to the reconstruction of agriculture, Hortensius strongly emphasized the importance of state policy in three respects: taking care of the refugees, creating a system to provide compensation and restoring legislative power to the devastated municipalities.[12] As a consequence, attention is almost exclusively given to the Belgian government and the institutions that were responsible for the reconstruction of

[10] K. Baert, 'Wonen in de verwoesting. Omstandigheden en getuigen', in J. Cornilly, S. De Caigny and K. Vandermarliere (eds), *Bouwen aan wederopbouw 1914/2050: architectuur in de Westhoek* (2009), p. 22; J. Cornilly and C. Vandewalle, 'Onzichtbare pleitbezorgers. Tussen bewoners en hogere overheden', in *Bouwen aan wederopbouw*, p. 54.

[11] In his thesis on war compensations in Belgium and France, Robert Debecker devoted one chapter to the compensation for First World War damage. He observed no significant differences between the two countries. R. Debecker, *La réparation des dommages de guerre en France et en Belgique* (printed Ph.D thesis, University of Paris, 1950), pp. 57–65.

[12] L. Hortensius, 'Burgers, boeren: hun goed, hun vee. De frontstreek na 1914–1918' (unpublished MA dissertation, Ghent University, 1989). Except for his dissertation, few historical studies on the reconstruction of the countryside have been undertaken. Given the scarcity of Belgian publications on the subject, we have chosen to include this pioneering but unpublished work in our discussion.



MAP 1: Heavily devastated regions in Belgium and France (light grey), and France's 'red zone' (dark grey). It is self-evident that the areas along the frontlines witnessed most destruction.

Source: aggregated from Clout, *After the ruins*, pp. 26, 50 and L. Vandael *et al.,* 'The heritage of 'Flanders Fields': Research, protection, management and commemoration of World War I landscapes in Flanders (Belgium)', in K. Reeves *et al.* (eds), *Battlefield events: Landscape, commemoration and heritage* (2016), p. 98.

the countryside. Other actors, such as the *sinistrés* themselves, were particularly depicted as the passive victims of failed state policies. The King Albert Fund and the Belgian Minister of Interior, Jules Renkin, are both criticized for their inability to elaborate a satisfactory reconstruction policy.[13]

Shifting away from this top-down approach, much work deals with the discordant relations between state services and the *sinistrés*. Jean-Marie Baillieul, for example, does not have an eye only for the Belgian Devastated Regions Service or the Agricultural Recovery Office (Office de la Reconstitution Agricole), but also for the action of the inhabitants in Ypres and its surrounding villages. Through an exhaustive analysis of laws and decrees on the one hand, and regional journals on the other, Baillieul highlights the government's and *sinistrés*'

[13] While the King Albert Fund did not manage to provide sufficient provisional housing for the returning population, Jules Renkin was blamed by Hortensius for his improvized policy which was both too expensive and discouraged private initiative. Hortensius, 'Burgers, boeren', pp. 95–8 and 121–5.

conflicting visions of war compensation. The reconstruction process was constantly being shaped and reshaped by new legislative initiatives and the mobilization of local inhabitants. Protest actions and lobbying were both used to adjust government policies to their advantage.[14]

For France, abundant and excellent research has been done by Hugh Clout. A professor of human geography, Clout was one of the first scholars to investigate the reconstruction practices of both the French government and the *sinistrés*, and a few private organizations. Nine articles examine the recovery process in different departments, with two publications having a broader geographical focus. This resulted in a book, *After the Ruins* (1996), which rests upon meticulous archival labour, and is still a standard work.[15] For Clout, the hardships of reconstruction do not only have to be sought in government policies, but rather in the dialectical relationship between public and private initiatives. State organizations nevertheless remain the leading players, determining the chronological framework of the post-war reconstruction period. More specifically, he distinguishes a rupture between the first few years of emergency works (i.e. clearing and levelling of the land) and a recovery phase. During the emergency phase, which had already started during the war,[16] most work was done by state agencies and voluntary groups. While the Emergency Works Service was responsible for the clearance of military equipment and the filling of trenches and shell holes, the Motorized Agriculture Service (Service de la Motoculture) undertook the preparation of land for cultivation. A third institution, the Agricultural Recovery Office (Office de Reconstitution Agricole), collected, repaired and distributed agricultural equipment. By the start of 1922, most work had been handed over to private initiative. This was the start of what Hugh Clout describes as the recovery phase. Since permanent reconstruction was no longer the responsibility of the emergency services, cooperatives now played a major role in the redevelopment of arable land and farmsteads. This was also the case with architects, contractors and workers, who were employed by cooperatives or individual landowners.[17] This is not to say that the state was completely absent, since the

[14] J. M. Baillieul, 'Recht op herstel? De Belgische regering staat op de rem bij het vergoeden van de geteisterden', in K. Baert, J. M. Baillieul, P. Chielens *et al.* (eds), *Ieper, de herrezen stad* (1999), pp. 21–66.

[15] Hugh Clout has published discussions of the reconstruction of the countryside in several départements: 'Rural revival in the Pas-de-Calais after the Great War', in J. R. Pitte (ed.), *Géographie historique et culturelle de l'Europe* (1995), pp. 189–207; 'Reconstructing the countryside of the Eastern Somme after the Great War', *Erdkunde* 48 (1994), pp. 136–49; 'Rural revival: The recovery of Moselle after World War I', *Modern and Contemporary France* 2 (1994), pp. 395–403; 'War and recovery in the countryside of north-eastern France: the example of Meurthe-et-Moselle', *J. Historical Geography* 23 (1997), pp. 164–86; 'Rural reconstruction in Aisne after the Great War', *Rural Hist.,* 4 (1993), pp. 165–85; 'Devastation and reconstruction in the countryside of Nord département, 1914–1930', in J. P. Donnay *et al.* (eds), *Recherches de Géographie Humaine: hommage au professeur Charles Christians* (1996), pp. 35–43; 'Rural reconstruction in Meuse after World War I', *Acta Geographica Lovaniensia* 28 (1992), pp. 599–607; 'Devastation and reconstruction in the countryside of Ardennes department', *Annales de Normandie* 46 (1996), pp. 381–98; 'Rural revival in Marne, 1914–1930', *AgHR* 42 (1994), pp. 140–55. A regional focus is used by him in 'The revival of rural Lorraine after the Great War', *Geografiska Annaler, Series B, Human Geography* 75 (1993), pp. 73–91; 'La reconstruction de la campagne au Nord de la France, 1918–1930', *Hérodote. Rev. de géographie et de géopolitique* 74–5 (1994), pp. 111–26; 'La reconstruction rurale en Picardie', in Anne Duménil and Phillippe Nivet (eds), *Reconstructions en Picardie après 1918* (2000), pp. 116–25.

[16] Clout, 'Rural revival in the Pas-de-Calais', p. 203.

[17] Clout, *After the ruins*, pp. 107–45 and 207–10 and Clout, 'Example of Meurthe-et-Moselle', pp. 173–7.

legal and financial framework for reconstruction was largely set up by the Sinistrés Charter and other national laws.[18]

This shift of the French state from being a direct actor to an indirect supervisor of the reconstruction is also present in Véziat's work on reconstruction in the Aisne department.[19] Like Clout, Véziat takes a more positive view of the reconstruction than Baillieul and Hortensius. He states that some modernization ensued from post-war recovery, such as the expansion and amelioration of the electricity grid, the improvement of settlement patterns, land consolidation and the mechanization of agriculture. However, in the same breath he argues that modernization was often met by fierce opposition from local populations, who thwarted initiatives launched by state services. Successive governments therefore progressively loosened their grip on the reconstruction process.[20]

Patrice Marcilloux seems to disagree with both Clout and Véziat on the changing nature of state interventionism. In his view, the reconstruction period was a decisive moment in the evolution towards a government more willing to intervene directly in the lives of its citizens. This was especially the case after 17 April 1919, when the French government worked out a legal framework for the *sinistrés*. Marcilloux looks at this 'swelling of the state' as a political answer to the organization of the *sinistrés* in cooperatives and the foundation of other private associations. In their search for power, politicians tried to hold on to their electorate through enacting laws that benefited the inhabitants of the devastated regions. In this sense, the post-war reconstruction laws were a precursor of the new social contract that took definitive shape after 1945.[21] Bedhome supports this viewpoint in his doctoral dissertation on the reconstruction of the Chemin des Dames. Less wealthy *sinistrés* in particular had feelings of resentment, and Bedhome claims that a (weak) linear correlation existed between the amount of compensation paid to individuals and their position on the social ladder.[22] To defend the interests of the latter, cooperatives were founded and formed a counterweight to the established regional elite, and eventually brought about a transformation of the pre-war social order.[23]

Thousands of reconstruction cooperatives were thus established in France and Belgium to defend the interests of the local war victims. Cooperatives guided (non-wealthy) *sinistrés* through numerous formalities, collected demands for reconstruction, safeguarded members'

[18] Clout regards this law as a compromise between the individualism of the *sinistrés* and the economic and financial capacities of the French government. Clout, *After the ruins*, p. 180.

[19] E. Véziat, 'La reconstruction dans le département de l'Aisne après la Grande Guerre', *Fédération Des Sociétés d'Histoire et d'Archéologie de l'Aisne: Mémoires* 46 (2001), p. 179.

[20] Ibid.

[21] P. Marcilloux, 'Le défi administratif: entre interventionnisme, contrôle et efficacité', in E. Bussière, P. Marcilloux and D. Varaschin (eds), *La grande reconstruction. Reconstruire le Pas-de-Calais après la Grande Guerre* (2002), pp. 48–52.

[22] S. Bedhome, 'Reconstruire le Chemin des Dames' (unpublished PhD thesis, Université Paul Valéry, Montpellier III, 2012), pp. 128–31. Bedhome sketches four possible explanations for the unequal distribution of reinvestment coefficients: the attribution date, the degree of devastation of the personal and real properties, the building type and the social status of the *sinistrés*. Since the first three variables had no effect, Bedhome concludes that social status was the only reasonable explanation for unequal coefficients. However, many other elements might play a part in these disparities: for instance the cost of building materials, the quality of the pre-war goods.

[23] Ibid., p. 257.

interests and so on.[24] Agricultural cooperatives defended the interests of the West Flemish farmers.[25] Unfortunately, no research has been conducted on the ideological or socio-economic backgrounds of the cooperatives' members. Clout investigates the unequal spread of cooperatives along the French frontline and adopts a structuralist explanatory model. He thereby reveals a dichotomy between the reconstruction process in Lorraine (and to a lesser extent Artois and French Flanders) and other regions in northern France. In the former regions, cooperatives were accepted more readily. Clout attributes this to socio-cultural contrasts based on religious observance, the decline of self-sufficient family farming, the subsequent market orientation of agriculture and the local influence of trade unions.[26] Philippe Delvit's exposition throws more light on the legal status of the cooperative societies. He draws the picture of them as vital organizations in the rebuilding of northern French villages, albeit they not always correctly represented their members.[27]

In accordance with recent trends in First World War historiography, scholars have explored the experiences of the *sinistrés* returning to their devastated home ground. Bedhome calls this a *société ruine* that arose in reaction to the *événement ruine*: this society was composed of *sinistrés* as well as other (public or private) actors that interacted to rebuild the devastated French regions.[28] Refugees' letters articulated their desire to return to their home towns in northern France as quickly as possible. Once returned, feelings of despair and abandonment led to an almost revolutionary attitude among a good number of them.[29] Paradoxically, Lobry also emphasizes the courage of the French *sinistrés* who took matters into their own hands. They made a living for themselves amidst the ruins while awaiting permanent reconstruction.[30] Experiences of French and Belgian returnees were strikingly similar. Baert estimates the number of refugees (from the arrondissements of Ypres, Diksmuide and Veurne alone) as 150,000. In the course of 1919 and 1920, approximately 90,000 inhabitants returned, although it has to be remembered that many people from other parts of Belgium moved to the devastated regions to take over the farms of non-returning landholders. Like their French counterparts, the frustrated returnees did not wait for houses to be provided by the state and built their own shelters with whatever was to hand. They also started to clean, level and cultivate the surrounding land; permanent rebuilding, however, only got under way from 1920 onwards.[31]

It has become clear that during the reconstruction process, a complex network of interactions between private and public actors was both formed and transformed. Dominiek Dendooven gives an excellent synthesis of the rebuilding activities of state services, architects, local farmers and other organizations in western Belgium. He particularly stresses the importance of the Belgian Farmers' Union in the restoration of devastated farmlands.[32] Sven Carnel employs

[24] Clout, *After the ruins*, pp. 209–10.

[25] Cornilly and Vandewalle, 'Onzichtbare pleitbezorgers', p. 66.

[26] Clout, 'Restoring the ruins'.

[27] P. Delvit, 'Les sociétés coopératives de reconstruction. Une lecture juridique?', in Bussière *et al.* (eds), *La grande reconstruction,* pp. 53–64.

[28] Bedhome, 'Reconstruire le Chemin des Dames', p. 390.

[29] P. Nivet, 'Le retour des réfugiés ou la violence des ruines', in Duménil and Nivet (eds), *Reconstructions en Picardie*, pp. 22–33.

[30] G. Lobry, 'La vie au "provisoire"', in Duménil and Nivet (eds), *Reconstructions en Picardie*, pp. 34–48.

[31] Baert, 'Wonen in de verwoesting', pp. 18 and 38; Hortensius, 'Burgers, boeren', p. 110.

[32] D. Dendooven, 'De wederopbouw', in P. Chielens *et al.* (eds), *De laatste getuige: het oorlogslandschap van de Westhoek* (2006), pp. 97–102.

a microstudy to bring the complexity of post-war recovery into full play. In his case study on the reconstruction of Neuve-Eglise, a rural village just south of Ypres, Carnel approaches post-war reconstruction as a two-phase process. During the preparatory phase, that lasted from 1918 to 1921, Belgian state services held a hegemonic position. Carnel portrays the provisional housing policy of one of these services, the King Albert Fund, merely as patchwork. Permanent reconstruction was carried out or influenced by an array of governmental and non-governmental actors, who were often in conflict with each other. Political instability during the early 1920s and the fact that Belgium, in contrast with France, did not have a Ministry of Devastated Regions, did not encourage a quick recovery of the countryside. Various reconstruction programmes existed simultaneously, both for rebuilding activities as well as the recultivation of farmland. State services failed to provide provisional shelters or to steer permanent housing in the right direction, because of an underestimate of the financial and organizational costs as well as the agency of the *sinistrés*. The war damage tribunals (tribunaux des dommages de guerre) were inadequately staffed to deal with the thousands of compensation requests. Other actors, such as the reconstruction cooperatives, architects and contractors rarely maintained cordial relations.[33]

The availability of new historical sources,[34] together with a growing emphasis on individual agency, has inspired historians to investigate previously forgotten actors. The role of mayors and other municipal and provincial representatives, for example, is one of the aspects of the reconstruction process that has remained somewhat unclear. In the Belgian edited volume *Bouwen aan wederopbouw*, Cornilly and Vandewalle make a praiseworthy attempt to lift the local authorities out of their obscurity. The fact is that after the Armistice, municipal (and provincial) powers were curtailed by the introduction of the Devastated Regions Service. For most of the affected villages, financial and organizational costs were too high to execute reconstruction works themselves. Between 1922 and 1925, most municipalities and the province of West Flanders had the full range of responsibilities restored to them, including the restoration of public buildings. The authors conclude that mayors were strictly controlled by the national government, but nevertheless played an important role as contact persons for the *sinistrés*.[35] Guislin examines the way in which French representatives and dignitaries fulfilled their functions as mediators between the state and the *sinistrés*. Mayors, councillors of the devastated arrondissements and parliamentarians employed various means to serve the devastated regions. Cooperation between local representatives on horizontal and vertical scales was usual. Conservatives and leftists also used the parliamentary majority to impose their demands. According to Guislin, electoral results show the success of local representatives in defending the rights of the *sinistrés*. This is true for both right and left wing politicians, although they each had a different ideological view of the reconstruction process.[36]

[33] S. Carnel, *La reconstruction des régions dévastées après la Première Guerre mondiale: le cas de Neuve-Eglise* (2002).

[34] The archives of the Federation for Reconstruction Cooperatives, historical sources of local authorities or digitized historical journals to name only a few.

[35] Cornilly and Vandewalle, 'Onzichtbare pleitbezorgers', p. 73.

[36] While left-wingers preferred an equal and just distribution of compensations and therefore state interventionism, right-wing politicians stressed the individualist character of the Sinistrés Charter and defended the rights of private property. J. M. Guislin, 'Ediles et notabilités face à la reconstruction (1919–1927)', in Bussière *et al.* (eds), *La grande reconstruction*, pp. 77–96.

Civil society organizations too tried to gain influence by participating actively in the recovery of the countryside. The Belgian Farmers' Union is a textbook example here. Both from a humanitarian and an expansionist perspective, the Catholic pressure group set up the Service for the recovery of West Flanders (Service pour la Restauration de la Flandre occidentale). This organization advised local farmers and helped to restore farmsteads and arable lands. They gave cash advances to members and even had their own building service.[37] How successful this strategy was in attracting new members has yet to be discovered. The fact that many local branches were established in West Flanders shortly after 1918, is an indication of the Farmers' Union's growing influence. The remarkable growth of the French Union of Agricultural Syndicates of the Aisne (Union des Syndicats Agricoles de l'Aisne) during the early 1920s can also be explained by its participation in post-war reconstruction activities.[38] Especially in the regions where large agricultural enterprises were found, new cantonal syndicates were established. Their aims were very similar to those of the Farmers' Union, but the Union des Syndicats did not distribute advances nor intervene directly in the rebuilding of farmsteads. According to Marival, through protest actions and lobbying they succeeded in diminishing state interventionism.

The Belgian National Commission for the Embellishment of Rural Life (Commission Nationale pour l'Embellissement de la Vie Rurale) attempted to convince its clients of its traditionalist building principles. Like the Central Society for Belgian Architecture (Sociéte Centrale d'Architecture de Belgique), the Commission pleaded for the use of modern construction methods and sanitary provision, but within a traditional exterior. This echoed a preference for a regionalist architecture, a style that integrated concerns for modern comfort and hygiene with a traditional formal language. Reconstructed farmsteads had to reflect a 'genius loci' through the use of local building materials and stylistic elements.[39] But unlike the previous interest groups, the organization seems to have had little impact on post-war rebuilding activities.[40]

Due to the local conservatism and the political reluctance to force through far-reaching land reallocations, only three Belgian villages were not straitjacketed in their pre-war settlement pattern.[41] Moreover, since the rebuilding of dwellings and farmsteads was left to the proprietors' discretion, architects and planners were generally overlooked and even distrusted by some sections of the rural population of West Flanders. Architects quarrelled amongst themselves about supposed favouritism and the monopolization of commissions. Few managed to make a name for themselves during the immediate aftermath of the war.[42] Cappronnier comes to the same conclusions for France. According to him, this was a result of the weak institutionalization and appreciation of the architectural profession.[43]

[37] L. Van Molle, *Ieder voor allen. De Belgische Boerenbond, 1890–1990* (1990), pp. 152–6.

[38] G. Marival, 'Reconstruction et Syndicalisme Dans l'Aisne', in Duménil and Nivet (eds), *Reconstructions en Picardie*, pp. 126–37.

[39] B. Notteboom, '"Ouvrons Les Yeux!" Stedenbouw en beeldvorming van het landschap in België, 1890–1940' (unpublished PhD thesis, Ghent University, 2009), pp. 367–89.

[40] S. De Caigny, 'Tussen filantropie en macht. In de bres voor de belangen van de achterban', in Cornilly *et al.* (eds), *Bouwen aan wederopbouw*, pp. 162–7.

[41] D. Dendooven, 'Het terrein effenen. Aanleg, infrastructuur en landbeheer', in Cornilly *et al.* (eds), *Bouwen aan wederopbouw*, pp. 86–9.

[42] J. Cornilly, 'Gevraagd: architecten. Kiezen tussen alternatieven', in Cornilly *et al.* (eds), *Bouwen aan wederopbouw*, pp. 115–41.

[43] J. C. Cappronnier, 'Penser la reconstruction en 1917', in Duménil and Nivet (eds), *Reconstructions en Picardie*, p. 65.

The recovery of the former battlefields was partly undertaken by domestic and foreign non-profit organizations. During the war, charitable organizations had been established to help displaced French and Belgian citizens. A well-known example is the American Committee for Devastated France (Comité Americain pour les Régions Dévastées), headed by the wealthy philanthropist Anne Morgan and operating under patronage of the Ministry for Liberated Regions. Dopffer analyses the objectives and activities of this organization. First, the Committee devoted itself to the moral and social reconstruction of a handful of villages in Aisne, organizing feasts and opening refugee centres and small libraries.[44] But more importantly, the Committee distributed agricultural equipment, seeds for sowing and cattle to French farmers. After the German retreat to the Hindenburg Line, more than 3000 ha were brought back into cultivation as the Committee was assisted by agricultural cooperatives and military services. Once the war was over, 10,000 ha in the cantons of Vic-sur-Aisne, Coucy-le-Château, Anizy-le-Château and Soissons were farmed with the help of German prisoners of war.[45] Additionally, the organization promoted the economic reconstruction of 77 villages in Aisne by training tractor drivers and supporting agricultural syndicates.[46] The extent to which international charitable organizations were involved in the Belgian post-war recovery of the countryside has not yet been investigated in depth.[47]

II

Within a decade of the end of the war, most of the former front zone had been recovered: roads and rivers had been reconstructed, forests replanted, farmland brought back into cultivation. The exception was the 'red zone' in France. These were the areas where the cost of land reclamation exceeded its economic value and hence afforestation was preferred. Because of fierce opposition from local landowners, the red zone shrank from 178,511 ha in 1918 to 48,820 ha ten years later.[48] In the Meuse department alone, 13,404 ha were to be afforested. In Belgium, the state did not opt for afforestation. Under pressure from the local population, pre-war rural landscapes were restored to their former state during the post-war emergency phase.[49] Land reallocations were rarely carried out. Although land consolidation was encouraged by the French government, only 120,050 ha had been reallocated by 1929.[50] French farmers preferred a quick recovery of agricultural lands: in 1928 90 per cent of the pre-war arable land was again in use. Roads and villages had largely been rebuilt by 1930, mostly reflecting their pre-war pattern.[51] Neither in France nor in Belgium did the First World War bring about a

[44] A. Dopffer, 'Le Comité Américain pour les Régions Dévastées', in Duménil and Nivet (eds), *Reconstructions en Picardie*, pp. 70–86.

[45] J. P. Laurant, 'Anne Morgan et le Comité Américain des Régions Dévastées (1917–1923)', in R. Cazals, E. Picard and D. Rolland (eds), *La Grande Guerre: pratiques et expériences* (2005), pp. 377–9.

[46] Clout, *After the ruins*, p. 84.

[47] A short article on the activities of the *Oeuvre Suisse Belge* has been written by D. Nuytten, 'Het Oeuvre Suisse Belge en de heropbouw van landelijke woningen en hoeves tijdens de Eerste Wereldoorlog in de streek van Zemst', *Land in zicht. Koninklijke vereniging voor natuur- en stedenschoon* 76 (2007), pp. 10–15.

[48] Clout, *After the ruins,* pp. 261–2.

[49] Except for two patches of woodland in the Belgian villages of Zonnebeke and Houthulst. For further information: Cornilly and Vandewalle, 'Onzichtbare pleitbezorgers', pp. 101–6.

[50] Clout, *After the ruins,* pp. 249 and 261–2.

[51] This corresponds to 3,228,000 ha of farmland. Clout, *After the ruins*, pp. 280–1 and 287.

radical rationalization of rural landscapes. But some new elements, such as barbed wire (which replaced hedgerows) changed the appearance of the countryside.[52]

Roads were vital for the transport of food and building materials and therefore repaired with urgency. Military roads and narrow-gauge railways were soon applied to civil purposes.[53] The reconstruction of the road system has only been studied in depth for the Pas-de-Calais department. Berthonnet's contribution stands midway between historical geography and business history. Besides the qualitative study of enterprises that specialized in road works, he gives attention to the reconstruction of national, main and local roads and structural works. What human, financial and industrial capital was invested? Do we speak about reconstitution or modernization? As soon as the war was over, the French Ministry of Public Works began to reinstate the entire road network of the Pas-de-Calais at the expense of the National Treasury. More than three-quarters of the national roads, two-thirds of main roads and half of local roads had suffered damage; 355 bridges had to be repaired. Wartime destruction did not prompt any alteration of the pre-war road pattern. During the early 1920s, reconstruction was delayed because of a shortage of manpower and raw materials. This led to an inflation in prices: construction costs sextupled between 1914 and 1927. Scarcity of money hindered the mechanization of building activities. On the other hand, the increasing specialization of *construction companies* and the emergence of motorized traffic stimulated the development of new techniques and surfaces capable of supporting modern vehicles.[54]

Some historians and geographers have been interested in the recovery of arable land and pastures. In West Flanders alone some 100,000 ha of arable land had to be brought back into cultivation, at an estimated cost of 1.4 billion Belgian francs.[55] In France, the Ministry of Liberated Regions estimated that 3.5 million hectares of farmland had suffered wartime damage.[56] It is tentatively concluded that the recovery of land for renewed cultivation was the result of an interplay between state services and the *sinistrés*, as was the case for other reconstruction works. Carnel describes how Belgian state services coordinated the restoration of the rural economy directly as well as indirectly. The latter was done by granting premiums and organizing contests to repair farmland or construct (temporary) farm buildings. Local agriculturalists came together in farmers' guilds to take part in these competitions, which in their turn organized themselves into the Agricultural Federation of Devastated Flanders (Fédération agricole de la Flandre dévastée). Carnel argues that the Belgian Ministry of Agriculture saw the *sinistrés* as entrepreneurs, contracting them to recover their own lands. The Belgian government, however, provided for the possibility of the land being temporarily handed over to the State, which would then undertake the reclamation, but this course was

[52] Cornilly and Vandewalle, 'Onzichtbare pleitbezorgers', pp. 101–2.

[53] Dendooven, 'Het terrein effenen', pp. 94–7. For an introduction on the activities of contractors and building enterprises in Belgium: I. Bertels, 'De uitvoerders op het terrein. Een braakliggend onderzoeksdomein', in Cornilly *et al.* (eds), *Bouwen aan wederopbouw,* pp. 175–91.

[54] A. Berthonnet, 'La reconstruction du réseau routier (1919–1927)', in Bussière *et al.* (eds), *La grande reconstruction*, p. 141.

[55] This is approximately 5% of Belgian GNP at market prices in 1920. S. Carnel, 'La reconstruction agricole dans les régions dévastées', *Memoire de la société d'histoire de Comines-Warneton et de la région* 38 (2008), pp. 257–8; E. Buyst, 'New GNP estimates for the Belgian economy during the interwar period', *Rev. of Income and Wealth* 43 (1997), pp. 357–75.

[56] Clout, *After the ruins*, p. 160.

rarely followed.[57] In France, three state services were established to restore the devastated regions. While the Emergency Works Service cleared up and levelled the former battle zone, the Motorized Agriculture Service and the Agricultural Recovery Office were involved in reclamation and cultivation activities.[58] In both countries, these preparatory works had mostly been completed by the end of 1921.

In 1919, the Service for the Reconstitution of Landed Property (Service de la Reconstitution Foncière) was established in France to promote and execute land consolidation. Clout states that local farmers irrationally eschewed reallocation, so only 441 consolidation schemes had been agreed by 1929, two-fifths of them in the Somme.[59] His findings were later confirmed by Professor Gilbert Noël and five of his students at Artois University. Unfortunately, their writings lack the comparative or theoretical background that would have given more insight into the abundant qualitative and quantitative information. In their studies on the agricultural reconstruction of Pas-de-Calais, they stress the resistance of the local proprietors to the reallocation of fragmented farmlands. The conservative attitude and the emotional attachment of small farmers to their ancestral farmlands are cited as the main reasons for the survival of the old field and landscape structures.[60] Moreover, some farmers feared that their newly allocated lands would be of inferior quality. Lacking a long-term vision, they preferred to reconstruct their holdings in their pre-war form.[61] So in the post-war years, state services did not succeed in improving the layout of the many small farms. Only nine municipalities in the Pas-de-Calais had opted for a partial or full reallocation by 1922; three others expected to undergo *remembrement* the following year. In total, land reallocation occurred in only thirteen municipalities and covered just 2,750 ha. According to Trupin, the reconstitution served the needs of nineteenth-century agriculture, a time when small and medium-sized farms dominated the regional rural economy.[62]

The reconstruction of arable land continued the pre-war trend away from cereal production towards dairying.[63] In his master's thesis on the agricultural reconstruction of Cambrin, Kukula argues that as early as 1922, cereal production had attained pre-war levels.[64] This corresponds with Clout's more general statement that the area under arable cultivation peaked that year before decreasing slightly over the 1920s.[65] Research for other cantons confirms his assessment.[66]

[57] Carnel, 'La reconstruction agricole dans les régions dévastées'.

[58] G. Noël, 'La restauration des structures agricoles. Priorité à l'exploitation du terroir et à l'équipement', in Bussière *et al.* (eds), *La grande reconstruction*, pp. 162–7.

[59] Clout, *After the ruins*, pp. 249–59. The 441 consolidation schemes covered the same number of villages and a total of 120,050 ha.

[60] Noël, 'La restauration des structures agricoles', pp. 174–7.

[61] E. Pruvost, 'La reconstruction agricole dans le canton de Vimy après la Première Guerre mondiale' (unpublished MA dissertation, Université d'Artois, 1999), pp. 94–5; Noël, 'La restauration des structures agricoles', p. 174.

[62] S. Trupin, 'La reconstruction agricole du canton de Bapaume de 1919 à 1929' (unpublished MA dissertation, Université d'Artois, 1999), p. 160.

[63] Clout, *After the ruins,* p. 281.

[64] F. Kukula, 'La reconstruction de l'espace agricole dans le canton de Cambrin au lendemain de la Première Guerre mondiale' (unpublished MA dissertation, Université d'Artois, 1999), p. 119.

[65] Clout, *After the ruins,* p. 281.

[66] Trupin, 'La reconstruction agricole du canton de Bapaume de 1919 à 1929'; Pruvost, 'La reconstruction agricole'; P. Carpentier, 'La reconstitution agricole des champs de bataille de l'Artois (1915)' (unpublished MA dissertation, Université d'Artois, 2000).

In the immediate aftermath of the war, in the absence of a working transport and commercial system, local food supply was indeed vital. Most crops had achieved pre-war levels of production by 1925. This was the case with sugar and fodder beets, and potatoes. Vegetables like beans, (green) peas and lentils increased in popularity. The area of industrial crops like tobacco and flax shrank after the First World War. The area under pasture increased during the 1912–28 period, but the recovery of livestock numbers proved to be difficult to achieve.[67] The dissertations unanimously show that the post-war reconstruction of arable land and pastures continued trends that had started before 1914. The tentative mechanization and rationalization of northern French agriculture was, according to Noël, not a consequence of the desire of farmers to modernize, but an answer to the shortage of manpower and the (alleged) need for a rapid reconstruction.[68]

Surprisingly, little research has paid attention to the restoration of other landscape elements. Were drainage systems modernized? Were farmsteads banned outside the village centres? Did the spread of barbed wire as a fence material signify the end of hedgerows as an integral part of the rural landscape? Steven Heyde gives us a clue with regard to this last question. His research applies to the *bocage* landscape of the Ypres region. The south-western part of West Flanders was particularly woody on the eve of the First World War: spinneys, orchards and trees and hedgerows defined the landscape's image.[69] Heyde's detailed examination of hedgerow and tree networks on the domains of the noble family De Gheus d'Elzenwalle suggests the deliberate recreation of the pre-war landscape. Coppice with standards, orchards and pollard trees were mostly replanted as before. But some subtle changes were implemented. Elms were replanted to a larger extent than before the First World War, replacing other varieties such as ash.[70] Barbed wire was preferred to hedgerows as a fence material. Heyde points to the legal principle of 'reinvestment', which took the pre-war value of goods as the basis for compensation, as one of the main reasons for the continued existence of linear landscape elements.[71]

Heavy bombardment and explosions had reshaped the landscape of the battle zones in France and Belgium beyond recognition. While in densely populated Flanders a state-led afforestation scheme was never seriously considered, the French Agricultural Engineering Corps was ordered to define the red zone.[72] Despite several revisions during the 1920s, the greening of the red zone in Northern France led to an increase of its forested area by 11,527 hectares.[73] The question of the underlying dynamics of afforestation occupies centre stage in publications on the red zone. Amat adopts the concept of sylvosystems – forest ecosystems adapted and administered by humans, for civilian as well as military purposes – for his

[67] Kukula, 'La Reconstruction de l'espace agricole', p. 124.

[68] Noël, 'La restauration des structures agricoles', p. 177.

[69] S. Heyde, 'Het herstel van het bocagelandschap in de Zuidelijke Westhoek na de Eerste Wereldoorlog', *M&L. Monumenten, Landschappen en Archeologie* 33 (2014), pp. 28–9. A similar contribution is L. Stubbe, 'Een lappendeken met groene naden: het landschap van de Ieperboog anno 1914', in Chielens *et al.* (eds), *De laatste getuige,* pp. 147–52.

[70] Except for 1923–4, when an elm disease caused a temporary shift towards poplars or oaks.

[71] Heyde, 'Het herstel van het bocagelandschap', p. 38.

[72] Clout, *After the ruins,* pp. 23–5.

[73] J. P. Amat, 'Nettoyer, restaurer, réaffecter le champ de bataille: la zone rouge', *Finir la guerre. Les cahiers de la paix* 7 (2000), p. 130.

biogeographical analysis of the afforestation of the front region. His work underlines the limits of the human capacity to shape the post-war landscape, since the natural dynamism of pioneering vegetal groups preceded the afforestation work of the Ministry of Liberated Regions. Amat's research consequently fits in with a growing academic interest in the resilience of landscapes and social-ecological systems.[74] The forests around Verdun, for example, were influenced by legal, economic and biogeographical factors. These elements created three complementary sylvosystems. The sylvicultural sylvosystem responded to existing social and economic needs, while a military sylvosystem administered by the French military was mainly aimed at the protection of the French borders. A polemological sylvosystem developed after 1918 by an interplay between natural dynamics and the human redevelopment of the devastated regions.[75] Amat contends that not only demographic evolutions, but natural forces as well, influenced the delimitation of the polemological sylvosystem. This brought about a dual redevelopment of the red zone, whereby some 4000 ha in Meuse were restored and eventually resold by the state while 14,000 ha was afforested by the Waters and Forests Service (Administration des Eaux et Forêts).[76] Land pressure was higher in Pas-de-Calais, and here the red zone shrunk drastically from 26,409 ha in 1919 to 484 ha in 1927. A total of 200 ha was eventually reforested; other lands were brought back into cultivation or were ceded to the Canadian government to become sites of memory.[77]

The supply of wood for military purposes jeopardized national wood resources. In France, an estimated 36.2 million cubic metres of timber and firewood were sawn during the First World War. According to Puyo, overexploitation in German-occupied areas ravaged some 350,000 ha of wooded surface.[78] In Belgium, almost 11,500 ha of public forest were destructively exploited by the German occupier, whereas 10,500 ha of private woods were deforested or destroyed during the war years.[79] Approximately one million solid metres of cut wood was registered by the Reparation Commission.[80] Public forests had recovered almost completely by 1927. This cannot be said for the private forests, which never reached their pre-war levels. Delays in paying compensation are certainly a part of the explanation for this.

The Belgian historian Pierre-Alain Tallier has suggested that the country's successful territorial claims on the woody Eupen-Malmedy region were, among other things, founded

[74] Some examples on the resilience of landscapes after disturbances of war (especially the First World War) are J. Hupy and R. Schaetzl, 'Soil development on the WWI battlefield of Verdun, France', *Geoderma*, 145 (2008), pp. 37–49; T. Bausinger, 'Exposure assessment of a burning ground for chemical ammunition on the Great War battlefields of Verdun', *Science of the Total Environment* 382 (2007), pp. 259–71. A recent study on the relationship between the environment and war is C. Pearson, *Mobilizing Nature: The environmental history of war and militarization in modern France* (2012).

[75] J. P. Amat, 'Guerre et milieux naturels: Les forêts meurtries de l'Est de la France, 70 ans après Verdun', *Espace Géographique* 16 (1987), pp. 220–33.

[76] Amat, 'La zone rouge', pp. 115–21.

[77] J. P. Amat, 'Bois et forêts du champ de bataille Arrageois: une reconstitution entre anonymat et gloire', in Bussière *et al.* (eds), *La grande reconstruction*, pp. 149–53.

[78] Puyo notifies that these numbers might not be accurate (i.e. exaggerated) within the context of the Versailles negotiations. J. Y. Puyo, 'Les conséquences de la Première Guerre mondiale pour les forêts et les forestiers français', *Rev. Forestière Française* 56 (2004), pp. 577–9.

[79] P. A. Tallier, 'La reconstruction du patrimoine forestier belge après 1918', in A. Corvol and J. P. Amat (eds), *Forêt et guerre* (1994), p. 218.

[80] The Belgian Reparation Commission investigated the amount and the method of payment of war indemnities by Germany.

on the wish to restore the national forest patrimony.[81] Other scholars have incorporated the symbolic meanings of the replanted forests in their research. Following Pierre Nora's seminal work on French *lieux de mémoire*, historians have been interested in the (socially constructed) meanings of the forests of the red zone. In this literature, human agency predominates over biological or demographic factors. Conflicting visions of the permanence of the red zone were key in its delimitation and ultimately for the perception of the post-war rural landscapes. While the Ministry of Liberated Regions opted to abandon agriculture permanently in the red zone for financial reasons, farmers wanted to revise the arbitrary character of the delimitation. In opposition to the patrimonial discourse developed by certain cantonal councillors, farmers and local representatives managed to scale down the red zone of the Chemin des Dames in the course of the 1920s. In the end, only 574 ha were transferred to the Waters and Forests Service to be integrated in the national forest of Vauclerc. In contrast with the situation in Meuse, the forests of Aisne indeed did not become places of remembrance.[82] This was partly due to the negative image of the Chemin des Dames as a place of mutiny.[83] Buridant and Marival also attribute the unsuccessful rehabilitation of Aisne's red zone as a site of memory to the wish of the local population to erase the traces of the First World War. In their blind obsession for reconstruction, farmers trivialized the former battlefield, whereas afforestation similarly played a part in the occultation of memory. Paradoxically the woodlands in Aisne are now hailed as preservers of the physical remnants of the First World War, quite the opposite of their original purpose.[84]

III

The destruction brought by the First World War provided a unique opportunity for architects and planners to construct model towns and farmsteads. Architectural historians have been interested in these reconstruction activities since the 1980s. This might be explained as an aspect of the general revival of First World War studies but the Belgian architect Marcel Smets has also pointed out how the decline of modernism as the dominant building style from the 1980s allowed a new appreciation of regionalist architecture.[85] Regionalism was no longer seen as a backward architectural style, but as an ingenious combination of a traditional formal language and subtle modernizations. At the same time, postmodernism deconstructed (regionalist) architecture as a social construction. In the edited volume *Resurgam,* Bekaert notes that postmodern critics writing on modernism paralleled regionalism's negation of modernist architecture some sixty years earlier. Both approaches repudiate architecture's

[81] Tallier, 'La reconstruction', pp. 221–3.

[82] G. Marival, 'Agriculteurs et élus locaux contre la zone rouge (1919–1929). La première bataille de l'après-guerre sur le Chemin des Dames', in Cazals *et al* (ed.), *La Grande Guerre*, pp. 383–92.

[83] J. Buridant, 'Effacer la guerre: la reconstitution forestière de la zone rouge', in J. Buridant (ed.), *Forêt carrefour, forêt frontière: la forêt dans l'Aisne* (2005), p. 162.

[84] Marival, 'Agriculteurs et élus locaux', pp. 390–1; Buridant, 'Effacer la guerre', pp. 162–3. Stéphane Audoin-Rouzeau and Gerd Krumeich have produced a book on the ruins and 'bombscapes' of World War I: S. Audoin-Rouzeau and G. Krumeich, *Cicatrices: La Grande Guerre Aujourd'hui* (2008).

[85] M. Smets, 'Inleiding. De wederopbouw als onderzoeksopgave', in M. Smets (ed.), *Resurgam. De Belgische wederopbouw na 1914* (1985), p. 10.

self-proclaimed ability to construct a new society without considering the past. Instead, history is looked on as a toolbox, which contains all the tools necessary to reconstruct towns and cities.[86] During the interwar years, this toolbox was used by policy makers, local representatives and other stakeholders to rebuild towns and villages in conformity with their ideas and interests.[87] Two questions have frequently been asked in this context. How were dwellings and farmsteads reconstructed after the First World War? And why were they reconstructed in this manner? It should nevertheless be remarked that the rebuilding of farmsteads has all too often been overlooked, as historians have privileged the study of the reconstruction of monumental buildings such as churches, town halls and other landmarks. Still, the publications mentioned below are of great value due to their innovative method to integrate the regionalist debate within the framework of the post-war reconstruction.

Probably the first modern work on the rebuilding of houses after the First World War was published by Jean-Marie De Busscher in 1983. It is noticeable that he adopts a transnational perspective, taking into account Belgian as well as French reconstruction processes. For those two countries, De Busscher examines the spirit of the age of which 'war damage architecture' was a reflection. Architecture is considered here as a cultural product of the interwar years. It is argued that the architecture of reconstructed buildings answered to the broader social evolutions of the time. The strict separation of residential buildings and stables, for example, mirrors contemporary concerns with hygiene. Following from this line of argument, *reconstruction à l'identique* is unmasked as a creative process. Pre-war buildings were not copied, but slightly adjusted to meet new aesthetic, comfort and technical requirements (for an example, see Figure 1). Moreover, regionalist references to the pre-war townscapes supported the widespread wish to forget the atrocities of war.[88] Unlike other authors, De Busscher states that (young) modernists and regionalist architects never debated post-war reconstruction profoundly, since emotional arguments predominated. The presence of other social actors marginalized the role of architects. As a consequence, the 'reconstitution-reconstruction', as he names it, lacked an underlying theory and was neither a return to traditional architecture, nor a modernist project.[89]

Cappronnier and Delorme emphasized the importance of regional culture and geography for the architectural style of farmsteads.[90] Medieval monastic farms, reorganized during the nineteenth century, characterized Aisne prior to 1914. After the first months of battle, plans were drawn to rebuild these farms in a more rational, sanitary and prestigious manner. Case studies of various farm types from different regions led to the conclusion that rationalization occurred more frequently in larger farms. Nonetheless, floor plans were based mainly on pre-war layouts. Cappronnier and Delorme concluded that the reconstruction of farmsteads along traditional lines suggests elements of cultural stability. According to them, this inertia

[86] G. Bekaert, 'Wederopbouw of het uur van de waarheid', in *Resurgam,* pp. 29–32.

[87] Smets, 'Inleiding', pp. 10–1.

[88] J. M. De Busscher, *L'architecture de dommages de guerre: aspects de la reconstruction des régions dévastées de la Première Guerre mondiale* (1983), pp. 5–7. According to De Busscher, avant-garde and regionalist architects were in agreement on this point.

[89] De Busscher, *L'architecture*, pp. 198 and 254–6.

[90] J. C. Cappronnier and F. Delorme, 'La reconstruction des fermes dans le département de l'Aisne après 1918', *In Situ* 21 (2013), p. 3.

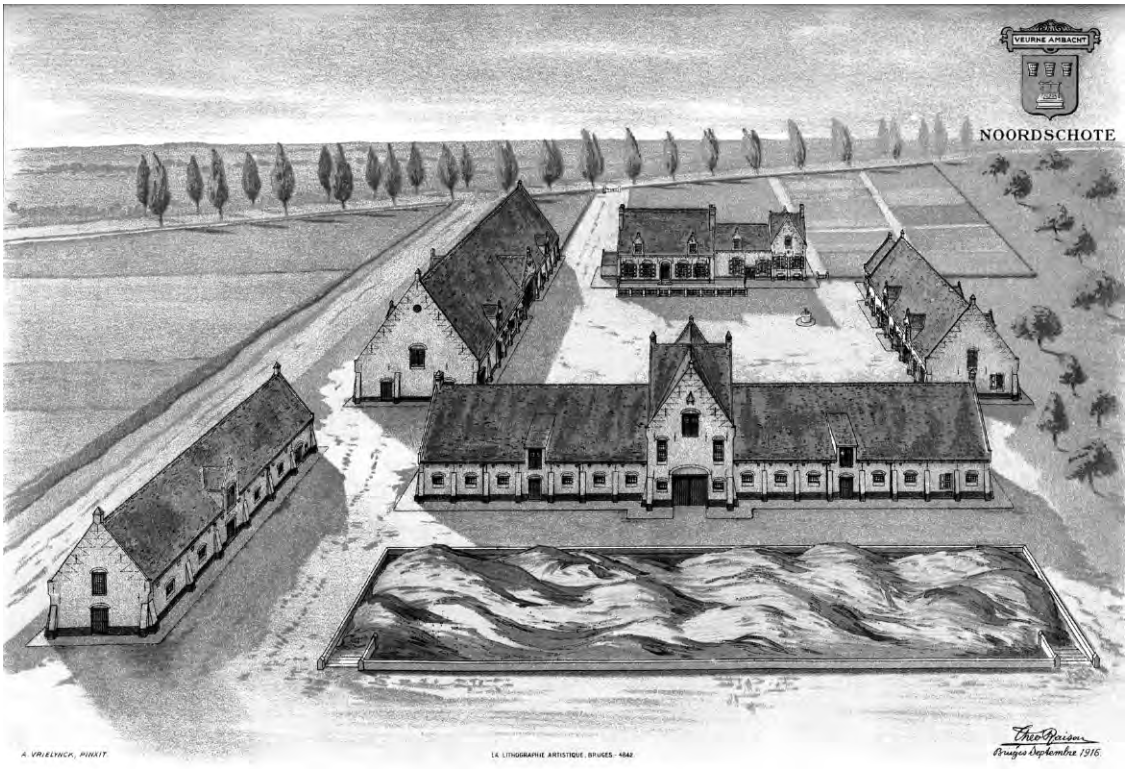


FIGURE 1: The post-war farmsteads looked back to their pre-war predecessors. Adjustments were nevertheless made for reasons of hygiene, efficiency, and modern comfort. This sketch of a monumental Belgian farm, designed by architect Theo Raison, is a textbook example of the so-called regionalist architecture that dominated the reconstruction period.

Source: T. Raison and A. Ronse, *Landelijke bouwingen: algemeene raadgevingen, ontwerp tot het bouwen van eene kleine hofstede, mekanieke toepassingen* (1918).

was fuelled by the parsimonious application of hygienist prescriptions and the preoccupation with a quick rather than an innovative reconstruction.[91]

Other scholars have searched for particular meanings and ideologies in the reconstructed buildings. Regionalist architecture does not reflect the spirit of the age or geological and cultural environments, but incorporates power relations, interests and particular preferences. This becomes clear when one looks at the German proposals for the rebuilding of Flemish towns destroyed during the early months of the war. What was intended fitted within the *Flamenpolitik* that aimed to tighten the socio-cultural bonds between Dutch-speaking Flanders and Germany. This was to be done by promoting regionalist architecture from the seventeenth and eighteenth centuries, when German and Brabantian cultures were most closely related. At the same time, the German occupier tried to purge itself of the barbarian

[91] Cappronnier and Delorme, 'La reconstruction des fermes'.

image achieved during the destructive campaign through Belgium.[92] Economic motives played a part as well: German construction companies were contracted to rebuild roads and buildings.[93] Cortjaens examines how German architects were quick to promote their regionalist visions of town planning. Their concern for traditional architecture has to be linked with the then current *Heimatschutz*, the preservation of historic landscapes. However, very few reconstruction plans were eventually realized. The ever-changing situation on the front, logistic and administrative difficulties, and a lack of financial means all had a negative impact on the German initiatives.[94]

When the war ended in November 1918, almost all the damaged or destroyed dwellings in Belgium had still to be rebuilt. Regionalism soon became the quasi-official ideology of reconstruction. Meganck, Van Santvoort and De Maeyer consider the versatility of the regionalist concept to grasp its predominance during the post-war years.[95] First of all, it ensured continuity within a modernizing and rapidly changing society. Meganck deepens our understanding of how architects conceived regionalism as a way to strengthen the nation's identity. Using a regional form of language for patriotic purposes was not regarded paradoxical, since it was generally agreed among architects that regional climate, soil and mentalities had to be respected. At the same time, architects employed regionalism as a tool to subtly introduce modern standards of hygiene and economics and as a starting point to deal with the aesthetics of rural buildings as an object of study in itself.[96] This confirms regionalism's strategic role in toning down modernity to acceptable levels. The rebuilding of a Belgian village, Zonnebeke near Ypres, gives us an example of how modernist reconstruction projects were confronted by resistance. The Belgian architect Huib Hoste was appointed to rebuild this village, but his ambitious plans were progressively diluted by the municipal council, the local priest and the inhabitants, and the modernist appearance of the village's public buildings was reduced to 'acceptable' levels. For them, Hoste's designs were just too different from the pre-war appearance of the village.[97] Other architects, such as Raphaël Verwilghen, Jules Coomans, and Jozef Viérin, subscribed to ideas of regionalist rebuilding. In Zemst, a village north of Brussels, a regionalist architectural style was not objected to by the actors involved. The *Oeuvre Suisse Belge*, which supplied practical and financial aid, rebuilt a couple of farmsteads in picturesque style. Various pressure groups tried to gain influence through participation in the post-war reconstruction activities. But most farmsteads were rebuilt by the farmers themselves, within the framework

[92] A good introduction to this topic is L. Zuckerman, *The rape of Belgium: the untold story of World War I* (2004).

[93] J. Van den Mooter, 'German reconstruction in Belgium during World War I. A regionalist experiment', in L. Meganck, L. Van Santvoort and J. De Maeyer (eds), *Regionalism and modernity. Architecture in Western Europe, 1914–1940* (2013), pp. 55–6 and 60–3.

[94] W. Cortjaens, '"The German way of making better cities". German reconstruction plans for Belgium during the First World War', in N. Bullock, L. Verpoest and L. Vints (eds), *Living with history 1914–1964: rebuilding Europe after the First and Second World War and the role of heritage preservation* (2011), pp. 49 and 55–6.

[95] L. Meganck, L. Van Santvoort, and J. De Maeyer, 'Introduction', in Meganck *et al.* (eds), *Regionalism and modernity*, pp. 7–13.

[96] L. Meganck, 'Patriotism, genius loci, authentic buildings and imitation farmsteads. Regionalism in interwar Belgium', in Meganck *et al.* (eds), *Regionalism and modernity*, pp. 73–5.

[97] P. Jaspers, 'Huib Hoste and the reconstruction of Zonnebeke, 1919–1924', in Bullock *et al.* (eds), *Living with history,* pp. 218–29.

established by the government.[98] This was generally seen as the best solution to balance the individual right to reconstruct private properties with the principle of national solidarity.

The rebuilding of dwellings and farmsteads in France started in 1917, when the German Army retreated to the Hindenburg Line and left 1223 villages in Allied hands. Professional planners and architects gradually institutionalized their influence in official state services such as the Interministerial Reconstruction Committee (Comité Interministériel pour la Reconstruction). Most architects preferred a reconstruction that was engrafted onto the pre-war built environment of the villages. Standardization and foreign influences had to be avoided whatever the cost.[99] However, recent publications on the regionalist debate have unanimously revised the modernist discourse on regionalism as retrograde architecture. Regionalist architects indeed acknowledged the importance of modern building materials such as concrete, and adopted contemporary functional or hygienic standards. New building techniques changed the traditional rural architecture profoundly and contributed to the uniformity of the rural landscape. Voldman explains the ambiguity of regionalism as the wish to forget the war without ignoring the post-war *force de vie*.[100] But why did different actors identify themselves with regionalism? According to Mihail, architects strategically set themselves up as defenders of both tradition and technical innovation. He even goes further to argue that most reconstruction projects after 1918 were utilitarian in nature. This variant of regionalism, which he labels 'traditionalism', was not so much preoccupied with a thorough reconstruction of past architecture; form was secondary to technical and economic imperatives. For Mihail, traditionalist architecture was an integral part of a reconstruction process that served the ideological and economic interests of the mainly conservative elite of the Nord department. The recovery of the landscape had to both lessen the attraction of the (industrialized) cities and restore the pre-war social order.[101] Furthermore, regionalist reconstruction was seen as the reaffirmation of a French national identity. Doucet states that, in Lorraine, the architectural diversity that drew on the pre-war vistas of towns reinforced regional identity. Buildings erected in Gothic and Romanesque style looked back to Lorraine's golden ages. This was also the case in French Flanders.[102] But regionalist building plans did not find favour with the returning *sinistrés*. As in Belgium, farms and houses were for the most part reconstructed by private owners themselves. The local Northern French population had its own priorities; a quick recovery was preferred over stylistic fidelity. This, in combination with post-war inflation, meant that architects had to give up at least a part of their ideals.[103] To what degree regionalist guidelines actually influenced the rebuilding of farmsteads is still an open question.[104]

[98] L. Van Santvoort, 'Wederopbouwarchitectuur in de fusiegemeente Zemst', *M&L. Monumenten, Landschappen en Archeologie* 33 (2014), pp. 6–29.

[99] Cappronnier, 'Penser la reconstruction', pp. 50 and 60.

[100] D. Voldman, 'La France d'un modèle de reconstruction à l'autre, 1918–1945', in P. Jaspers, 'Huib Hoste and the reconstruction of Zonnebeke, 1919–1924', in Bullock *et al.* (eds), *Living with history,* p. 69.

[101] B. Mihaïl, 'Les ambiguïtés du régionalisme architectural après la Grande Guerre. L'exemple de la Flandre française', in Bullock *et al.* (eds), *Living with history,* pp. 104–25.

[102] J. C. Vigato, 'Between progress and tradition. The regionalist debate in France'; H. Doucet, 'Searching for a new image. An idealized regionalism in Lorraine', both in Meganick *et al.* (eds), *Regionalism and modernity*, pp. 36–7, 40–7; Mihaïl, 'Les Ambiguïtés'.

[103] Cappronnier, 'Penser la reconstruction'.

[104] This question was first posed by J. Cornilly, 'Een streekeigen hoeve', *In de Steigers,* 14 (2007), p. 86.

IV

If historiographical trends are cyclical in nature, then research on various aspects of the First World War has witnessed a boom over the last couple of decades. Studies regarding the war's impact on agriculture have multiplied, and so too have publications on the post-war recovery of the countryside in Belgium and France. Embedded within the historiography of (modern) rural and agricultural history, studies on the post-war reconstruction of the countryside mainly tell a story of continuity. Except for the first couple of years after the Armistice, when the Belgian and French governments helped to recover land and granted premiums and goods to bring the devastated regions back into cultivation, state intervention was in essence limited to the distribution of war compensation. The rural economy remained based on small- and medium-scale farms, since radical transformations of the landscape were the exception rather than the rule. The disappearance of hedgerows nevertheless facilitated the introduction of agricultural machines. The rebuilding of farmsteads has predominantly been approached as an example of 'integrated modernity', combining a traditional architectural style with subtle innovations such as the physical separation of houses and stables.[105] Indeed, the existing literature has suggested that the post-war recovery of the countryside built on long-term agricultural changes and did not represent a radical shift towards modernization.

However, it has to be stressed that few works have placed the post-war recovery of the countryside in a larger rural and agricultural context. The first publications on post-war reconstruction took a rather general stance and focused on government policies. This top-down perspective was soon abandoned. Making use of law texts, parliamentary documents, local archives and journals, (social) historians pointed at the *tension* between the national governments and local *sinistrés* as the driving force for post-war reconstruction. While Belgian and French policy makers were mainly concerned with the financial and organizational aspects and (to a lesser extent) town planning, inhabitants of the devastated regions sought a quick return to pre-war normality. Reconstructed landscapes and farmsteads were seen as products of these concerns. With new historical sources becoming available, successive authors have revised this binary opposition by drawing other actors into the picture, such as cooperatives, pressure groups, and local authorities. To highlight their impact on the landscape, research has mostly been undertaken on a regional or local scale. Simultaneously, the regionalist architectural style employed when rebuilding most farmsteads was being interpreted as the means to tone down modernity to acceptable levels. The rise of cultural explanatory models also affected the study of social actors and rural landscapes, as research on the mentalities of *sinistrés* and the meanings of reconstructed landscapes have continued to gain popularity.

While the focus on mentalities and particular interests has certainly contributed to our understanding of the post-war reconstruction in Belgium and France, we have to be aware of the pitfall of ignoring the socio-economic developments that influenced this process. A varying population density, post-war inflation, the scarcity of building materials and a dysfunctional transport network all had their influence and need more attention. This is also

[105] I borrow this concept from A. Bergmans *et al.*, 'Inleiding: Een pleidooi voor goede manieren', in A. Bergmans *et al.* (eds), *Neostijlen in de negentiende eeuw. Zorg geboden?* (2002), pp. 7–9.

true for the social, economic and geographic aspects of the reconstruction processes. In the case of Belgium, no publication yet exists that outlines the course of this enormous financial, organizational and practical endeavour. The return of local inhabitants and their experience of the ruined landscapes, the contribution of international organizations, the (planned but rarely implemented) land rationalization, or the financial costs of this whole effort have all been virtually unstudied. The reconstruction of fields and farmsteads deserves more thorough research as well.

Our knowledge of the topic can indeed be broadened by filling in these historiographical lacunae. At the same time, our understanding of the research domain should be deepened by chronologically and geographically reframing it. This will benefit explanatory research methods and will make it easier to evaluate the importance of the reconstruction processes for the post-war countryside and agriculture. As for the chronological boundaries, the majority of publications have started at the end of the war and concluded somewhere around 1930, when most of the reconstruction work had been done. Preparations nevertheless started from 1915 onwards, after policy makers, architects and others had witnessed the destructive power of industrial warfare. From a methodological point of view, a long-term perspective allows to really evaluate to what extent the post-war reconstruction was a rupture with regard to land-use change and the modernization of farms and landscape structures. The geographical framework has often been restricted to the local or regional level for heuristic reasons. Some writers have analysed the activities of social actors through a national lens but studies of the post-war reconstruction of rural landscapes would certainly profit from a transnational perspective. As the course of events ran strikingly similar in Belgium and France, mutual relations and networks of cooperation must have existed.

A deeper understanding of the reconstruction of the landscape of the Western Front should also lead us to shift our attention to other theatres of war, in Eastern Europe and elsewhere. Moreover, a transnational approach will help to discover acts of reconstruction within national boundaries. Were partially destroyed lands, situated behind the frontline, reconstructed in the same manner as the front zone itself? How can divergences between local reconstruction practices be explained? The centennial anniversary of the Armistice will hopefully give impetus to research that answers some of these questions.

Annual list of publications on Agrarian History, 2015*

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JOURNAL AND BOOK ARTICLES

AGNEW, CRISPIN, 'Crofting: a clean slate', *Northern Scotland,* 6, pp. 84–97.

AGNEW, GEORGE, BETTLEY, JAMES and MARTIN, EDWARD, 'The Rougham Estate and Rougham Hall', *Proc. Suffolk Institute Archaeol. and Hist.*, 43, pp. 412–27.

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ALLEN, ROBERT C., 'The high wage economy and the industrial revolution: a restatement', *EcHR,* 68, pp. 1–22.

ALLISON, JULIA, 'Maternal mortality in six East Anglian parishes, 1539–1619', *Local Population Studies,* 94, pp. 11–27.

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Book Reviews

Britain and Ireland

ERIC JONES and PATRICK DILLON, *Middle Ridgeway and its environment* (Wessex Books, 2016). 144pp., 20 illus. £16.95

The introduction to *Middle Ridgeway and its environment* asks how the interaction between changing patterns of land use and ecology has shaped southern England. The authors elect to answer this question by using one small area – just a 'short stretch of the Middle Ridgeway' (p. 125) as an 'open-air laboratory' (p. 10) – to highlight important factors in the environmental evolution of the whole region. That they chose to minutely focus on a locality with which both authors – and the illustrator – have strong connections is an asset rather than a liability. That the Middle Ridgeway area is well-documented archaeologically and historically is also in its favour, although as well as using it as a microcosm of the wider region, the authors use sources from other parts of the whole, such as Gilbert White in Selborne, to shed light on some of the darker corners of their chosen locale. Sources closer to home include the various members of the Cornish family, Richard Jeffries, John Orr and J. B. Spearing, as well as antiquarians, farm accounts, trade directories, local newspapers, and oral testimony collected over the past 50 or 60 years, which can take us back to the last decades of the nineteenth century.

Readers of the *Review* have varied interests, and the eight chapters of this short book contain something for everyone. First the authors set the scene. It is not about the Ridgeway as a route, nor is it a 'walking' book, although it has already made one of this reviewer's walks a great deal more interesting. It is, rather, a 'descriptive study' (p. 10) of the still somewhat remote 'ecological island' (p. 15) through which the Ridgeway passes, between Avebury and Streatley; even within this, the environs of Ashbury are more often than not in the foreground.

Chapter Two on 'Prehistory and early history' describes the rich archaeological landscape of this area with its many Neolithic long barrows along the chalk escarpment followed by the Ridgeway, the 'path of "least cost" travelling east-west along the downs' (p. 30), although not necessarily a long-distance highway in this period. The authors also evoke the bio-landscape – 'teeming and resonating with wildlife' (p. 32) and the development of a mixed pastoral and agrarian economy through this period.

In Chapter Three, 'The London market', we embark upon the first of the 'themed' chapters. The pull of the capital ('like tugging a great bag into a new shape', p. 47) consolidated the Ridgeway as a trans-regional routeway, requiring energy to be spent on climbing up to it but remaining dry underfoot. Grain wagons appeared in the seventeenth century, only to be eclipsed by the Kennet and Avon Canal in the eighteenth, but sheep – thousands of them, followed, in a dry year, by a pall of dust – continued to be driven along it into the twentieth century, until the introduction of lorries. Strangely, there is only one pub on the Ridgeway itself: the Shepherd's Rest near Wanborough, though apparently Welsh drovers who returned by sea left their dogs to return overland, where they were 'fed at the pubs their owners had visited on the inward journey' (p. 40).

The chapter on 'Ploughland and grassland' forms a beautiful case study of the interplay between geography (soil type and slope), price fluctuations, and technological developments. Rather than the traditional phases of agriculture (open-field, enclosure, intensive), Jones and Dillon identify an alternative chronology: eighteenth-century sheep ranching; buoyant mixed farming during periods such as the Napoleonic Wars and the 'Golden Age of High Farming', alternating with periods of 'tumbledown' during which the ploughed turf never properly recovered; and a long agricultural depression lasting until the ploughing campaigns of the Second World War signalled the beginning of a long period of predominantly arable farming. The fortunes of agriculture are mirrored in the fortunes of the rabbit population (medieval warrens, with pillow-mounds still to be seen; population stability when rabbits were in competition with sheep: near the end of the eighteenth century, 24,000 rabbits a year could still be killed at Aldborough; decline and then, due

to the availability of crops, a population explosion; myxomatosis and with it the complete collapse of a whole ecosystem).

The succeeding chapter looks at the area through the prism of land ownership rather than land use, though the two are inextricably linked. From the time of the Roman villa onwards, land holdings have included both vale and downland, giving each farm a share of clay and chalk. Here the authors argue that the received chronology (individually owned strips farmed in common, followed by enclosed fields restricting ownership to the few) is still 'revealing' (p. 81). They speculate that enclosure had 'profound' impact on wildlife habitats, using as a baseline Roque's map – which this reviewer knows, from looking at South Berkshire, is one of the better-quality eighteenth-century maps. The social consequences of enclosure are also explored. In contrast to the enclosed landscape there are also the country estates, particularly those of the Earl of Craven, Ashdown Park – 'for long a sea of grass only intermittently assailed by the plough' (p. 90); and Lord Wantage at Ardington.

This leads us into the fourth 'theme', that of Chapter Six, 'Countryside sports'. This catalogues the human-on-animal blood sports that have been pursued down the ages, and also human-on-human contests such as 'single stick or back-swording combat' and shin kicking. The authors also describe the Scouring of the White Horse, a festival reported in the *Reading Mercury* as attended by 30,000 in 1780. Preservation of game for sport often has the side effect of conserving habitats for wildlife, and 'The wildlife legacy', as Chapter Seven is titled, looks at the effect the changing patterns of land use have had on the flora and fauna, mostly of the avian variety. Again, the authors have chosen to explore a wider issue through a 'microcosm', on the grounds of 'personal familiarity and quality of historical record' (p. 107). From the 1840s onwards there are a surprising number of ornithological sources for the area, from which they draw the conclusion that though every change in land use and ownership has resulted in species losing their habitats, other species have been able to move in: 'nothing is static' (p. 123). Sadly though, increasing diversity in land use has not been reflected in wildlife species and, as the concluding chapter emphasizes, this remote little corner of southern England is still under pressure from recreational as well as farming activity.

An idiosyncratic aspect of this book is its illustrations. Paintings by the daughter of one of the authors have been used to illustrate the landscape. They are bold, modernist and colourful, showing perhaps the influence of Fauvism and definitely of Spencer Gore (both having painted 'The Icknield Way'). The stylization almost literally throws the landscape into sharp relief, but – apart from the fields of oil-seed rape, the colours are too vibrant to evoke the subtlety of this landscape. One hankers for some contemporary photographs to illustrate the countryside of the past two centuries – apparently there are some very early photographs of the Ashbury estate from about 1850 (p. 45) – or perhaps one or two works by William Affleck or James Seymour, both of whom are mentioned in the text. Anna Dillon's paintings are attractive but do little to support the text and perhaps make the book look less serious than it is. Despite a useful list of further reading there are neither footnotes nor index and, irritatingly, the running headings do not indicate which chapter you are in – so the book is not as well-signposted as the Ridgeway itself. Nevertheless *Middle Ridgeway* makes a thought-provoking and engaging book for anyone interested in the history of landscape and particularly those – like this reviewer – who like to understand the countryside through which they go walking.

CATHERINE GLOVER
Spencers Wood

C. M. WOOLGAR, *The culture of food in England, 1200–1500* (Yale, 2016). xii + 341 pp., 32 illus. £30.

This is another enticing and inspirational book by Christopher Woolgar. The chapter titles alone are enough to draw us in: Food Cultures; Cooking in the Countryside; the Culture of Drink and Drinking; Bread, Meat and Dairy Foods; Sauces and Spices, Sugars and Preserves; Gardens, Wild Food, Fish and Hunting; Civic Food Culture and the Guilds; Foodways and Monastic Institutions; the Elite Table; Cooks and Kitchens, Dietetics and Food; Hunger and Famine; Food and Popular Mentalities.

Drawing upon a wide range of sources and focusing in turn upon various aspects of food and drink, we are led into a garden of delights – and one where we regularly encounter rich and poor, young and old, women and men. Each of the 12 studies is given greater depth by the different sources upon which Woolgar draws. The introductory section uses the widest range of sources together with references to the works of others. In sharp contrast, the single most significant source for 'Cooking in the Countryside' is the coroners' rolls. These are balanced by an appropriate (and more cheerful) leavening from other sources, which serve to give a vivid depiction of family life. By integrating his work into a series of wider views and detailed discussions, Woolgar holds our interest and leads us up hill and down dale.

The chapter on 'Bread, Meat and Dairy Foods' allows a discussion of the changes in butchery practices that emerged after the Black Death. These included the role of women in preparing offal for sale together with their involvement in providing street food. Here we read about a case found within the records of Durham Cathedral Priory, where a series of women (at least some of whom were linked to the men employed in the kitchens there) apparently ran a business based upon the conversion of offal and entrails from the Priory kitchen into food for sale. This scenario is intriguing and must lead to the possibility that such economic activity by women was widespread and suggests that we should be actively seeking the evidence. (Equally intriguing is the employment of men within religious establishments for women where – on the face of it – their presence also seems inappropriate.) The role of servants is explored further in the next chapter, which gives a broader discussion of kitchen equipment, cooking techniques and the changes in both techniques and styles of food preparation that developed during the fifteenth century in both religious and elite contexts. Of particular interest is the extended discussion of the household of George, Duke of Clarence (the younger brother of Edward IV) whose legendary end in a butt of Malmsey still resonates.

The penultimate chapter discusses the major subsistence crises of the wider fourteenth century and considers the background levels of hunger against which such events as the Great Famine of 1315–18 must be set. The varied responses to individual pleas for help and the decisions made by the authorities in considering how to address the wider problems are not necessarily different to those currently faced. It would seem that a willingness to demonize the poor and suggest that they are the authors of their own downfall is not a modern phenomenon – but who thought it was?

The final chapter, although short, covers some very important aspects and points towards areas of research which should repay the effort of further investigation. Not least in significance is Woolgar's comment that 'There is much more to be learned about cooks and cooking, and we cannot now do so without understanding the importance of women in this process' (p. 236) – cry hallelujah and amen.

JENNIFER S. HOLT
Rossendale

SIMON TOWNLEY (ed.), *The Victoria County History of the counties of England. A History of the County of Oxfordshire, XVIII, Benson, Ewelme and the Chilterns (Ewelme Hundred)* (Boydell and Brewer for the Institute of Historical Research, 2016). xv + 483 pp., 120 illus., 16 plates, 118 maps and plans, 3 tables. £95.

There is a reassuring solidity to volumes of the Victoria County History. These tall books with their distinctive red covers stand in contrast to online sources such as Wikipedia. I must quickly add that I have contributed to Wikipedia and acknowledge its virtues but it eschews original research and primary records, drawing instead on already-published material. This volume in contrast is firmly grounded on records from the past, as a perusal of the extensive footnotes to each page will verify. The volume covers the Oxfordshire Hundred of Ewelme. At first glance not a particularly exciting area: 14 rural parishes, the only population centre, Benson, an overgrown village. But the economic and social history of the area is fascinating.

Ewelme Hundred has both 'open' and 'closed' communities – determined in the main by historical land ownership – and this volume brings out the contrast between these social structures. A prime instance of how a long-standing pattern of land tenure can influence the social and economic structure of an area is provided in the chapter on Benson. It was a royal demesne in Anglo-Saxon times and, although Wallingford became dominant as a royal *burgh*, Benson's royal status is reflected in the number of free 'sokemen' holding land there. The relative freedom of many landholders was reflected in a lively land market. The Crown sold Benson manor in 1628 and Benson had an increasingly fragmented land ownership, absentee landlords and weak manorial structure so that by the 1840s the manor had over 100 landholders, mostly occupying smallholdings. Relative freedom helped Benson to develop as a service area on a main coaching route to London; inns were established, as well as coach building, shops, and other such services, staffed by a wage-earning class who in turn fuelled demand for shops from which to buy goods and public houses for recreation. By the nineteenth century the area had a reputation for independence and at times the inhabitants became unruly. A curate in 1832 complained that the population was 'principally of the lower class … whose morals are not bettered by the existence of fourteen beer shops and public houses' (p. 54) and a weak magistracy. Benson men were participants in the Swing Riots in 1832 and later in the century there was some agricultural trade union activity. A friendly society, founded in 1830, held annual feasts, which were

sometimes rowdy events, leading to police intervention and enforced closure in 1892. Religious dissent, another feature of 'open' villages, was 'rife' in the nineteenth century and a Dissenting school was set up in opposition to the Anglican one. There were Quakers, Baptists, Calvinists, Congregationalists and Methodists active in the parish at various times. So, the general character of the village in the nineteenth century was largely determined by the way land had been controlled there since before the Norman Conquest.

The maps in this volume are very good: parishes are illustrated with maps and there are others showing particular areas, such as that of the brick and pottery workings at Nettlebed. The parish maps illustrate some of the complexities of rural life in the past. Take, for instance, Fig. 4, which shows Benson, Berrick Salome and Ewelme parishes in *c.*1800, with their common lands, open fields and early enclosures. The map helps to explain the landscape, which – prior to enclosure in 1863 – 'was dominated by vast open fields' (p. 42) shared by the three communities. Greatest in extent *c.*1300, the fields in 1863 totalled some 1950 acres and were subdivided into 16 fields of widely varying sizes. Farmers from all three communities often held arable strips in each of the fields, which were – in theory – worked in a three-year rotation. Two hundred and twenty acres of common were also shared between the settlements – some open to all three, some to specific villages, and additionally some farms had specific rights in certain commons. Inhabitants also had varying rights over woodland and meadowland (dry and wet). Luck has given us a particularly good map of pre-enclosure Oxfordshire (Richard Davies's *A New Map of Oxfordshire* of 1797) and the four sheets covering Ewelme Hundred have been reproduced (fig. 2). This map includes field boundaries and woods and clearly depicts the contrasting landscape of the vale areas with their significant areas of 'nothing' – open fields with no hedges in them – with that of small irregular fields assarted from the Chiltern woodlands.

The map of Nettlebed parish in 1840 (Fig. 75) depicts a Chiltern parish looking very different from that of Benson – here the irregularly shaped arable fields are all enclosed and there are tracts of woodland and common north of the village. A hilly, wooded parish, the agriculture was long a mixture of cereal production, sheep and other animals, and wood products. Favourable clay and sand, together with wood for fuel led to the development of an important brick, tile, and pottery industry, and the common became pockmarked with old pits. Nettlebed village was on a main road to London so, like Benson, it developed an economy of coaching inns, brewing and shops.

As is usual with recent volumes of the VCH, this volume is well illustrated. The coloured plates include two pictures of imposing coaching inns. Ewelme almshouses and the beautifully painted interior of the church there and at Chalgrove were obvious candidates for coloured photographs. Maybe a couple more coloured plates of vernacular buildings would have been appropriate although there are some in black-and-white throughout the book. One is struck by the number of black-and-white pictures of 'former' buildings – inns, rectories, turnpike houses, farmyards, barns and the like, indicating the changing nature of society and economic history in this part of Oxfordshire, an area at one time with a high proportion of poor people and now one where houses are not infrequently priced in millions.

As well as notes on sources – particularly useful in the case of material housed in various archives – there is a glossary of unusual words, mostly those concerning property rights, religious activity and obsolete forms of taxation. This volume is a significant addition to the history of Ewelme Hundred and a useful addition to the history of England.

MALCOLM THICK
Harwell

MARK NEWMAN, *The wonder of the North. Fountains Abbey and Studley Royal* (Boydell Press for the National Trust, 2015). 406 pp., 196 colour illus., 52 b&w illus., 15 line drawings. £35.

The wonder of the North offers a landscape history of the famous North Yorkshire property, today a World Heritage Site, owned and managed by the National Trust. Written by Mark Newman, archaeologist at the property since the 1980s, the book is far more than just an account of the making of the famous eighteenth-century gardens laid out by the Aislabie family. Instead, it offers a minutely researched landscape history of several distinct sites including the Studley Royal gardens, Fountains Abbey ruins, Fountains Hall, Swanley and Morker granges, and the minor medieval pilgrimage site at How Hill. Each has a distinct ownership and management history. That the book manages to weave together their diverse stories over more than 1000 years is a considerable achievement.

The first chapter offers brief summaries of the Neolithic, Bronze Age and Romano-British finds across the site, along with a discussion of pre-Conquest occupation of the area based primarily on place names evidence but little in the way of finds. Newman paints an evocative picture of a marginal landscape relatively under-settled, a situation which 'presented the opportunity – the space – for the remarkable and ultimately unique creations that would be forged here'

(p. 9), even whilst acknowledging that the abbey's early chroniclers may have exaggerated the extent to which the landscape was empty. Yet any attempt on his part to (re)people the pre-Conquest landscape is rather undone by the lack of archaeological evidence so far discovered at the site.

Where we are on surer ground is from 1132, with the foundation of Fountains Abbey by a group of dissident monks from the Benedictine abbeys at York and Whitby. There follows a history of the abbey which outlines key stages in the development of the buildings within the abbey precinct, as well as changes within the Skell valley where the arable fields and grazing lands of nearby Studlei Magna, woodlands belonging to the archbishop of York and the abbey's granges all lay cheek-by-jowl. Chapter 3 discusses the end of the abbey community and changes to ownership in the post dissolution period along with the impact of Civil War, while Chapter 4 examines the early history of the Aislabie family who acquired the Studley Royal property through marriage in 1663.

Chapter 5 outlines the programme of land acquisitions and early work on the Studley gardens undertaken by John Aislabie (d. 1742) – the disgraced Chancellor of the Exchequer implicated in the South Sea Bubble, who spent his retirement beautifying Studley – while chapters 6 through 8 explore his son William's improvements. Together John and William Aislabie produced one of the most famous landscape gardens of the Georgian era which became a regular stopping point on picturesque tours of the North, including that by John Tracy Atkyns of 1732 who referred to Studley as the 'Wonder of the North' (p. xi) and gifted Newman his title. William Aislabie died in 1781, leaving his eldest daughter Elizabeth Allanson to inherit the property. She was succeeded by her niece Elizabeth Sophia Lawrence in 1808 and between them the two women held the property for more than six decades, though we know less about their management of the estate than their predecessors', in part due to a lack of documentation, but also because Allanson, at least, was mostly resident elsewhere.

The final three chapters of the book examine the later nineteenth and twentieth century history of the site, including the loss of Studley Royal House to a fire in 1946 and the National Trust's purchase of the estate in 1983. There follows a useful bibliography of archival and printed sources and archaeological reports used in the research project, the long list undoubtedly testament to the huge amount of work over many years that has gone into this impressive volume.

The book is beautifully illustrated with a combination of colour and black-and-white plates, which include portraits, landscape sketches, prospects, woodcuts, plans and maps, and copies of original documents. Personal favourites are the stunning portraits of the abbey's first post-Dissolution owner, Sir Thomas Gresham, and his wife, Anne Fernely, by the Dutch painter Anthonis Mor (Figs 31 and 32). We also benefit from the inclusion of a series of excellent GIS maps, which help orientate the reader and precisely document the various phases of landscape change within the valley.

As for gripes, all of them minor: the book might have benefited from the advice of a geologist and geomorphologist on the sections on topography and hydrology in the opening chapter, and its strictly chronological treatment of its subject matter is occasionally confusing, moving rapidly between the two main properties now in the National Trust's care. But, overall, *The wonder of the North* is a beautifully produced and hugely absorbing read. Moreover, it ably demonstrates the potential of 'deep time', longue durée approaches – especially those so skilfully integrating archaeological evidence; standing buildings survey; place names; and documentary, visual and cartographic sources – to produce truly excellent landscape history. W. G. Hoskins would, I think, be impressed!

BRIONY MCDONAGH
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RICHARD JONES and CHRISTOPHER DYER (eds), *Farmers, consumers, innovators. The world of Joan Thirsk* (Explorations in Local and Regional History 8; University of Hertfordshire Press, 2016). 192 pp. £16.99.

This attractive, well-produced volume came out of a conference to celebrate the life of Joan Thirsk (1922–2013). It features contributions by those who knew Professor Thirsk well, together with papers by newer students of some of the subjects she held most dear. The chapters are short but often of some interest, and the book will be read with enjoyment by agricultural and economic historians alike.

After a short piece by Christopher Dyer, arguing that the most crucial stage in Thirsk's development was her time at Leicester, the volume moves on to a short round-table discussion on sub-regions. The late David Hey argues for the importance and longevity of the 'country', a cultural region which he detects through the spread of surnames, especially in the 1881 census. He suggests, perhaps controversially, that people had little conception of the world outside their 'country', unless they had been to London. John Broad gently critiques Thirsk's work on agrarian *pays*, by pointing out that they underplay the role of towns, especially London. He

suggests that we should pay more attention to 'layering', with small farmers perhaps more ingrained in their *pays*, while larger, more market-oriented producers were more open to wider influences. John Chartres likewise emphasizes the role of trade and markets, facilitated by middlemen and towns, with the role of the *pays* declining as markets became more integrated.

Following from this, a section on 'Farmers and Fields' discusses an area perhaps most closely associated with Thirsk's work. Tom Williamson offers a really useful discussion of Thirsk's important work on the origin of the medieval open-field system. Though it has not been unchallenged, her theory that common fields originated out of population growth post-Conquest has aged very well. In some areas, open fields evidently date from earlier, but much recent archaeological research suggests that Thirsk's model and chronology is broadly correct. Where she appears to have been mistaken, though, is in the geographical spread of common fields, which does not seem to have correlated with population levels. James Bowen, considering his own detailed research on early modern Shropshire agriculture, goes back to the issue of the *pays*, although he rather sits on the fence as to the usefulness of the concept. On the one hand, he finds, each individual manor or parish was unique, while there were social distinctions in farming practice within each community. On the other, the larger region is a useful way of allowing historians to make sense of rural complexity. Finally Nicola White, in a thought-provoking paper which focuses on Norfolk, wonders whether historians have been too keen (explicitly or implicitly) to associate enclosure with modernity, when it could be just as customary as commoning. Indeed, both enclosed and non-enclosed land could be subject to common rights of some sort, most notably (in Norfolk), the 'foldcourse'. She ponders whether feminist scholarship on the growth of privacy might provide insights into the history of enclosure. This is a promising line of enquiry, not least because both boundaries and enclosure could be supported by a discourse of neighbourliness: good fences, of course, were supposed to make good neighbours.

A third section tackles innovation. Craig Muldrew delicately questions Thirsk's famous thesis that industry was located in pastoral areas because farmers' families there had more free time for wage labour, pointing out that industry generally needed to settle in areas where fulling mills were viable, and this meant hilly countryside with fast-flowing waterways. These, of course, were often also pastoral areas. He also suggests that the growth in textile production in the first half of the sixteenth century made a major contribution to household incomes, and thus was an important spur to a growth in consumption. John Stobart, meanwhile, in a particularly fascinating contribution, offers insights from a study of rural shops in Cheshire. These became more common in the period 1660–1760, offering an 'Aladdin's cave' of consumer items. Their keepers, partly evidenced by whom they chose to execute their wills, had unusually strong links to local towns, suggesting that shops occupied a liminal space between town and country.

In a final section on 'Consumers', Susan North describes the bewildering variety of fashionable clothing and accessories in England from 1552 to 1665, Mark Dawson explores the oat-eating world of the Peak Country, while Richard Hoyle offers an analysis of the consumption behaviour of a Lancastrian farmer-minister, Peter Walkden. Each article shows different aspects of a developing consumer world, with North highlighting diversity and vibrancy in the clothing trade, Dawson pointing to important (and still relatively understudied) regional variation in diet, and Hoyle showing an early eighteenth-century farmer whose own participation in the new world of consumer goods was largely restricted to tobacco. In the latter case, though, a fascinating gender dimension is added, for, as Hoyle argues, it seems that Walkden's wife Catherine was the one who was making the key decisions between leisure and production on which Jan De Vries' industrious revolution hypothesis was based.

It is, of course, impossible to do justice to Joan Thirsk's work in one conference and in one volume. Nonetheless, the contributions here will be of great interest to those working in agrarian and economic history. Many of the most interesting papers describe fresh research, and even if they tend to be short and quite specific, these at least give fascinating pointers towards bigger projects.

JONATHAN HEALEY
University of Oxford

DAVID NEAVE, SUSAN NEAVE, CATHERINE FERGUSON and ELIZABETH PARKINSON (eds), *Yorkshire East Riding Hearth Tax, 1672–3* (British Record Society, Vol. 131, 2015). 600 pp., 28 illus., 14 maps. £30.

The book forms part of the Hearth Tax Series, which intends to produce county volumes of Hearth Tax records. Since Yorkshire is such an expansive county, this volume focuses only on the East Riding, with the West Riding already having been published and a further volume planned for the North Riding. This book not only provides a detailed analysis of Hearth Tax records for the East Riding of Yorkshire (dating

to 1662 and 1663), but also contributes towards a wider landscape and architectural history of the East Riding. As such, it will be useful for local historians, students and academics alike, who are interested in undertaking research on various aspects of the East Riding of Yorkshire's early modern history.

The volume offers an interesting and accessible introduction to the Hearth Tax, including for those with a limited knowledge on the subject. The structure, I found, was refreshing. It begins with a comprehensive preface written by Catherine Ferguson, General Editor of the British Record Society Hearth Tax Series, which introduces the series and provides adequate justification for the extensive study of such documents. Next, Elizabeth Parkinson's chapter on Hearth Tax administration offers detailed insights into how the collection of the returns were undertaken in the East Riding, examining different aspects of its administration including: the criteria for exemption from paying the Hearth Tax; how the tax was managed and collected at varying points between the tax's introduction and abolition; the economic revenue that tax contributed to the East Riding; and also includes a section informing the reader how to access and understand the related documents.

The second and third chapters, written by David and Susan Neave, will be particularly useful to those studying the local history of the East Riding of Yorkshire. The authors introduced the history, topography, population, economy and architecture of the area, while simultaneously delving into how these specifically relate to the returns of 1662. Additionally, this background history will be especially valuable for those studying the wider implications of the Hearth Tax, who may know little about the East Riding of Yorkshire itself.

The remaining sections of the provide a review and assessment of the East Riding returns, a transcription, and statistical analyses of the data collected from the documents. These three sections constitute the main bulk of the volume and may upon initial observation seem daunting. Yet the maps at the end of the second chapter provide an excellent visual resource, displaying not only topography, wapentake and township boundaries but also the distribution and concentration of households, hearths, exemptions and hearths per household in each of the townships. My only thought is that more of this material might have been desirable: pie charts, percentage data and other numerical or graphical representations might have allowed readers to digest what the data as a whole suggests about number of hearths per household before delving into the realms of individual wapentakes and townships. But this is a minor quibble and, in general, the introduction to the data and the logical layout of the information from the returns resulted in a largely accessible presentation of a sizeable quantitative data set.

The summary maps show local variations within the East Riding. A particularly interesting finding represented in one of the maps is that only five of the townships – Howden town, Kingston upon Hull, Beverley town, Bridlington, and Hedon – had more than 144 hearths per 1000 acres. In David and Susan Neave's chapter relating to the East Riding houses and the Hearth Tax, a sub-section on fuel suggests that the reasons for the dominance of the single-hearth household in the East Riding may be explained by the lack of fuel available in the area. The townships which had more than 144 hearths per 1000 acres were among the most densely populated in the East Riding.

To conclude, this book can be considered a useful addition to the literature relating to the Hearth Tax. Not only does the volume make significant findings relating to the distribution of hearths across the East Riding, and in which circumstances households may be exempt from the tax, but it also provides a valuable resource for further research and use of the tables as a secondary data source.

HELEN MANNING
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AMY M. FROIDE, *Silent partners. Women as public investors during Britain's financial revolution, 1690–1750* (OUP, 2017). 240pp., 13 illus. £60.00.

Froide's colourful opening description of the hustle and bustle of eighteenth-century London beautifully illustrates the activities of the numerous female investors and the public places that they (and their male contemporaries) visited to conduct their business. In painting this picture, Froide also makes the important point that the activities and voices of these women are not (and have never been) silent, rather they have just not been listened to.

The author situates her work squarely in the revisionist historiographical camp, alongside other historians such as Pamela Sharp and Amy Erickson. She states that 'this book will provide some of the evidence to strengthen Erickson's assertion that English financial markets were open to female capital, especially femme soles' (p. 2) but crucially Froide's work expands upon this to demonstrate that married women were also able to act as independent investors. Moreover, whilst the majority of investors (measured numerically as well as by the amount of capital they controlled) were men, women represented up to 20 per cent of investors and there is an important story to be

told. Froide further extends the existing historiography on female investment in the eighteenth century by looking beyond the individual incidents of the 1690s or the South Sea Bubble, and instead examining female investment over two generations. This allows long-term patterns of behaviour to be examined and the activities of women from a wide variety of socio-economic backgrounds to be considered.

In *Silent partners,* Froide makes the timely argument that female investors did not act as a homogenous group who followed the same patterns of investment and displayed the same financial behaviours. This is an important point as it highlights the fact that simply acknowledging the existence of these women is not enough, historians must also take care to allow the different motivations, levels of interest and education of women to be expressed through the sources. To achieve this, Froide has examined three main groups of sources. The first is the records of the British government and the financial corporations themselves: these have been examined many times in the past but rarely with the purpose of extracting data about women's economic activities. Secondly, she analysed periodical literature of the time including newspapers, pamphlets and other contemporary commentary. Finally, family papers and archives were cross-referenced to uncover the personal papers, account books and correspondence of individual women who made financial investments and/or managed financial portfolios.

Silent partners is broken into eight chapters including the Introduction and Conclusion. Chapter Two, 'Playing the Lottery for Marriage and Profit' examines the late seventeenth- and eighteenth-century fashion for lotteries and the extent to which women participated in and encouraged the development of the industry. Froide then goes on to explore the way that fictional representations of single women using these lotteries to generate a marriage portion were reflected by reality. Although her initial findings that some 20 per cent of investors in lotteries were female is interesting in its own right, it is Froide's analysis of fiction and contemporary commentary that adds another layer of rich detail to our understanding of unmarried women, their prospects and society's perception of them.

Chapter Three, 'Early Adopters, Women Investors in the Early Years of the Financial Revolution', scrutinizes the very earliest female investors in public investments, paying particular attention to those women who were active investors from the 1690s, some 30 years before the more commonly examined female investors in the South Sea Company. Froide comments that the term 'early adopter' has been borrowed from entrepreneurship literature, and her use of it to describe the investment activities of women in 1690s London who 'quickly availed themselves of the new financial instruments made available by the Financial Revolution' (p. 61) seems apt given her later arguments that these investments were often just one of several financial strategies employed by women to secure the economic future of their family. Their ability to recognize the opportunity of the emerging financial markets points not just to an entrepreneurial acumen, but also a level of financial literacy that is difficult to quantify, or even pinpoint in archival material. Froide attempts to circumvent this through three case studies of Sarah Churchill the Duchess of Marlborough, Martha Hutchins and Elizabeth Freke. These case studies demonstrate how successful the careful combing of family papers and correspondence can be and although it is perhaps inevitable that these rich archives most often belong to elite women, the details within the Bank of England and public corporations presented elsewhere in this volume demonstrate that such activities were not solely their preserve.

Chapter Four, 'Women as Investors for their Families' and Chapter Five, 'Unmarried Women Investing for "Retirement"' focus on exploring the active role that women played in shaping and managing their finances to ensure the economic security of their immediate and extended family members as well as their own long term comfort. The case studies presented in these chapters of Cassandra Willoughby, Duchess of Chandos, single gentlewoman Mary Barwell, widow Barbara Savile, spinster Gertrude Savile and unmarried sisters Patty and Teresa Blount, all demonstrate the importance of lifecycle and circumstance to women when making investment decisions. Furthermore, these middling, genteel and elite women were all depended on by their male kin; it was not only elite women with their own fortune who were able to take control of the financial reins.

Chapter Six, 'Gender and Risk in the Early Stock Market', and Chapter Seven, 'The Financial and Political Agency of Female Investors', provide yet more evidence, this time from individual account ledgers, as well as contemporary publications such as newspapers and pamphlets, to argue that women were not passive observers, but active agents who manipulated and drove financial deals on both sides of the law – and were held accountable for their actions. Froide examines lesser-known financial scandals including the fraudulent London Orphan's Fund and the Charitable Corporation and the results suggest that contrary to the historiography of the nineteenth century, investing in financial markets actually represented a less risky option than private loans; this is markedly different

from the characterization of female investment behaviour in later centuries. Spreading financial risk is explored through the portfolio of businesswoman Hester Pinney, who used her capital and profits from her lace-making business to invest in the stock market on both her own account and on behalf of other male and female investors. Froide goes on to argue that the power associated with such investments gave women the opportunity to develop a political authority that would otherwise have been denied to them, indicating that the role of women in the financial workings of the British Empire has not yet been fully explored.

The footnotes of some of these sources, particularly the contemporary newspaper articles, shows that Froide accessed them over a decade before the publication of *Silent partners*; this, along with the substantial bibliography, reflects the thoroughness of the research and the extent to which this work has clearly been a labour of love for the author. As well as presenting important new data about women's role as public investors during Britain's Financial Revolution, *Silent partners* is charmingly written and entertaining to read and has relevance far beyond women's historians of eighteenth-century finance.

JENNIFER ASTON
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DAVID JOHNSON, *An improving prospect? A history of agricultural change in Cumbria* (Amberley Publishing, 2016). 304 pp., 100 illus. £16.99.

Agricultural improvement tends to be associated with central, midland and southern England rather than the upland, pastoral north and west. Yet agricultural improvement in the uplands and moorlands was certainly important and I can think of no better guide to it than David Johnson, a man who has walked the rougher parts of the upland north in great detail over many years. He has mapped their limekilns. He has undertaken a series of excavations of sites on the limestones of Ingleborough and has shown that several of them belong to a previously unsuspected phase of settlement dating from the pre-Norman times. He is also familiar with a wide range of archives covering a large geographical area and temporal range from medieval monastic records to modern computer databases.

Beginning with the origins of improvement in the mid-sixteenth century, the book takes both thematic and chronological approaches to its subject matter: the agricultural development of the county up to the present day. The author also considers the construction of limekilns and the associated coal-mining industry which was linked to them. He then moves on to the use of lime in agriculture and to the issue of enclosure, challenging the idea of northern agriculture as static. The role of larger estates is examined and the changing fortunes of agriculture between 1850 and 1937. The author might perhaps have said more about the impact of improvements in roads, canals and railways, but otherwise this is a comprehensive study.

Overall, *An improving prospect?* is a substantial book on a little-known subject. Its only flaw is the black-and-white illustrations which have been printed very dark. The author describes the book in modest terms as a very substantial 'work in progress', but his achievement is really far more impressive and this book should become a standard work for agricultural historians of the north of England.

IAN WHYTE
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ELIZABETH FOYSTER, *The trials of the king of Hampshire. Maness, secrecy and betrayal in Georgian England* (Oneworld Books, 2016). 330 pp., 19 colour illustrations. £20.

The trials of the king of Hampshire tells the story of John Charles Wallop, third earl of Portsmouth, who was declared insane in 1823 after a long, expensive and hugely controversial trial. Details about his mental state came from hundreds of witnesses, from lords to labourers, who variously provided evidence of Portsmouth's strange habits: from an obsession with funerals (which he called 'black jobs') and bloodletting, to viciously beating his horses and an enthusiasm for labouring in fields alongside his farm workers, the latter being a particularly ungentlemanly thing to do. Lunacy commissions were not uncommon in Georgian England, but the scandal here was that the case was brought against him by his family, specifically his younger brother Newton Fellowes (born Wallop), who was trying to gain the Wallop property and title for himself and his eldest son.

Portsmouth was noticeably different from a young age: born in 1767, he was a slow learner with a debilitating stammer. At boarding school he regularly fouled the bed, and his schoolmates later commented on his 'singularly foolish silly ways and antics' (p. 33). When he met the 11-year-old Lord Byron, Portsmouth violently pulled his ears, starting a fight which ended with a window being broken and Byron declaring Portsmouth a 'fool of an earl' (p. 174).

That not everyone agreed with Byron was thanks in part to the efforts of Portsmouth's family. Foyster sheds considerable light on the actions of the Wallops – especially its female members – in managing Portsmouth, his behaviour and his estates so as to project the best possible version of him for public

consumption. Portsmouth's mother Urania, countess of Portsmouth, was a fearsome figure who administered the family properties and provided her son with an allowance akin to the 'pin money' many elite Georgian wives received. As Portsmouth later complained bitterly, 'I am never consulted on any business … I am not considered as Master in my own House' (p. 69). Crucially, in being so controlling, Urania largely succeeded in concealing Portsmouth's oddities from his peers in landowning society at least during her lifetime. In his early thirties, Portsmouth married Grace Norton, a middle-aged widow whom his family assumed would not produce heirs to interfere with plans for his younger brother to eventually inherit the title. Grace handled Portsmouth with kindness and even love, showing a real capacity for gently managing him and his interactions with the social world, these – of course – not being insubstantial given his responsibilities as a peer of the realm and a justice of the peace.

Perhaps unsurprisingly, Urania and Grace appear not to have got along, but things only really started to go wrong after both their deaths (in 1812 and 1813, respectively). Within four months of Grace's demise, the family's trusted solicitor John Hanson saw his opportunity and arranged a surprise marriage between Portsmouth and his 23-year-old daughter Mary Ann. The Wallop family knew nothing of it until afterwards, and even Portsmouth seemed to have been unaware of the situation until the morning of the wedding though he apparently then freely consented, in part because Hanson spun it as a way to escape his family's control. In a strange turn of fortune, his old adversary Lord Byron was the chief witness to the marriage, later testifying to Portsmouth's sanity in a preliminary case heard before the Lord Chancellor (though Byron had himself been publicly disgraced by the time of the commission proper and was not called as a witness). Unfortunately for Portsmouth, Mary Ann treated her new husband with great derision, keeping a lover in the house (and even in her bed with Portsmouth present!) and meeting out violence and abuse on a daily basis. Portsmouth's marriage to Mary Ann was eventually annulled and her children (almost certainly her lover's rather than Portsmouth's) declared illegitimate, though it was Portsmouth's precarious personal situation during the marriage – and the risks to dynastic inheritance posed by a young wife – which ultimately precipitated the family decision to subject him to a commission of lunacy.

It is the evidence from Portsmouth's trial that forms the meat of Foyster's account, along with her painstaking research in the family archives where she has identified the letters and other records which she uses alongside legal papers held at Lambeth Palace Library and newspaper reports. Foyster deals deftly with these materials, assembling a hugely absorbing narrative and demonstrating a great eye for detail while never over-sensationalizing her story, however tempting that might have been. She also expertly weaves Portsmouth's story into wider histories of mental illness, the aristocracy, and marriage and the family, as well as carefully signalling that which we cannot know from the surviving documents, including Portsmouth's inner thoughts and true diagnosis. There is much in *The trials of the king of Hampshire* to interest agricultural, social and economic historians, not least in its detailed exploration of the relationships between one aristocratic family and the communities around them – whether the labourers and farmers on the Hurstbourne estate, or the newspaper-reading public in London – and in the dynamics of family, marriage and property amongst the Georgian elite. In this, it acts as a worthy companion to some of the recent biographies of women like Mary Eleanor Bowes, the countess of Strathmore and abused wife of Andrew Robinson Stoney (on which, see Wendy Moore's *Wedlock*).

Yet this is at its heart a tragedy of one man. Much to his family's surprise perhaps, Portsmouth went on to live for another three decades after the commission of lunacy concluded, maintained in the family mansion at Hurstbourne Park, where he imagined himself the king of Hampshire. This was a very different life to most lunatics in Georgian and Regency England (including some of Portsmouth's relatives who were shut up in no doubt squalid private madhouses) and Portsmouth seems to have continued to inspire the respect of the local community, even whilst his antics revealed in the courtroom slowly came to be forgotten – at least until now.

BRIONY MCDONAGH
University of Hull

JEAN MORRIN, *The Victoria History of Hampshire. Steventon* (University of London, 2016), 104 pp., 41 illus. £12.,

This is the second parish history published by the recently established Victoria History of Hampshire group as part of the Victoria County History Shorts series, the first having been Mapledurwell, published in 2012. The book addresses the economic, social and religious lives of both the lords of the manor and the ordinary people of Steventon, which is also famous as the birthplace of the author Jane Austen who lived there for 25 years. Her depictions of rural society and the influence of the village on her writings are covered within the social history chapter.

The structure of this book is unsurprising coming from the VCH stable as it does. After an introduction to the parish, landscape and settlement, the topics of manors, economic history, social history, local government and religious history are covered. Written in the usual VCH narrative style, it presents the facts in a continuous torrent, albeit chronologically arranged. The detailed description of farming has been enhanced by the availability of the records of the Knight family who were lords of the manor during the eighteenth and nineteenth centuries. These draw on a range of sources from the National Archives and the Hampshire Record Office.

Steventon lies on the chalklands of Hampshire and has a rich history, which provides examples of agricultural improvement and change. The importance of sheep in medieval times is demonstrated by an Inquisition Post Mortem of 1277 which recorded the lord of the manor possessing downland pastures for 300 sheep: further, in 1409, a member of the local gentry died leaving 417 sheep in Steventon. A survey of 1512 showed that some of the parish was already enclosed, but named the nine surviving open fields along with the sheep down.

The book records conflict in the parish in the 1590s and early 1600s arising from the estate management practices of the lord of the manor. Records of litigation from the Courts of Chancery and the Star Chamber have been used to illustrate how he was accused of stealing land, crops and animals from his tenants, until he was forcibly removed by his son, supported by the local tenants. A list of his possessions included £500-worth of grain, although it is not possible to determine how much had been misappropriated.

Later in the seventeenth century, butter, cheese and bacon were being produced and, whilst wheat and barley continued to be important, fodder crops of vetches, peas, oats and hay were also grown. In 1707, the manor became part of the Knight estate: the land was mainly enclosed, with only 236 acres found in three open fields: these were converted into part of a new leasehold farm in 1741. This was part of the restructuring of agricultural practices in the parish by the absentee Knight landlords: the purchase of other smaller estates, use of lease covenants and the management of the woods all added to change in the parish. Strict covenants in the farming leases specified that common land was to be ploughed up and spread with lime, that dung was to be used in good husbandry style and that all hay, straw and fodder were to be used on the land.

The records of the Knight estate provide much more detail about agricultural practices at the time. A report from 1839 shows that there was very poor husbandry with crops 'poorish in quality, moderate in quantity': the land was described as 'susceptible of vast improvement'. In 1855, Edward Knight sold the estate he had inherited three years earlier to the second duke of Wellington but this had little impact on the parish. Property repairs were part-funded by Wellington and the woods were managed, but all was not well.

When Henry Harris bought the estate in 1877, he became the first resident landowner for 240 years. The estate underwent a programme of modernization: a new manor house and houses for estate workers were built, along with a new farmhouse and large brick barns for Bassetts Farm. Moving forward to the twentieth century, the estate changed hands several times: the main land uses were increasingly grazing and fodder crops as the cattle industry developed and cattle replaced sheep as the main livestock. By 1926, Bassetts Farm could house 70 cows and from 1939 specialized in Friesian cattle, which were later crossed with Holsteins.

The book is a high-quality production, marred only by three minor errors which this reader found: the use of 'principle' instead of 'principal' (p. 30), a double 'had' (p. 72) and an attempt to make 42, 2 and 6 add up to 51 (p. 48)! Overall, this is a very readable account of an agricultural parish in the south of England.

ALAN WADSWORTH
Chippenham

JON STOBART and MARK ROTHERY, *Consumption and the country house* (Oxford University Press, 2016). 304 pp., 44 illus, figs & tables. £65.

Stobart and Rothery's comprehensive book aims to re-orientate the study of the country house. It goes beyond useful but increasingly limited art historical and architectural analyses to discover the meaning of the house through the processes and relationships behind the highly visible objects on display, with a move to reveal more about social and cultural change. Through this focus on consumption, Stobart and Rothery have used the archives of three families in order to make connections between various perspectives and to place the country house in a broader context, thus paving the way for new interpretations of the splendour of the British country house. The book is a product of a two-and-a-half-year AHRC-funded project entitled 'Consumption and the Country House *c.*1730-1800', awarded 2010, which enabled Stobart and Rothery to look at the archives of the Leigh family of Stoneleigh Abbey (Warwickshire), the Newdigates of Arbury Hall (Warwickshire) and the Drydens of Canons Ashby (Northamptonshire).

The book is structured around five themes, roughly corresponding to the chapters but also overlapping to show the fluid nature of the study of material culture in the country house. The first considers the country house as a site of both conspicuous and everyday consumption, reflecting on its complexity and composition as a space. Secondly, corresponding to key concerns raised in their historiographical survey, Stobart and Rothery address the changing nature of eighteenth-century domestic material culture. The third theme analyses the relationship between consumption and identity, with a chapter dedicated to each masculinity and femininity. This works with Amanda Vickery's analysis in her 2009 book, *Behind closed doors*, and confidently combines current thinking on gender and consumption with work on gender and the country house. The fourth looks at the practicalities of supply and the conditional nature of consumption, which flows nicely into the fifth and final theme, that of the spatiality of consumption, within and extending beyond the country house.

The cases of the three different families are very well woven together throughout the book, representing different facets of what Stobart and Rothery aim to achieve in widening the story and context of the country house in terms of consumption. This works particularly well in Chapter 5, where four different women – Mary Leigh as heiress and custodian, Sophia and Hester Newdigate as wives, and Elizabeth Dryden as both widow and mother – are utilized to show how gender interacts with different identities and moments in the life cycle to determine consumption habits amongst women. Here Stobart and Rothery conclude that conventional female roles did not automatically mean a lack of agency on women's part or a lack of awareness of the opportunities for using gender strategically. Both this chapter and the preceding one on masculinity move beyond Vickery's analysis of the sexual division of consumer responsibilities between spouses to examine how different circumstances shaped the ways elite men and women experienced and harnessed consumerism across a longer period of time.

Construction of identity is key in country house literature, with the traditional view being of a house carefully and self-consciously constructed according to taste. Stobart and Rothery question this throughout the book, beginning in the first chapter with the observation that conspicuous consumption was rarely conspicuous just for the sake of it. Chapter 2 reveals how taste was tempered by a long list of other influences, such as conservatism, rank and lineage, as well as the influence of relationships with family and friends, as discussed in Chapter 6. Chapter 3 reminds us of the importance of the routines of everyday life in constructing the space of the country house, remarking that everyday practices and the lived spaces underpinned the social and spatial consumption within the country house. They reinforced the practices more commonly seen as conspicuous consumption. This link is very important in fulfilling Stobart and Rothery's aim to invite a fuller understanding of the country house as a process, contrasting with previous analyses, which tend to focus on landmark pieces of material culture, rather than the implications of both the everyday and the special within country houses. As the British country house is perceived and presented as a place of luxury, and – as commented in Chapter 1 – the elite who resided in these spaces were distinguished by their ability to spend lavishly on the kind of goods that would indicate their status, we can easily forget this important aspect of consumption. Yet as Stobart and Rothery argue here, the country house represents a nexus of flows of goods, people and ideas, and all forms of consumption are integral to the building of spaces, social relationships and identities.

Overall, *Consumption and the country house* demonstrates how the country house during the eighteenth century was a product of modern forces and an ever-changing set of spaces. In successfully weaving together the stories of their three chosen country house families and their consumption, and insisting on seeing the material culture of the country house as a process rather than an end product, Stobart and Rothery offer a forward-thinking argument that opens up the country house for further study on each of the themes addressed in the book.

LIZZIE ROGERS
University of Hull

JONATHAN SPURRELL, *Bessingham. The story of a Norfolk estate, 1766–1970* (Bessingham History Project, 2016). xxxiv + 216 pp., 77 illustrations. £12.95.

The bold-print, capitalized opening title of Jonathan Spurrell's first publication indicates a clear and proud acknowledgement that the focus of the book is on one small local area, Bessingham. This, the reader soon discovers, is a village in north Norfolk, boasting one of Britain's oldest round church belfries. It is also home to many of the author's ancestors, who form the basis of Spurrell's research and discovery. This may lead to accusations of insularity, yet Spurrell's work should not be dismissed outright as parochial. There is value in taking a microscope to a locale, where it may further our understanding of rural life, and highlight the connection between community and landscape. Spurrell has certainly done this. Through meticulous and painstaking study, leafing through his family tree,

the author opens up a view of the whole community, which is both invaluable to those who study Norfolk, and of interest to social and agricultural historians.

The book is divided in to five parts, in which Spurrell takes the reader through the lives of the inhabitants of Bessingham, from the birth of the settlement through to the twentieth century. The scene is set with descriptions of Bessingham's physical landscape and the early communities that settled there. Sequential lords of the manor are described, including a reference to the Paston family who held the manor there in the seventeenth century. The church of Bessingham also features heavily in Spurrell's book, and this reflects its obvious influence and importance to the community as a whole. The church gives a central charm to Bessingham and thus to Spurrell's work.

The book is at its best in its discussions of the nineteenth century. With access to labour account books, Spurrell has painted an in-depth picture of the day-to-day running of an estate. A description of men failing to turn up for work following a party to commemorate the marriage of the Prince of Wales in 1862 sits alongside accounts of the rise and fall of agricultural wages, the anecdote in this instance serving to augment the socio-historical narrative. The study also benefits from the recollections of locals whom Spurrell interviewed during his research. There seems to be a general feeling among those questioned that, following a period of contentment, when milk was delivered in churns carried on bicycle handlebars, Bessingham had by the mid-to-late twentieth century become a ghostly deserted village. The monograph finishes on a more hopeful note, describing the final renovations to the manor in a chapter entitled 'Recipe of rejuvenation'.

Focusing inwardly, as already indicated, offers real insight into rural life. Spurrell's text is peppered with fascinating examples of family life and struggles, such as when William Spurrell thriftily used the unfilled pages of his schoolbook because paper was an expensive commodity. Continually woven within the trials and tribulations of rural life are the specific lives of the Spurrell family. The Daniel Spurrell line of the family in particular appear to have led interesting lives. There are novel tales regaled of an escaped bear, the creation of a new species of Daffodils, and the shooting of 109 animals in one day. Yet, it also feels sometimes that there is an opportunity missed, namely to see how rural life in Bessingham compared to rural England more broadly. For example, it would be interesting for the general reader to be informed whether the population rise in Bessingham from the start to the middle of the nineteenth century was reflected elsewhere. The intricate details of the lives of the Spurrell family also made the book occasionally difficult to read. Additionally, it is a shame that some of the images interspersed throughout the study are sometimes hard to make out, or feature on a page to which they do not relate. Even so, for those of us who have not had the opportunity to visit Bessingham, they offer an insight.

As the book draws to a close, Spurrell's use of the first person increases. This perhaps reflects his deep personal involvement in his writing, but it also makes his passion infectious. As Spurrell states, 'the strong pull of family, and of history, is difficult to resist' (p. 180), and it is this kind of personal joy and experience which adds richness to our understanding of rural life as a whole.

STORMM BUXTON-HILL
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Europe and beyond

KARIS BAKER, RUTH CARDEN and RICHARD MADGWICK (eds), *Deer and people* (Windgather Press, 2014). 248 pp. £45.

Among the barriers to communicating good inter- and multi-disciplinary work is jargon. Technical language can help convey complicated messages succinctly, but its over-use can limit the accessibility of our written and spoken words. Why would we want that? For books such as *Deer and people*, which cross the disciplines, it is, I believe, important to write clearly and plainly because the intended audience is, presumably, wide and diverse in academic background. The book largely succeeds against those criteria, most chapters being easily accessible and limited in their use of jargon.

The editors sought to 'draw together research on deer from wide-ranging disciplines and in so doing substantially advance our broader understanding of human-deer relationships in the past and present' (p. vii), by compiling papers submitted by speakers at two international conferences. Those conferences both focused on zooarchaeology, so it should be no surprise that the majority of chapters (17 of 24) arise from that discipline. The remainder cover history, law, iconography, genetics and ecology: a wide range of disciplines indeed. Most chapters represent reviews of single or multiple papers and reports that have been published previously, with few presenting novel data. That is not a criticism; the breadth of subjects addressed should mean that there will be few readers who do not learn something new to them. I learnt a lot.

Chapters are organized into six sections, some of which group more logically than others. In the first section the opening chapter traces the origins of the

current distributions of several deer species by mapping the genetic relatedness of different populations. It confirms the important role that translocation by humans has played and demonstrates the utility of techniques in molecular ecology for answering questions in zooarchaeology and history. The second chapter beautifully combines traditional archaeological approaches, a biogeographical perspective and population genetics to briefly chart the spread of fallow deer across Eurasia in prehistory with a detailed focus on their introduction and expansion over Sardinia since the medieval period. Subsequent chapters become decreasingly inter- and multi-disciplinary. The final two chapters of this section are somewhat more traditional, presenting single-discipline accounts of human-deer interactions at two locations: Sardinia and the Yukon river basin, albeit over different timescales (since the medieval and from the early Pleistocene to the present, respectively).

The following two sections provide 13 case studies of interactions between humans and deer: the first section looking at prehistory and the second examining the Roman and medieval periods. All choose to limit their accounts to certain species, specific archaeological sites or summaries across regions or countries. This simple approach results in a distinctive nature to each chapter, while also clearly demonstrating the many similarities in the ways in which deer have been viewed and exploited between discrete geographical locations, and also over time. A great advantage offered by many of the authors in these sections is the quantification of archaeological and historical evidence. Provision of such high-quality information allows other authors to make more use of a paper (e.g. by parameterizing models) than do purely descriptive accounts. On the downside, many of these chapters were less accessible than others due to the use of jargon words without explanation, and the apparent assumption that all readers will be equally familiar with all levels of periodization used by geologists and historians. A description of each period ('from' and 'to') would be very helpful.

Next, the peculiar situation we find in Great Britain is explored, where sizeable patches of the rural landscape were given legal protection in order to preserve populations of wild, feral and captive deer for hunting by royalty and nobility. The final two sections deal specifically with hunting and management. The first, somewhat more esoteric section examines changes in hunting iconography during the medieval period, and the last presents two chapters addressing aspects of modern-day deer management: population management for hunting and for conservation.

While acknowledging that the editors could only work with articles that were submitted for this volume, it seems surprising that so little is included on interactions between humans and deer in modern times since the quantity and quality of information available today is considerable. Perhaps this reflects my biases. I also have a preference for synthesis; I like to understand editors' opinions on what a collection of works tells us that each piece of work cannot convey on its own. For whatever reason, the editors chose not to provide a synthesis for this book.

Nevertheless, *Deer and people* represents a collection of chapters covering a range of disciplines and including multi- and inter-disciplinary studies. It provides every reader with an opportunity to learn something new about our interactions with a group of closely related species that seem to have profoundly affected the ways in which humans have lived since prehistory, and which continue to hold fascination for us today.

ALASTAIR I. WARD
University of Hull

PETER MITCHELL, *Horse nations. The worldwide impact of the horse on indigenous societies post-1492* (Oxford University Press, 2015). 464 pp., 97 b&w illus., 16 colour plates. £35.

As an attempt at producing a syncretic history of the role of horses in human history, Peter Mitchell's *Horse nations* is a credible and comprehensive effort. Attempts to produce syncretic histories rest upon the strength of their unifying themes and the depth of the secondary source material they employ. Mitchell's theme revolves around human societies where horses provided a paradigm-shift in capability, making those societies either better able to manage hunting and gathering, or indeed, to manage aggression over their neighbours. Taken at a meta-level, this thesis has much to recommend it. Just as 'automobility' has fundamentally shifted not only the ability of individuals to do more and fit more into their lives but also the ability of collectivities to do the same, so too, the impact of horses on human societies can be judged to be similar, if at different speeds and with different direct impacts.

Mitchell's book covers a wide range of societies in the 'Old' and 'New Worlds'. Yet, as Mitchell asserts, the book focuses upon those 'Horse nations' who embraced the horse in the several-hundred-year period between when horses came into their lives and the time when they were 'conquered' or assimilated into mainstream New World European society. This is a time of much interest in the histories of colonization and imperialism as it represents a period when the hegemonic application of European power was not

yet possible in these remote places, leading to what Richard White termed the 'middle ground' in his book of the same name (CUP, 1991). Here, the incoming European commercial explorers were forced to adopt local practices and understandings as they were unable to enforce European belief systems such as Christianity upon the local peoples. In the resulting mix of power and practice, horses no doubt had an empowering influence on native peoples, and, particularly in the discussion of South and North American horse nations, Mitchell explores this in some detail.

Mitchell employs the work and ideas of the newer environmental historians, including White and William Cronon, for the ideas he uses to organize his efforts. Thus, we see horses as part of the environment and, at the same time, as a technology for breaching environmental limits, such as the carrying capacity of land through expanded hunting grounds, or greater domestic mobility. The focus is on horses, which 'transform older ways of life, creating and building new modes of existence and new ways of understanding' (p. 3), as a disruptive technology. And, similarly, much of his focus is on the 'New World' after the re-introduction of horses to those continents in the period of the 'Columbian Exchange', which 'involved the transport and dispersal of hundreds of species of animals, plants and microbes' (p. 3).

When I teach 'Horses and History' I normally theme the various clusters of human–horse activity into technological phases, saying that the history of human–horse relations should be seen as a history of technology (in the most open sense of the word, as in technologies of organizing society, etc.) Whether figuring out how to ride what would then have been a domesticated food animal and the social consequences this innovation raised, or the invention of the stirrup, which allowed a new type of hunting (spear-based) and military activity, the technological innovations which revolve around horses also revolutionized human activity. The impact on human societies varied, but they shared the consequences of horses as enablers of new activity which increased access to food and wealth. And, of course, no one human group held an exclusive grip on these technologies for long, making, in this case, human history a matter of ebb and flow across a number of facets of equine-enabled activities.

Reliant as it is on 'the combined resources of history, anthropology, and archaeology' (p. 3), this collection of *Horse nations* is understandably somewhat varied in terms of detail and the evocation of human life enabled by the possession and use of horses. After all, if there is little archaeological record, there is little that can be said about many of the peoples in this story and their lifestyles/inter-societal relations. Mitchell nevertheless demonstrates his key point – that peoples who welcomed horses into their lives, both personally and collectively, built societies in which horses became central not only to the organization of their societies, but also to what could be done and what could be aspired to, especially in terms of improving marginal limits on society, such as nutrition, the acquisition of wealth and the arrangement of hierarchy.

In summary, this is a very useful account of our best knowledge about the impact of horses on human societies. In my teaching, I will certainly include it as a core reference volume and would highly recommend that others do so as well.

RHYS EVANS
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Conference Report
The Society's Winter Conference, 2016

by Paul Warde

This year's Winter conference was held in the familiar surroundings of the Institute for Historical Research in London. Entitled 'Muck into Gold' the theme was exchange and trade in agricultural goods, with papers treating with matters both domestic and international, and as usual, ranging from medieval times to the twentieth century.

First up was Dr James Davis of Queen's University Belfast, with his paper 'Travelling to Town: Medieval Peasants and the Sale of Agricultural Produce in Urban Markets'. This provided a thorough overview of the evidence for commercialization and the practices of trades brining agricultural produce into town markets. Medieval commercialization remains a widely debated topic, with the level of market integration and the choices available for sellers uncertain. Davis however considered most village markets to be largely for very localized, low-volume exchanges and offering only low returns. At least some farmers were prepared to go further afield to seek better prices, and by the end of the thirteenth century, actively pursue opportunities beyond their immediate locality, facilitated by widespread ownership of horses.

Once they got to town, what was their experience? Literary evidence provides rather caricatured sources in the absence of accounts or diaries, but nevertheless cultural stereotypes have their uses in granting us some measure of expectations: 'Valuable residues of contemporary beliefs and assumptions,' as Davis put it. Contemporary ballads and stories presented the traders that peasants met as avaricious and fraudulent, and the experience of larger cities like London being confusing for simple country folk. This might be seen however as evidence of asymmetries of information, rather than moral behaviour *per se*. Indeed, it might be argued that mistrust created habits of reliability on both sides (drawing on the work of Clifford Geertz). Davis also considered evidence for market regulation and spatial controls on where trade took place, reckoning enforcement to have been low and barriers to exchange relatively insignificant. Towns like to encourage food provisioning and low prices. There is little evidence that lords coerced their peasants into using particular markets.

Nevertheless, literature and regulations point to a consistent concern with information, in the display of goods and preoccupations with adulteration, weights and measures, and allowing trade without interruption from hawkers or other stallholders. Here public authorities played a role in fostering exchange. But more direct evidence we have of repeated sales and credit relationships between buyers and sellers also highlights the interpersonal nature of market relationships and developing a sense of integrity to grease the wheels of trade.

The second paper by Professor Richard Hoyle took us to the early modern period and matters international. His paper, 'A tale of two countries and one sea: the North Sea grain trade *c*.1550–*c*.1750', aimed not only at the time-consuming labour of reconstructing the international grain trade, but considering as a context for moves towards agricultural improvement and enclosure at this time. The evidence base is not entirely satisfactory, as customs records do not report the *ports* at either end of a trade in detail, but nevertheless some digests and accounts of the customs records that were provided on request for particular matters of concern do contain considerably more detail.

The snapshots that the international trade permits give some highly suggestive pointers to the state of local agricultural economies. Norfolk is noted as an exporter from the early seventeenth century, and Hoyle considers that this situation of surplus may have changed little over time, arguing that ships returning from deliveries of Scottish salt were probably already carrying grain north in Elizabethan times. However

Scotland, still a land of famine in the 1690s, had turned this around to become an exporter by the eighteenth century, particularly to Ireland. Government interest in the grain trade increased after 1770 and we can get a richer and more differentiated regional picture, witnessing the appearance of buckwheat and Indian corn in trade, pointing to regional habits of production and consumption, and the rise of flour and meal in trade as processed products took up less cargo space and lowered transport costs.

From the late seventeenth century, a growing problem of overproduction in the more productive English regions forced a deregulation of export restraints and indeed corn bounties from 1672, a policy matched from 1695 in Scotland (which might also be read as evidence of using trade to stimulate general production). Nevertheless, the question of how output increased in different regions remains open, with the relative contribution of specialization, climate change, improved crop varieties, or price incentives as yet unclear. Nevertheless, a more detailed view of the trade is an important contribution to tracing this story in its complexity.

The third paper, by Sofia Henriques of Lund University, examined the mutual exchange between Britain and Denmark in her paper 'Fuelling the English Breakfast: hidden energy flows in the Anglo-Danish trade'. This was indeed the period when Denmark became famous as a supplier of bacon to English tables, as part of a much wider process of specialization and growth in international trade during the period of globalization from 1870–1914. Henriques examined the role of energy in this process of specialization, and especially the idea of coal-endowed countries (such as Britain) specializing in the production of energy-intensive manufacturing goods and others (such as Denmark) in the production of agricultural goods. Data was presented that quantifies the amount of energy embodied in traded goods; that is, rather than just examining the direct trade in energy (calories in coal or food), the full chain of production is taken into account to understand the total amount of energy required to produce the commodities finally traded. It turns out that Danish agricultural goods were not a low-energy product reliant on the land, but relatively energy-intensive. The transformations that occurred in Danish agriculture to meet the growing demand for breakfast foods in the UK required significant quantities of animal feed and coal, for which Denmark's trading position in proximity to both the coalfields of Britain, and processed animal feed exports in continental Europe, was highly significant. Denmark has been a net importer of this 'hidden' energy, going into the production of traded goods in 1870 but as the trade grew rapidly up to the First World War actually becoming a net exporter of hidden energy to the UK by 1913. The story of energy-intensive manufactures and energy-light products of the land turns out not to hold in this case; and the paper demonstrated how agricultural exporters were not all of one kind on this period, as some relied on significant inputs of energy, long supply chains, and complex processing. Denmark achieved this high-input agriculture, in some ways a precursor to that found more widely in the second half of the twentieth century, both from an increase in its land productivity and through the import of coal, grain and fertilizers from abroad.

The final paper of the day came from Shane Hamilton of the University of York, 'Supermarkets to the World: Supply-Chain Capitalism and Modern Agribusiness,' Drawing on material to be published in his forthcoming book with Yale University Press, Hamilton examined the growth of multinational supermarkets after 1945, questioning the usefulness of theories focused on the 'internalization' of chains of production within the firm as a driver of new forms of organization. Instead, using a series of case studies covering countries from Venezuela to Yugoslavia, Hamilton argued that his concept of a Cold War 'Farms Race' offers a convincing explanation for the expansion of American-style supermarkets in the latter half of the twentieth century. American businessmen and foreign policymakers rhetorically framed the supermarket as a 'weapon' in the economic contests of the Cold War, engaging in ideological marketing of the lifestyles of the 'free world', both to the eastern block and the developing countries, as a tonic against revolutionary politics. In turn, the expansion of supermarkets (whether directly from American chains or through imitation) acted not merely as a vehicle for modernization of consumption patterns, but as machines for spurring industrialization of agriculture. Hamilton's paper highlighted the significance of management and firm organization as a factor in the economic and political transformations that shaped agriculture during the twentieth century. In particular, he emphasized the importance of examining retail-led changes to the supply-chain.

All the papers were accompanied by some lively discussion, and this year, there was particular appreciation too for the lunch. We thank all contributors and participants.

Conference Report
The Society's Spring Conference, 2017

by Rebecca Ford

Members were greeted with daffodils, lambs, and even sunshine when they arrived at Plumpton College, near Lewes, for this year's Spring Conference. Organized by Dr Carl Griffin together with Professor Brian Short, it ran from 3 to 5 of April. The venue started life as a farm, created by the County Agricultural Committee in 1917, so it was appropriate that both animals and wartime farming were recurrent themes.

After the society's 65th annual general meeting, the conference began with 'Clare Leighton's depictions of rural England in the 1930s', a fascinating paper by Professor Clare Griffiths (Cardiff University), examining the intersections of art history and rural history through the work of one artist. In the paper, chaired by Dr Paul Brassley, we heard how Leighton (1898–1989) studied wood engraving – a medium which lends itself to nostalgic images – when it was enjoying something of a revival in England. She illustrated posters for the Empire Marketing Board and London Transport, as well as her own books. These included *The Farmer's Year: A Calendar of English Husbandry* (1933), highlighting aspects of agricultural labour, and *The Wood that Came Back* (1934), a children's 'ecological fable' that commented on the suburbanization of the countryside. London-born Leighton re-fashioned herself as a countrywoman. She moved to Buckinghamshire, building her own house at Monks Risborough in 1933. Professor Griffiths informed us that the house was demolished in 2013 after English Heritage failed to get it listed. Leighton later emigrated to New England, where she continued to explore her notions of the universality of rural life and work. Perhaps because her work is not consumed in galleries, Leighton is largely ignored by art historians. However, as Professor Griffiths demonstrated, this prolific author and artist warrants closer attention.

The next speaker was Dr Harvey Osborne (University of Suffolk) whose paper, 'John Bright's Poacher, 1804–1891' occupied the difficult 'post-dinner, pre-bar' slot – particularly demanding on this occasion, as members had sampled a snooze-inducing meal of chicken pie followed by apple pie. However, he rose to the 'pastry challenge' with aplomb and all remained alert as he revealed the unlikely alliances formed in the mid-1840s when the debate over the repeal of the Corn Laws intersected with questions on the game laws, and the impact of game preservation on the economy and society of rural Britain. The paper, chaired by Dr Carl Griffin, focused on Frederick Gowing from Suffolk, the archetypal poacher-turned-gamekeeper. Boyhood assistant to the gamekeepers on the Sudbourne Estate, Gowing later emerges as a 'sailor'. This was probably a euphemism for 'smuggler', as he was working in the coastal trade off Snape – a lawless parish. After 1827, he ran a poaching network and was only rarely prosecuted. It was a lucrative business that boomed after 1831, when a game licensing system was introduced. This permitted an individual to be in possession of dead or live game and was a loophole Gowing gleefully exploited. In 1845, a Select Committee set up by the anti-Corn Law campaigner, John Bright, examined how protectionist game laws worked against tenant farmers, because the game damaged their crops. Gowing testified that farmers frequently turned a blind eye to poaching. He also revealed that landlords were complicit in a black market in live game, supplementing stocks at the end of the shooting season with birds, leverets and eggs sourced from poachers. Dr Osborne speculated that the campaigners never forgot his assistance, for a few years later Gowing is found working as a gamekeeper in Warwickshire on the Welcombe House estate – then owned by an Anti-Corn Law League campaigner and associate of one of the members of the Select Committee.

Next day, Professor Brian Short chaired the first session, in which Dr Mark Gardner (Queen's

University Belfast) discussed 'The changing character of transhumance in early and later medieval England'. Defining it as 'a movement of animals over some distance according to a seasonal cycle in a recurring manner', Dr Gardner reflected on the practice and its contribution to the agrarian economy over the long term. Citing archaeological and landscape evidence, Dr Gardner identified three phases of transhumance – each having distinctive characteristics. It was certainly not always restricted to the uplands and had a social, as well as an agricultural dimension. In England it was a strategy of land use – the summer pastures not necessarily differing in quality to the winter ones. Transhumance facilitated nutrient transfer – allowing farmers to exploit distant resources and bring them back in the form of fattened animals, butter or cheese. It concentrated nutrients, in order to prepare the ground for cultivation or suppress tree growth in woodland. In later centuries its purpose might have been to preserve fodder around the home farm for winter. However, for the earlier period, when the population density was fairly low and there was less pressure on land, transhumance would have had the benefit of keeping animals away from arable crops without having to establish and maintain hedges and ditches. In some instances it also helped to define boundaries, through usage and occupation. Transhumance, he concluded, was a dynamic and far from peripheral practice.

The next scheduled speaker, Professor Louise Curth (University of Winchester), was unable to attend, so members were given a link to an online version of her paper on 'Brute beasts, health and illness in early modern England'. Dr Carl Griffin (University of Sussex) stepped into the breach with 'Topologies of Tenderness and Violence: Human–Animal Relations in Georgian England'. In the paper, chaired by Professor Henry French, he discussed the ways in which attitudes to animals changed as they became increasingly enclosed. The relationships were complex and, while concerns for animal welfare rose, there were many instances of targeted maiming. There was often an 'inversion of care' – a Sussex shepherd, for instance, cut the throats of 8 lambs to take revenge on his employer, while a boy killed 21 lambs with an iron bar after his master hit him. Dogs were frequently attacked – not only out of fear, but also to get at the privilege and status of their owner; guard dogs belonging to the clergy were often harmed. Capital and status were intertwined with attitudes to animals, as evidenced by John Boultbee's painting of 'The Durham Ox' (1802), an uncomfortably oversized prize beast that is still memorialized on many a pub sign. The animal toured the country for six years and people paid to view it – prize animals such as this, suggested Dr Griffin, gave the public a sense of connection to the working spaces of country life. Pigs, Cobbett's 'national animal' were profoundly linked to the lives of the rural poor and frequently treated with affection – until they were killed. The paper – and the pigs in particular – provoked much subsequent discussion.

After coffee and the welcome appearance of a plate of biscuits, Professor Cherisse Jones-Branch (Arkansas State University) gave a paper entitled, '"Training as Will Fit Them for Their Work": Jeanes Supervising Industrial Teachers in Rural Jim Crow Arkansas, 1909–1950'. Jeanes supervisors, who supported teachers, were funded by a $1 million endowment left in 1907 by Pennsylvania Quaker Anna T. Jeanes to support rudimentary African-American education in the rural South. The fund was run by white administrators but most of the supervisors were black women, as they were considered to have a stronger work ethic and an ability to navigate the dangerous spaces in which they worked. In the paper, which was chaired by Dr Nicola Verdon, we heard that the Arkansas Department of Education was keen to raise educational standards – but not too high. They set up summer institutes to train black teachers to 'teach children to use their hands as well as their brains,' and 'spread knowledge of how to avoid disease'. The aim was to produce a more industrious, sanitary, moral and tractable agricultural labour force. However, Jeanes supervisors still managed to enrich rural African-American schools – improving facilities, disseminating birth control information, hosting TB clinics and even challenging food insecurity by building canneries and planting vegetables. Years before the Civil Rights movement, Jeanes supervisors used their creativity to help poor rural black people help themselves.

After a short presentation on LIBRAL (Library of Rural and Agricultural Literature) by Professor Richard Hoyle and web designer Catherine Glover, delegates left for the field trip to the Weald and Downland Museum, a 'living museum' near Chichester. This has 50 vernacular buildings from south-east England. They have been saved from destruction by being dismantled, conserved and rebuilt on the 40-acre site. Our visit focused on Bayleaf Farmstead, a timber-framed house from Chiddingstone, originally dating from *c.*1405–30. That evening, during the conference dinner, the first Joan Thirsk Memorial Prize was presented to Professor Peter Jones (University of Birmingham) by Joan's son, Martin Thirsk.

The first paper the next morning was 'Plums, Potatoes and POWs: working with communities to explore the WWI rural home front in the West Midlands'. In the

paper, which was chaired by Professor Clare Griffiths, Professor Maggie Andrews (University of Worcester) discussed a collaborative WWI centenary project in Worcestershire and the issues involved in working with community groups. During WWI, the working classes and fighting forces consumed the bulk of their fruit in the form of jam – much of it made from plums grown around the market town of Pershore. Demand for labour in the market gardens lead to high employment of children, travellers and POWs. Professor Andrews explained that the general public felt confident in contributing to research into food and worked with the team on events, exhibitions, recipe cards, tastings and the publication of a book. Although there were challenges involved in this type of research, she concluded that the group gained new skills and contributed valuable material, such as family diaries, to the project.

We were transported to the wild landscapes of nineteenth-century Sutherland for Dr Annie Tindley's (University of Newcastle) paper, 'The Land Agent in transnational context – new perspectives, new directions', chaired by Professor Richard Hoyle. Focusing on the Duke of Argyll's vast Sutherland territory – the largest landed estate in western Europe at the time – she discussed the role played by the 'factors' (land agents) and considered the impact their nationwide networks had on their work. Concentration of landownership into a small number of hands led to a similar concentration of estate administrators. Factors – generally recruited from outside the areas they managed – were men of immense social, political and economic influence – unpopular symbols of estate authority. This imposed an immense burden of responsibility. Their duties ranged from collecting rents and bookkeeping, to executing major estate improvements. Although extremely well paid, they were often lonely and isolated. They had to deal with the socio-economic impacts of agricultural depression and, later, tenant agitation for the reform of land tenure. It was no wonder that many turned to drink. In the paper Dr Tindley explained that rather than studying factors as diverse individuals, it was worth viewing them as members of a profession.

The conference concluded with the new researchers' session, chaired by Dr Carl Griffin. The first paper, 'Charcoal and wool: the role of woodland in the worsted revolution of West Yorkshire', came from Hywel Lewis (University of Bradford). In it, he unpicked the relationship between the specialist management of woodland in the South Pennines – used until the 1760s to produce charcoal for the iron industry – and the manufacture of worsted cloth. Worsted was first made in West Yorkshire in the 1690s and production increased throughout the eighteenth and nineteenth centuries. Wool was hand-straightened using metal combs heated by charcoal braziers and so, even when the iron industry switched to coke power, charcoal was still required. It was only in the 1840s, when wool combing was mechanized, that charcoal production ceased. Industrial demand, he concluded, was a significant force in shaping woodland management.

The second paper, by Felicity McWilliams (King's College London), '"They are slow, but they are very sure": the value of draught horses to British inter-war farming', looked at the distinctive status horses held on farms. Despite the drive for efficiency often thought to typify inter-war agriculture, horses were not immediately replaced by tractors. She discussed the emotional bond many farmers had with their horses, which they viewed as co-workers and trusty friends. Tractors might have ploughed faster, but many felt that horses created straighter furrows. Even by the end of the 1930s they still significantly outnumbered tractors.

The final speaker was Thomas Webb (University of Liverpool), who gave a lively paper entitled 'Revisiting the Women's Land Army with the animal in mind: Land Girls, cattle and their tactile encounters, 1930–1945'. The introduction of urban land girls to rural spaces was seen by many as sexually threatening, so a state-led narrative reconstructed physical farm work as feminine and moral. Some land girls underwent strength training to enable them to carry out 'male' tasks such as leading bulls and escorting herds beyond the farm gate, while posters were produced suggesting that training could remove their stereotypical fear of cattle – their close encounters with the animals providing rural rejuvenation. And so the conference ended and delegates dispersed, intellectually rejuvenated – if slightly heavier than when they arrived.

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CONTENTS

Notes on contributors		iii
Professor F. M. L. Thompson		v
A. D. M. Phillips		vii
Forthcoming conferences		viii
The hays of medieval England: a reappraisal	SARAH J. WAGER	167
Technology, labour, and productivity potential in peasant agriculture: England, *c.*1000 to 1348	JANKEN MYRDAL AND ALEXANDRA SAPOZNIK	194
From couper to farmers' cooperative: livestock fairs and markets in north-east Scotland from 1800 to 1900	RICHARD PERREN	213

International organizations and agriculture, 1905 to 1945

Edited by Niccolò Mignemi and Juan Pan-Montojo

International organizations and agriculture, 1905 to 1945: introduction	JUAN PAN-MONTOJO AND NICCOLÒ MIGNEMI	237
Italian agricultural experts as transnational mediators: the creation of the International Institute of Agriculture, 1905 to 1908	NICCOLÒ MIGNEMI	254
Agricultural numbers: the statistics of the International Institute of Agriculture in the Interwar period	FEDERICO D'ONOFRIO	277
The global agricultural crisis and British diplomacy in the League of Nations in 1931	MADELEINE LYNCH DUNGY	297
Shaping the future of farming: the International Labour Organization and agricultural education, 1920s to 1950s	AMALIA RIBI FORCLAZ	320

Book Reviews

Edward Impey with Daniel Miles and Richard Lea, *The Great Barn of 1425–27 at Harmondsworth, Middlesex*	PAUL STAMPER	340
Jon Stobart, *Sugar and spice. Grocers and groceries in provincial England, 1650–1830*	SARAH SHIELDS	341
Kate Feluś, *The secret life of a Georgian garden*	STORMM BUXTON-HILL	342
Hannah Barker, *Family and business during the Industrial Revolution*	JENNIFER ASTON	343
Angus J. L. Winchester, *Dry stone walls: history and heritage*	MARTIN HAGGERTY	344
Carol Beardmore, Steven King and Geoff Monks (eds), *The land agent in Britain. Past, present, future*	BRIONY MCDONAGH	345
Terence Dooley and Christopher Ridgway (eds), *The country house and the Great War. Irish and British experiences*	ALAN WADSWORTH	346
James Raven (ed.), *Lost mansions. Essays on the destruction of the country house*	MATTHEW KEMPSON	347
Janet M. Davis, T*he gospel of kindness. Animal welfare and the making of modern America*	DANIEL ALLEN	348
Cynthia Clampitt, *Midwest maize. How corn shaped the U.S. Heartland*	SARAH CARTER	350

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Professor F. M. L. Thompson
1925–2017

It is with great sadness that the Society announces the death of Professor F. M. L. (Michael) Thompson on 23 August at the age of 92. The Society offers its condolences to his widow, Anne and to his family.

Michael Thompson was a distinguished and intellectually formidable economic historian, much of whose work was devoted to elucidating the experience of the English landed classes in the nineteenth and twentieth century. He never limited himself to agricultural history, or indeed economic history. Members of the Society often know best his book on *English landed society in the nineteenth century* (1963) but this represents only a small part of his contribution to our discipline. But if there was Thompson the agricultural historian, there was also Thompson the urban historian, Thompson the social historian, Thompson the historian of the English landed classes and industrial entrepreneurs. He wrote generally about the nature of English society from a perspective that was more middle class than Marxist: calling more on notions of respectability than class conflict. His collected essays appeared shortly before his death.

Thompson was of an age that he was at school before the war (he recalled being taught by W. H. Auden at prep school), undertook military service during the War and only then went to Oxford to read History. From 1951 he was appointed to the staff of University College London: until his retirement he worked entirely in the colleges of the University of London, latterly as Director of the Institute of Historical Research from 1977 to 1990.

Michael Thompson received many honours. He was elected a Fellow of the British Academy in 1979 and gave the Ford Lectures at Oxford in 1994 (published as *Gentrification and the Enterprise Culture: Britain 1780–1980*). His distinction was such that he is the only individual to date – and probably always will be – to serve as President of the Royal Historical Society, the Economic History Society and our own society. Thompson served on the Executive Committee of the Society from 1968 to 1999. (Society legend has it that he was proposed and elected, and only subsequently found not to be a member of the Society.) He was chairman of the Executive Committee from 1980 to 1983 and our President in 1989–92. In 2005 the Society honoured him by holding the Winter Conference as a celebration of his eightieth birthday. Michael Turner and John Beckett gave a paper which challenged a Thompsonian interpretation made forty years earlier. However, even at that stage of life, Thompson's mastery of the field was such that he was able to respond by producing a paper that mounted a sturdy and convincing defence of his earlier assessment. When this came to be published in the *Review,* it was, he noted in the text he submitted for 'Notes on Contributors', the only time he had published there except as a reviewer. He was for many years a constant presence at the Society's meetings and conferences and many in the Society will recall his joviality and generosity of spirit.

Michael Thompson lived through and contributed to a period when Economic History was seen as a central part of the undergraduate History curriculum. He used no advanced statistics, no econometric modelling. His forte was the adroitness with which he handled figures whilst deploying a historian's humanity, insight and perspective to address issues which he believed important and revealing of the past. He was instantly recognisable both in person and by his initials: in more ways than one, there will be no FMLT in the future.

A. D. M. Phillips

1944–2017

The Society is sad to report the death of A. D. M. (Tony) Phillips on 2 November. Tony spent his entire career at the University of Keele, arriving there direct from postgraduate work at UCL in 1968. He retired in 2010. His work on nineteenth-century improvement and investment in agriculture, including his book, *The underdraining of farmland in England during the nineteenth century* (1989), will be well known to many members of the Society.

Tony was a good servant of the Society and had its interests at heart. He served on the Executive Committee from 1974 and acted as its chairman from 1989 to 1992. He then stepped sideways to be Editor of *Agricultural History Review* from 1993 to 1998. He will be remembered as excellent company at conferences and a man who conducted business with good grace and humour.

An obituary will follow in due course.

Forthcoming conferences

British Agricultural History Society
Spring Conference
Cannington Centre, Bridgwater and Taunton College, Somerset
Monday 26 to Wednesday 28 March 2018

The programme will include Dr John Morgan (University of Manchester) on Water Management in Britain in the Seventeenth Century; Rob Wilson-North (Exmoor National Park) on the Knight Family and the Reclamation of Exmoor Forest, 1820–1890; Professor Edmund Cannon (University of Bristol) on the Economics of Grain Storage in England, Seventeenth to Nineteenth Century; Professor Jane Whittle (University of Exeter) and Dr Mark Hailwood (University of Bristol) on Women's Work in Early Modern England; and Professor Doug Hurt (Purdue University). There will also be a new researchers' session and an excursion to Somerset Rural Life Museum, Glastonbury.

The hays of medieval England: a reappraisal*

by Sarah J. Wager

Abstract

A reappraisal of the evidence for hays in medieval England questions current explanations of their nature and function and concludes that they were not always associated with hunting. At the time of the Domesday survey some were used to hold or capture deer, but in earlier centuries others were associated with livestock. Traditional rights of common pasture in some manorial hays in the twelfth and subsequent centuries suggest that these hays originated in the early medieval period as enclosures for livestock and were not necessarily wooded. It is likely that changes in the nature and purpose of hays took place in the context of agricultural, demographic, economic, social and political developments. The many smaller hays that appear in late medieval records, notably in the north west and south west of England, were also associated with livestock, and some were arguably created during the expansion of settlement and agriculture during that period.

This article revisits the standard explanations of the nature and functions of hays in the medieval English countryside and offers new thoughts about their uses over time. Hays have been of interest to a number of scholars over the decades, often, but not always, because of their appearance in Domesday Book, whose records of *haiæ* occur mainly in the counties of Cheshire and Shropshire on the Welsh Border. Domesday Book states in a few cases that the *haiæ* were for taking or capturing roe deer and in another instance that the *haia* was for capturing wild beasts.[1] As a consequence of these records and of some early medieval records of the Old English *haga*, most of the discussion about the nature and function of hays has concentrated on the hunting of deer. This article seeks to shift the discussion to a wider debate about the uses of hays during the medieval period, going as far back into the early medieval period as Anglo-Saxon charters and place-names allow and extending the history of hays beyond the Domesday survey into the late medieval period. It draws on published research and partly on documentary evidence covering various regions of England.

* Most of the research for this article is from printed sources. The author is indebted not only to those scholars who have written about the medieval countryside but also to those who, over many decades, have edited medieval manuscripts for publication and made them available for easy reference in print, or, as in the volumes published by the English Place-Name Society, have collected information from a great variety of manuscript sources for edited gazetteers. The author is also very grateful to Dr Steven Bassett and Professor Christopher Dyer, who encouraged the research for this article and made helpful comments on earlier drafts of it. The comments of anonymous referees on an earlier draft were also helpful. Any errors remain the responsibility of the author.

[1] Philip Morgan (ed.), *Domesday Book, 26, Cheshire* (1978), fos 263c, 267d and *passim*; Frank and Caroline Thorn (eds), *Domesday Book, 25, Shropshire* (1986), fos 256c, 260b and *passim*; John S. Moore (ed.), *Domesday Book, 15, Gloucestershire* (1982), fo. 165c; Frank and Caroline Thorn (eds), *Domesday Book, 16, Worcestershire* (1982), fo. 167c.

Having noted the records of parks in Domesday Book, Evelyn Shirley remarked on the number of hays in the Domesday survey and stated in his *Account of English Deer Parks* nearly 150 years ago that hays 'appear to differ from parks as being not intended for the permanent preservation of deer, but as a means to entrap them from the forests or woods'.[2] This view was shared over a century later by Oliver Rackham, who also set his comments in the context of parks, and interpreted the Domesday comments as indicating that hays 'were not parks but corrals or other devices for catching wild deer'.[3] In their great study of the geography of Domesday Book – carried out, region by region, in the middle decades of the twentieth century – H. C. Darby and his colleagues described hays as 'enclosures in the wood', observed that mention of them was 'usually made in conjunction with that of the wood' and noted the references to catching roe deer.[4] Charles Young's account of royal forests also described hays simply as 'enclosures in the woods'.[5]

Studies of Anglo-Saxon charters led to greater awareness of the presence of hays in the English countryside in the early medieval period. Della Hooke's detailed research, expanding on G. B. Grundy's studies of Anglo-Saxon charter boundaries in which he translated the Old English *haga* or *(ge)hæg* as 'game enclosure', has considered these terms alongside other Anglo-Saxon texts and the Domesday survey. From the outset she found 'a consistent association with woodland areas and the capture of game'.[6] More recently she has suggested that smaller hays may have been 'little more than hedged enclosures constructed to control the driving and capture of game' whilst the larger hays 'were more akin to deer parks'. She describes these rural features as 'closely related' to the *haiæ* of Domesday Book and concludes that, 'Although it would be presumptuous to assume that either of these terms (*haga* and *haia*) always referred to the equivalent of the fully fledged medieval deer park, they certainly seem to have been associated with what may loosely be termed "game reserves"'.[7]

In his influential article on the deer parks of Domesday Book, Robert Liddiard expressed no doubt about the similarity of *haga* and *haia* and went further, to claim that in Domesday Book 'the terms *parcus* and *haia* were used interchangeably' and suggesting that *haiæ* 'were pre-Conquest parks in all but name'. This article has been cited in a number of other studies, particularly about medieval parks. Despite reservations expressed in some of these studies, for example about the different habits of roe and fallow deer, the article seems to have reinforced the association between hays and hunting.[8]

[2] E. P. Shirley, *Some account of English deer parks* (1867), p. 10.

[3] Oliver Rackham, *Ancient woodland: its history, distribution and uses in England* (1980), p. 191.

[4] H. C. Darby and I. B. Terrett (eds), *The Domesday geography of Midland England* (first edn, 1954), pp. 138–40.

[5] Charles R. Young, *The royal forests of medieval England* (1979), p. 10.

[6] Della Hooke, *Anglo-Saxon landscapes of the West Midlands: the charter evidence* (British Archaeological Reports, British Ser., 95, 1981), p. 236.

[7] Della Hooke, 'The woodland landscape of early medieval England', in Nicholas J. Higham and Martin J. Ryan (eds), *Place-Names, language and the Anglo-Saxon landscape* (2011), pp. 143–74, at p. 167.

[8] Robert Liddiard, 'The deer parks of Domesday Book', *Landscapes* 1 (2003), pp. 4–23, at p. 18. Studies referring to this article include Rosemary Hoppitt, 'Hunting Suffolk's parks: towards a reliable chronology of imparkment', in Robert Liddiard (ed.), *The medieval park: new perspectives* (2007), pp. 146–64, at p. 163; Naomi Sykes, 'Animal bones and animal parks', in Liddiard (ed.), *Medieval park*, pp. 49–62, at pp. 58–61; Angus J. L. Winchester, 'Baronial and manorial parks in medieval Cumbria', in Liddiard (ed.), *Medieval park*, pp. 165–84, at pp. 171–3; Ann Williams, *The world before*

A recent exception to this apparent consensus has come from research into landscapes in parts of northern England, particularly the South Pennines and Derbyshire, where hays have been associated with rough pasture between settlement and moorland. In the absence of any records of hays in these regions in Domesday Book or earlier, that research has necessarily concentrated on late medieval records.[9]

Doubts about the claim that all hays, in the early medieval period as well as in the latter part of the eleventh century, were associated with deer or the hunting of other wild beasts arise from a number of sources. There is evidence within Anglo-Saxon charters and Old English place-names, as well as in some late medieval records, of association with animals other than beasts of the chase. The different nomenclature of hays and parks is apparent not only in Domesday Book but throughout the late medieval period. Some hays were not located in or near woodland, the preferred habitat of most species of deer.[10] The value of research into an apparently minor feature of the medieval English countryside might be questioned, but the sheer number of hays recorded and the information available about them suggests that, instead of being adjuncts to hunting, some hays had an important, and hitherto largely unrecognized, function in medieval livestock farming.

This review starts by examining the etymology of the word 'hay'. This is not just by way of background. It explains why there is still room for debate about exactly what is meant in Old English texts, and why scholars have been unable to reach a definitive conclusion about the nature and function of medieval hays. It is followed by the detailed discussion of the evidence necessary to substantiate the suggestions made in this paper.

I

There are two different words spelt as 'hay' in modern English which have similar pronunciation. Setting aside the word that means grass mown and dried for use as fodder, which has a separate etymology (coming from the Old English *híeg, híg, hég*), the hay that is the subject of this article is described as either an archaic term or one confined to a dialect. It has been defined as 'a hedge, a fence', and, secondly, as 'an enclosed space; an enclosure; a park'. The etymology has been given as 'Old English *hęge* … a derivative of the same root as *haga*', with cognates in modern haw, hag and hedge, and in Old German and Middle Dutch. Old English *hege* was also found in the forms *heige, heage*; several Middle English variants included *heie*, *haie*, *hey*, *heye*, *haye* and *hay*.[11] Some scholars regard Old English *(ge)hæg* as a variant of *hege*.[12]

Note 8 *continued*
Domesday: the English aristocracy, 900–1066 (2008), pp. 124–6; N. J. Higham, *A frontier landscape: the North West in the Middle Ages* (2004), p. 106; Gerry Barnes and Tom Williamson, *Rethinking ancient woodland: the archaeology and history of woods in Norfolk* (2015), p. 98.

[9] Nigel Smith, *Patterns in the landscape: evaluating characterisation of the historic landscape in the south Pennines* (British Archaeological Reports, British Ser. 604, 2014), p. 110; Mary Wiltshire and Sue Woore, 'Hays, possible early enclosures, in Derbyshire', *Derbyshire Archaeological J.* 131 (2011), pp. 195–225.

[10] Sarah J. Wager, *Woods, wolds and groves: the woodland of medieval Warwickshire* (British Archaeological Reports, British Ser. 269, 1998), p. 142.

[11] Oxford English Dictionary [hereafter *OED*].

[12] N. P. Brooks and S. E. Kelly (eds), *Charters of Christ Church, Canterbury* (2 vols, Anglo-Saxon Charters 17 and 18, 2013), II, pp. 707, 710.

The etymology of haw, a cognate of hay, is Old English *haga*, which corresponds to Middle Dutch *hage*, *haghe*, Dutch *haag*, Middle Low German *hage*, Old Norse *hagi* and is 'from the same root as Old High German *hag*, *hac*, enclosure, German *hag* hedge, bush, coppice, fenced place'. Its meanings include 'a hedge or encompassing fence (Old English); hence, a piece of ground enclosed or fenced in; a messuage (Old English); generally, a yard, close or enclosure, as in timber-haw'. The word often appears in Old English texts as *hagan*, the objective case of the noun. There is a second meaning of haw, the fruit of the hawthorn bush, a meaning not unrelated to the first in that hawthorn is commonly used as a hedging plant.[13]

It is apparent that the respective meanings of hay and haw overlap insofar as they denote a hedge, fence or enclosure. However, the work undertaken by members of the English Place-Name Society has influenced the interpretation of the terms *haga*, *hege* and *(ge)hæg*. Distinctions have been drawn between these closely related words. Not only are *haga* and *hege* treated separately, but so also is *(ge)hæg*. Acknowledging that it is often difficult to distinguish *(ge)hæg* from *hege*, especially given variations in spelling and also because the words often appear only in later copies of Old English texts, scholars following the definitions of the English Place-Name Society published in 1956 nonetheless confine the meaning 'enclosure' to *(ge)hæg* and regard *hege* as always meaning 'fence' or 'hedge'. *Haga* was defined as 'a hedge, an enclosure', later (in Old English only) also as 'a messuage, property'. *Hege* was defined as 'a hedge, a fence', and *(ge)hæg* as 'a hurdle, a fence', also 'a fenced-in piece of ground'. The definitions stated that this latter sense 'is not independently attested before the 17th century', apart from use 'in Middle English for the latinized *haia*, denoting a part of a forest fenced off for hunting'. These definitions were largely followed in succeeding county studies of place-names, for example in Berkshire, where *haga* is translated as 'hedge, enclosure', *hege* as 'hedge, fence' and *(ge)hæg* as 'fence, enclosure'.[14]

This distinction between *hege*, *haga* and *(ge)hæg* has been followed in the interpretation of individual place- and field-names. The assumption running through most of the county volumes of the English Place-Name Society is that the Middle or Modern English haw was derived ultimately from Old English *haga* and that the Middle or Modern English hay or hey was derived ultimately from *(ge)hæg*. This assumption omits *hege*, despite its appearance in the etymology of hay, and therefore presumably does not treat it, even implicitly, as a variant of *(ge)hæg*. The later stages of the Dorset place-name survey acknowledge the possibility or the likelihood that some names were formed directly from Middle English 'hay', rather than from Old English *(ge)hæg*.[15]

What is apparent from county studies of minor place-names is regional variation in the use of hay and haw. Whilst some examples of haw can be found in later medieval minor place-names across England, in places as far apart as Gloucestershire and East Anglia, also in Berkshire and Leicestershire, they are much more common in some more northerly counties, notably the West Riding of Yorkshire and north-west Derbyshire. There were variations in the

[13] *OED*.

[14] A. H. Smith, *English Place-Name elements* (2 vols, 1956), I, pp. 133, 221, 241–5; Hooke, *Anglo-Saxon landscapes*, pp. 248–50; Margaret Gelling, *The Place-Names of Berkshire* (3 vols, 1973–76), III, pp. 778–80.

[15] A. D. Mills, *The Place-Names of Dorset* (4 vols, 1977–2010), IV, *passim*, especially from p. 388.

spelling of haw, including *haigh*, *hague*, *haugh* and *hagh(e)*.[16] Regional variation suggests that the difference between hay and haw may have been, at least in part, one of dialect, but there are many counties in which both hay and haw appear in medieval records.

Although there is room for debate and further research into the etymology of the modern words haw and hay, there has always been an assumption that they represent a gradual mutation, over centuries, from Old English nouns. It is easy to see how a word for a fence or hedge became attached to an enclosure surrounded by a fence or hedge, including the enclosure for a medieval dwelling and outbuildings called a messuage. There is no suggestion of any sudden change of meaning or any interruption in the etymology of hay and haw.[17] In neither etymology is there any link with deer or hunting.

The statement that a link to woodland arose in Middle English from the latinized version of hay, *haia*, was made in relation to *(ge)hæg* rather than *haga*. However, some scholars have used a relationship between hays and woods which is apparent in the eleventh and subsequent centuries to argue that such a link existed in the early medieval period and applied to *haga* as well as to *(ge)hæg*. The available evidence for the meanings of *haga* and *(ge)hæg* during the early medieval period therefore needs to be examined in order to assess the validity of this argument.

Another important issue arising from the etymology of the word hay is the acceptance by most scholars of a divergence between *hege* and *haga*, despite the etymology which gives *hege* as the Old English word from which hay, with its dual meaning of hedge/fence and enclosure, originated. Discussion about the nature and function of early medieval hays should take into account the distinction which scholars have made and continue to make between the respective meanings of *haga* and *hege* when they are interpreting Old English texts.

II

Margaret Gelling in *Place-Names in the Landscape* celebrated the 'vast and subtle topographical vocabulary' of the speakers of Old English. She showed, for example, how the language had different words for the different shapes of valleys and hills in the English countryside. The underlying geology of such features has changed little over the centuries and it is possible, therefore, by comparing sites around the country, to identify the differences which were apparent to speakers of Old English, because they are still, unless quarried away, visible in the modern landscape. However, changing management of the land did not match the

[16] A. H. Smith, *The Place-Names of Gloucestershire* (3 vols, 1964), III, pp. 133–6, 150; K. I. Sandred, *The Place-Names of Norfolk* (3 vols, 1989–2002), *passim*; Oliver Rackham, 'The Abbey woods', in Antonia Gransden (ed.), *Bury St Edmunds: Medieval art, architecture, archaeology and economy* (British Archaeological Association Conference Transactions 20, 1998), pp. 139–60; Oliver Rackham, *Woodlands* (2006), pp. 122–3; Barrie Cox, *The Place-Names of Leicestershire* (7 vols, 1998–2014), *passim*; Gelling, *Berkshire*, I, p. 35; A. H. Smith, *The Place-Names of the West Riding of Yorkshire* (7 vols, 1961–2), VII, pp. 198–9; Wiltshire and Woore, 'Hays', p. 199.

[17] The definitions of place-name elements published by the English Place-Name Society are being reviewed by the Institute for Name-Studies at the University of Nottingham, but there are no immediate plans to review those beginning with the letter h: see the Centre's website at www.nottingham.ac.uk/research/groups/ins/index.aspx.

relative permanence of geological formation. Changes in management could lead to changes in meaning. This is exemplified in the words *feld*, originally meaning 'open country' but later having the specialized, agricultural meaning of a cultivated, demarcated area which we now call a field, and *wald*, originally meaning 'forest' in its botanical rather than legal sense and later, in the form of the Modern English 'wold', 'open downland'.[18]

In the same way, the Old English words *hege*, *hage* and *(ge)hæg* probably had very precise meanings when first applied to man-made features in the landscape, but developments in the creation and use of these features could have been accompanied by a change in meaning. To come as near as possible to their meanings, including any changes, involves searching the earliest available records for their use. Philologists with knowledge of Old English, experts in place-name studies and historians with an interest in the early medieval landscape have studied the texts of Old English documents in order to try to define more precisely the meanings of *hege, (ge)hæg* and *haga*, at least in the contexts in which they occur. They have been hampered in four ways: by the paucity of surviving early medieval documents, particularly documents in which a word in Latin is glossed with its Old English equivalent or *vice versa*; by an assumption in those who created documents in Old English that everyone knew the meaning of the words used in everyday speech; by the process by which a common noun describing a topographical feature often becomes a place-name and may also become attached to a different feature in the landscape, such as a nearby settlement; and, finally, by the possibility that the nature of the topographical feature itself changed over the centuries.

The uneven geographical distribution of surviving Old English documents in which *haga*, *hege* and *(ge)hæg* can be found – predominantly charters or wills dealing with grants of land or rights and privileges – hinders the extent to which the use of hay and haw in the later medieval and early modern periods, and any regional variation in that use, can be traced back to the early medieval period. *Haga* is more common in Anglo-Saxon charters generally, the great majority of which, surviving either in original documents, or, more frequently, in later copies, relate to places in south and central England. Transition from *haga* to haw is exemplified in the place-name Northaw in Hertfordshire, first recorded as a wood (*sylvam*) called *North Haga* in the late eleventh century. However, although it shared with *(ge)hæg* the various, related, meanings of 'hedge' or 'fence' or 'enclosure', *haga* was used for urban as well as rural enclosures.[19]

The appearance of *haga* in towns with the meaning 'messuage' can be traced at least as far back as the early ninth century. References are unambiguous and this meaning is easy to verify. A charter dated to 811 and preserved in its original manuscript conveyed, in addition to land, two and a half tenements in Canterbury. The tenements were described in Latin as *duas possessiunculas et tertiam dimidiam*, but with an additional explanatory clause for speakers of Old English – *id est in nostra loquella dridda half haga* – 'that is in our speech half a third *haga*'.

[18] Margaret Gelling, *Place-Names in the landscape* (1984), pp. 7, 235–6, 223.

[19] Hooke, *Anglo-Saxon landscapes*, pp. 238–48; ead., 'Pre-Conquest woodland: its distribution and usage', *AgHR* 37 (1989), pp. 113–29, at p. 123; ead., *Trees in Anglo-Saxon England: literature, lore and landscape* (2010), p. 155; J. E. B. Gover, Allen Mawer and F. M. Stenton, *The Place-Names of Hertfordshire* (1938), p. 113.

References to *haga* in other towns and cities can be found in various other charters, including some other examples in which *haga* is specifically said to be the Old English name for a dwelling or urban property. For example, a grant to St Alban's Abbey in 996 included *nouem praefatae ciuitatis habitaculis, quae patria lingua hagan appellari solent* – 'nine dwellings of the aforesaid city, which in the native language are accustomed to be called *hagan*'. Other grants of urban *haga* were made in Rochester, Winchester, Southampton and London.[20] Examples of urban *haga* are not confined to the south and south east of England. They can be found in Worcester, Warwick, and Hereford.[21]

However, the references to rural *haga* are not straightforward. Most of these references are found in boundary clauses attached to charters conveying rural land units. Most charter boundaries date from the tenth and eleventh centuries, reflecting the larger number of Anglo-Saxon charters which have survived from that period, either as original manuscripts or in later copies, compared with charters from earlier centuries, and also the development of the practice of including boundaries. However, even when charters are regarded as spurious, as many from earlier centuries are, they are often seen as attempts to validate a rightful, usually historic, claim to the land in question, and the boundary clauses which are attached to them are usually treated as accurate records of the boundaries concerned at the time the charters were forged. Some boundary clauses seem to have been attached to copies of earlier, authentic charters and therefore refer to features from the date of the copy rather than the date of the original charter.

Modern commentaries on boundary clauses translate the nouns *haga* and *hege* or *(ge) hæg* variously, and sometimes inconsistently, as 'hedge' or 'enclosure'. For example, a charter for Bexley in Kent in 814, with a boundary clause dated to the second half of the tenth century at the earliest, included stretches of the boundary running along a *hagan*, but in a recent edition of this charter the translation 'hedge or hedged enclosure' is given for only one of these stretches, with the remaining instances being translated simply as 'hedge'. Boundaries being linear features, the distinction in charter bounds between hedges or fences and enclosures surrounded by hedges or fences, is blurred, especially when a *haga* seems to stretch for a distance of several kilometres along the boundary. In some places the location of the *haga* in a boundary clause is marked on the ground today by a substantial bank, presumably once topped by a hedge or fence. However, because in each case it forms only part of the boundary, the *haga* did not include the whole of the land unit whose bounds are being described, and therefore presumably denoted a feature, sometimes apparently of large extent, which either was confined to that section of the boundary or abutted on to that section of the boundary.[22]

[20] For Canterbury, Brooks and Kelly (eds), *Charters*, I, pp. 512–22; for details of the charter cited, see the electronic version of P. H. Sawyer, *Anglo-Saxon Charters: an annotated list and bibliography* (1968), now updated and expanded at www.esawyer.org.uk/browse/index.html [hereafter eSawyer with the appropriate reference number] S168; for St Alban's eSawyer S888, Rochester eSawyer S315, Winchester eSawyer S889, S874, S488, S1560, Southampton eSawyer S636, and London eSawyer S1497, S1142.

[21] For Worcester and Warwick, Hooke, *Anglo-Saxon landscapes*, p. 247, citing charters eSawyer S1232, S1280, S1297, S1352, S1388, S898; for Hereford eSawyer S677.

[22] Brooks and Kelly (eds), *Charters*, I, pp. 541–7 and eSawyer S175; Hooke, *Trees*, p. 153; ead., 'Woodland landscape' p. 166.

Haga is found more frequently in boundary clauses than *hege* and *(ge)hæg*, although the latter are found in charters originating in south-east England. One charter dealing with land in Sussex provides an example of Old English *(ge)hæg* mutating into later medieval *hey, hay* or *haie*. This charter, dating from 680 and with a later boundary clause added potentially as early as *c.*770–800, described the bounds of Tangmere in Sussex and included a place called *horsa (ge)hæg*. The authenticity of this charter is disputed, but even if it was a forgery the forgery is thought to have taken place in the tenth century; the bounds may therefore be regarded as authentic for that period at least, if not earlier. There are later medieval records of a field called *Horsehaie* in Hampnett *c.*1240 and *Horshey* in Tangmere in 1471.[23] Other examples of Old English *hege* or *(ge)hæg* in charters associated with Christ Church, Canterbury, include Durrington in Sussex whose boundary was described in 934 as including *Gehæg holt*, translated as 'enclosure wood' (a holt being a wood characterized by a single species of tree), although it could have been translated as a wood with a fence or hedge. In 845 a river meadow near Canterbury was described as north of the enclosure – *be norðan hege*, *hege* being equated with *(ge)hæg* by the editors, but *hege* in this case could also be translated as 'hedge'. In the boundary of Reculver in Kent in 949 there was an *ealden hege*, translated as 'old hedge', and also a *Gata gehægge*, translated as 'goats' enclosure'. Apparently there was a fourteenth-century record of a *Gateheye* in Herne, which may mark the site of the tenth-century goat enclosure.[24]

In addition to the *haga* in the bounds of Bexley cited above, *haga* is also found in certain places in Surrey, including Merstham, Chobham and Purbright; a *hege* is mentioned in several boundary points in a charter relating to Pyrford.[25] Charters with boundary clauses including *haga* have also survived for various places in Hampshire, including Alresford, Meon and Farnfield, Hinton Ampner and Tisted. The charter relating to Tisted also conveyed a *haga* in Winchester; in this document *haga* was used in both rural and urban contexts.[26]

Haga seems to have been the predominant form in charters with boundary clauses for places in Dorset, although, especially where the charter survives only in a later copy, it can be difficult to distinguish *hege* and *haga* and similar words. Even where a charter with *hege* is regarded as authentic, as with the example from Hinton St Mary in Dorset dating from 944, some doubt over the exact text has remained, with a suggestion that *hegen* might have been written for *hægen*.[27] *Haga* can also be found as a boundary feature in other south-western counties, including Devon, Wiltshire and Somerset.[28]

Most of the examples from southern England cited above do not refer explicitly to woodland, but an association with wooded areas has been identified in central England, for example in Berkshire. In that county *haga* was the main, if not the sole, form in boundaries attached to

[23] Brooks and Kelly (eds), *Charters*, I, pp. 271–82; eSawyer S230; A. Mawer and F. M. Stenton, with J. E. B. Gover, *The Place-Names of Sussex* (2 vols, 1929–30), I, pp. 63–4.

[24] Brooks and Kelly (eds), *Charters*, II, pp. 866–75, 707–10, 936–47; eSawyer S425, S296, S546.

[25] Brooks and Kelly (eds), *Charters*, II, pp. 916–20; J. E. B. Gover, Allen Mawer and F. M. Stenton, *The Place-Names of Surrey* (1934), pp. 114, 145, 132; eSawyer S528, S1165, S621.

[26] eSawyer S589, S1557, S754, S942, S488.

[27] M. A. O'Donovan (ed.), *Charters of Sherbourne* (Anglo-Saxon Charters 3, 1988), pp. 28, 52, 69; S. E. Kelly (ed.), *Charters of Shaftesbury Abbey* (Anglo-Saxon Charters 5, 1996), pp. 15, 30–5, 65; eSawyer, S423, S933, S969, S419, S502.

[28] eSawyer S653, S891, S571.

charters. There were places in which the *haga* seemed to follow most of the boundary, apart from stretches along a river and other places in which the *haga* marked only part of the boundary.[29] Boundaries attached to surviving charters for places in Oxfordshire included *haga*, uncompounded, and an example of *hege* compounded with Old English *swin*, meaning swine or pigs.[30]

A study of the boundary clauses attached to surviving Anglo-Saxon charters for the west Midlands found *(ge)hæg* in only one, that for Cotheridge in Worcestershire.[31] The exceptionally well-preserved archives of the church of Worcester provide many, though not all, of the examples of *haga* in the region. There is a noticeable concentration of *haga* features in charter boundaries west of the Severn, although they were not restricted to that area; later records of place-names with *haga* and *(ge)hæg* show a wider distribution. *Haga* features in boundary clauses do not seem to have covered such long lengths as those in some of the Berkshire charter bounds, but they are associated with areas in which there is evidence of woodland in the early medieval period.[32]

In seeking to determine the precise meaning of *haga*, *hege* or *(ge)hæg*, therefore, most references found in pre-Conquest charters are disappointing. However, when one of these words is combined with another noun, the resulting compound can give some indication of the function of the *haga, hege* or *(ge)hæg* at the time the compound was formed. The compounded forms, albeit few in number, suggest a meaning of enclosure, although any suggestion about the function of an enclosure has to consider whether the surrounding hedge or fence was designed to keep something in or to keep something out. A hedge or fence might have had a dual purpose, preventing escape by enclosure and protecting one kind of animal by excluding another. One analysis of charters across England found six compounds with swine, two with wolves and one with a hart, although it overlooked the examples with horses and goats in Kent cited above and also those with oxen cited below.[33] The *swinhaga* in the boundary of Pendock and the *ealdanswinhage* of Norton and Lenchwick in Worcestershire were presumably named after domestic pigs, although a translation of wild boar has been tentatively proposed. An enclosure named after pigs could have contained those animals or could have excluded them from an area reserved for other animals or for the production of wood and timber. The 'old' *swinhage* in Worcestershire may have gone out of use or may have been supplemented by a new *swinhage*. It has been suggested that the *wulfhaga* in the boundary of Longdon, Worcestershire, was intended to protect deer, but it could have been intended to exclude wolves from an enclosure for livestock. There are two pre-Conquest examples of *(ge)hæg* compounded with oxen. The place-name Oxhey in Hertfordshire was recorded as *Oxan gehæge* in 1007 and *Oxehai* in 1165. As this record was of a place-name it cannot be taken as evidence that oxen were kept in, or out, of the *gehæge* at the beginning of the eleventh century, because the place-name might have been much older, but the name presumably had its origins in an

[29] Gelling, *Berkshire*, III, pp. 615–792; eSawyer S620, S558, S760, S448, S607, S482, S578, S673, S559, S500.

[30] Margaret Gelling, *The Place-Names of Oxfordshire* (2 vols, 1953–54), II, pp. 483–90; eSawyer S843, S678, S738, S911.

[31] Hooke, *Anglo-Saxon landscapes*, pp. 237–8; eSawyer S1303.

[32] Hooke, *Anglo-Saxon landscapes*, pp. 238–42; ead., *Trees*, p. 142.

[33] Oliver Rackham, *The History of the Countryside* (1986), p. 185.

enclosure for one or other of those purposes. A grant of land in West Cliffe, Kent, in 1042–44, referred to *Oxena gehæg*.[34]

There is one compound which has attracted more attention than others and has been used to claim a strong link between *haga* and woodland and specifically to support the idea that a rural *haga* was an enclosure in woodland used for hunting – *deorhage*. In discussing the meaning and use of this word it is important to understand that Old English *deor* meant wild beasts generally, as well as having a secondary meaning of deer.[35] There is a related compound, *deorhege*, which has also been associated with the hunting of deer.

In his will dated to *c.*1043–45 Thurstan, son of Wine, made a large number of bequests, including the wood at Ongar, Essex, except for the *derhage*.[36] It has been assumed that the *derhage* was the enclosure which became the later medieval Ongar Park and this assumption has then been used as a starting point for a theory that deer parks were not a post-Conquest introduction.[37] However, the Great Park of Ongar may have been a late medieval creation, which might have taken in much, if not all, of the wood of Ongar, including the site of the pre-Conquest *derhage*. There is also a reference, towards the end of Thurstan's will, to the grant of a *litle hege* – 'little enclosure' – near an unidentified *Meredene*. Although it is generally accepted that Thurstan's *derhage* was for deer or wild beasts in general, the absence of the word *der/deor* in relation to the *litle hege* means that Thurstan's will cannot be used as evidence that a rural *haga* was always associated with deer.[38]

The compound *deorhege* is found in the list of services (thought to have been composed in the tenth century and revised early in the eleventh century) called the *Rectitudines Singularum Personarum*, which states that the free tenant must *deorhege heawean and sæte healden*. This is a difficult phrase to translate. One translation reads 'cut timber for the deer-hedge and maintain the stall' and another 'cut the deer-hedge and maintain the stall'.[39] The first of these translations could easily be changed to cutting wood and timber for a fence, and the latter interpreted as keeping the hedge trimmed. The Latin version of the document does not help, because it also uses the word *deorhege*, instead of finding a Latin equivalent. Stalls were temporary structures used for trapping game; the association of *deorhege* and *sæte* (the latter having a Latin translation of *stabilitatem*) certainly links *deorhege* to hunting, and it has been suggested that it signifies a permanent rather than a temporary feature, without explaining what function that feature might perform. A Latin document dated to *c.*964 which includes the duty of the tenants of the bishops of Worcester to make a hedge for the bishop's hunting (*uenationis sepem domini episcopi … ad edificandum*) reinforces the association with hunting, but also does not give an explanation.[40]

[34] Hooke, *Anglo-Saxon landscapes*, pp. 237–8; eSawyer S786; ead., 'Woodland landscape', p. 166; for the suggested meaning of 'wild boar' see ead., 'Recent views on the Worcestershire landscape', *Trans. Worcestershire Archaeological Soc.*, third ser., 21 (2008), pp. 91–106, at p. 95; Gover *et al.*, *Hertfordshire*, p. 106; eSawyer S916, S1044.

[35] Williams, *World before Domesday*, p. 124; Hooke, *Trees*, p. 153; Sykes, 'Animal bones', p. 60.

[36] D. Whitelock (ed.), *Anglo-Saxon wills* (1930), pp. 80–5 and notes at pp. 192–7; eSawyer S1531.

[37] Liddiard, 'Deer parks', p. 6; Hooke, 'Woodland landscape', p. 166.

[38] *OED*.

[39] Both translations are given in Williams, *World before Domesday*, pp. 125 and 79.

[40] Ibid., p. 125; for the Worcester document eSawyer S1368.

The Latin *sepes/sæpes* can mean hedge or fence, but that meaning is not extended to an enclosure.[41]

Taken with what has been said about the difficulty of confining wild deer within enclosures, the Worcester document suggests that a hedge or fence, rather than an enclosure, might have been the important feature for the hunt.[42] It prompts the question as to whether a *deorhege* might have been the hedge used to create an early medieval version of a deer course, a long, narrow enclosure through which deer were driven towards the stall in which they would be trapped.[43] The Old English text glossed in Latin and commonly known as *Ælfric's Colloquy* describes methods of hunting including hunting with nets, chasing with swift hounds and stabbing deer when they have been chased by the dogs. It does not mention the use of hedges or fences to help drive deer towards the nets.[44] It has been claimed that the noun 'hay' could refer to these hunting nets.[45] However, the Old English text, dated to the late tenth century, uses the word *max(um)* for nets and that word is glossed in Latin as *retia*; the text does not include the Old English *haga*, *hege* or *(ge)hæg* or the Latin *haia* or *sepes*.

Other compounds with *hege*, such as the *burhhege* which the tenants of Tidenham (in Gloucestershire, west of the Severn) had to fence and ditch (*tyne and dicie*) and which surrounded the lord's hall and associated buildings, show that *hege* can only safely be linked to hunting or deer when compounded with *deor* or another relevant noun.[46] An example is the *rah hege*, translated as roe (deer) hedge, which occurs in some tenth-century boundary clauses.[47]

The absence of the simplex nouns *haga* and *hege* from the lists of services owed to a lord and cited above requires some explanation. It should be seen in the context of the absence of description of other aspects of early medieval farming and land management in these documents. The duties of fencing arable crops and meadows and tenants' holdings are mentioned in a seventh-century law code, and appear in the duties of the Tidenham tenants and, indirectly, in the *Rectitudines Singularum Personarum*.[48] The construction and maintenance of banks and hedges around woods and land units do not. The construction of *hege* and *haga* not associated with hunting could have been amongst the agricultural work which was undertaken by servants or slaves under the direct control of the lord instead of being required of tenants as a customary due.

If it is accepted that the *derhage* of Thurstan's will was an enclosure for holding or hunting deer or other wild beasts, then it is also arguable that in early medieval records the occasional

[41] Eileen A. Gooder, *Latin for local history* (sec. edn, 1978), p. 163; Hooke, 'Pre-Conquest woodland', p. 123.

[42] Sykes, 'Animal Bones', pp. 60–1.

[43] Christopher Taylor, 'Ravensdale Park, Derbyshire, and medieval deer coursing', *Landscape Hist.* 26 (2004), pp. 37–57, argues for the use of deer courses in the late medieval period. More evidence of coursing is cited in Robert Liddiard, 'Introduction', in Liddiard (ed.), *Medieval park*, pp. 1–8, at p. 5. The suggestion about coursing in relation to the Worcester document is made in Hooke, 'Woodland landscape', p. 165.

[44] G. N. Garmonsway (ed.), *Ælfric's colloquy* (rev. edn, 1991), pp. 22–5; Hooke, *Anglo-Saxon landscapes*, p. 236; ead., *Trees*, p. 155.

[45] Liddiard, 'Deer parks', p. 6; Alban Gautier, 'Game parks in Sussex and the Godwinesons', *Anglo-Norman Studies: Proc. of the Battle Conference* 29 (2007), pp. 51–64, at p. 57.

[46] Williams, *World before Domesday*, p. 90; Debbie Banham and Rosamund Faith, *Anglo-Saxon farms and farming* (2014), pp. 190, 194.

[47] Williams, *World before Domesday*, p. 125.

[48] Banham and Faith, *Anglo-Saxon farms*, pp. 67–9.

compounds of *haga*, *hege* or *(ge)hæg* with livestock such as horses, pigs, goats and oxen referred to features which contained rather than excluded these animals. If this is the case then at least some pre-Conquest enclosures were not used for deer or other wild animals, at least not at the time when they were named. Their use for livestock should come as no surprise. The importance of woodland for pasture for livestock in the early medieval period has been recognized by historians to a greater or lesser extent. There was evidence of competing uses of woodland long before the Domesday survey distinguished between woods for pasture and woods for wood and timber, and, in some areas of the country, assessed the amount of woodland by the number of swine which each area of woodland was expected to support or the dues rendered for those swine.[49] Enclosure of part of a wood to confine grazing or browsing animals, whether belonging to all the local inhabitants or exclusively to the lord, might well have been a response to pressure of demand on limited resources.

There is an acknowledged lack of evidence about the practicalities of early medieval farming. Conjecture, based on what is known and on later practices, has necessarily filled the gaps. The sources cited above associate enclosure with arable land rather than pasture, but it is suggested that there must have been an increasing need to enclose livestock as population increased and the management of land became more intensive. Documentary sources deal with the herding of livestock, including the folding of sheep, but do not specify other types of enclosure in which animals were kept.[50] Hays seem to have been one type of enclosure, perhaps associated more with woodland. They might have been used simply to protect animals, or to keep them from straying into fields or coppice woods, or for collecting them together for breeding or culling. There appear to have been separate enclosures for animals of different ages, sexes and uses, oxen being an example of one such category.

The association with animals might also help to explain the apparent imprecision in the translation of Old English *haga* and *hege* or *(ge)hæg*. A newly planted hedge, even of quick-growing hawthorn (often called 'quickset') or blackthorn, needs a few years' growth to become stock-proof; a dead-hedge or fence would have been needed to contain, or deter, animals and protect the young hedging plants until they had grown enough to become a permanent barrier. The use of *haga* to describe a boundary feature, where a substantial bank and ditch can sometimes be traced, may reflect a decision to site an enclosure against an existing boundary bank, and then to complete the enclosure with a new hedge and/or fence, thereby reducing the amount of time, effort and expense needed to create the enclosure.

With so few documentary records from the long period when Old English was widely spoken and with the assumption on the part of those who created those documents that everyone understood the vocabulary used in them, it is not possible to identify with certainty the nature and chronology of the original purposes of hays. However, there is enough evidence to argue that in the early medieval period, at least by the tenth century, hays were not exclusively, or possibly not even mainly, enclosures associated with hunting wild animals. Even with the sparse documentary sources for this period, there is enough evidence to suggest that enclosures surrounded by a hedge or a fence and called in Old English *haga* or *(ge)hæg* had a variety of

[49] H. C. Darby, *Domesday England* (1977), pp. 171–88.

[50] Banham and Faith, *Anglo-Saxon farms*, *passim* and at pp. 1–15, 66, 76, 123–9.

purposes and in the countryside were often associated with livestock. Woodland was only one source of pasture; a recent study of Anglo-Saxon farming has emphasized the importance of pastoral resources in all types of countryside – woodland, open country, meadow and marsh.[51] Therefore, *haga*, *hege* or *(ge)hæg* should not necessarily be associated either with hunting or with woodland.

III

The use in Domesday Book of the Old English *haga* and the Latin *haia*, the assumed relationship between the two terms, and the explicit association of some of the latter with deer, has led to an assumption that all such features were used for hunting.

A recent claim that in the counties comprising the south-eastern circuit taken by the Domesday Book commissioners '*haga* is specifically used for an actual deer enclosure on the ground' has been repeated in some subsequent studies.[52] It disregards the contrary evidence that almost every use of *haga*, and its latinized plural *hagæ*, in Domesday Book refers to the type of urban enclosure found in some pre-Conquest charters. The hundreds of *hagæ* recorded in Domesday Book across south-eastern England and as far north as Oxfordshire were urban enclosures, and even those recorded under rural manors were usually stated to be in named towns; where the link with a city or town was not explicit it can reasonably be inferred. The records for Canterbury in Domesday Book refer to the same kind of urban property as the *haga* in the charter of 811; other *hagæ* were recorded in the same county at Rochester. They were also recorded in some towns in Sussex, Surrey, Hampshire, Berkshire and Oxfordshire. With the exception of Oxfordshire all these counties seem to have been part of same circuit taken by the Domesday commissioners for the south east of England.[53]

The *hagæ* around Chichester in Sussex were recorded both under the town itself – 97½ *hagæ* in the time of King Edward – and under 43 rural manors around Chichester with another 37½ *hagæ*. Thirteen of these 43 manorial entries do not specify that the *hagæ* were in Chichester, but as Aldingbourne had as many as 16 *hagæ* it seems unlikely that those 16 were rural properties; even for places where only one *haga* was recorded it is reasonable to assume that the *haga* was in Chichester. Therefore, when considered in the context of the evidence for other parts of south-east England, using the Domesday entries for just one part of Sussex, around Chichester, to support a case for equating *hagæ* with parks does look like wishful thinking.[54] The same pattern of rural manors with *hagæ* in towns occurs around another town in Sussex, Lewes, which had 197 *hagæ*. Twenty-nine rural manors in the area had *hagæ* and in all except two of these manors Domesday Book locates the *hagæ* in Lewes; the numbers of *hagæ* held by individual manors varied from one to 44.[55]

[51] Banham and Faith, *Anglo-Saxon farms*, *passim*.

[52] Liddiard, 'Deer parks', pp. 14–5; Gautier, 'Game parks', p. 59; Smith, *Patterns in the landscape*, p. 110.

[53] H. C. Darby and Eila M. J. Campbell (eds), *The Domesday geography of south-east England* (1962), pp. 131, , 230–1, 273–9, 351–5, 398–401, 463–71, 548–53; H. C. Darby, 'Domesday Book and the geographer', in J. C. Holt (ed.), *Domesday studies* (1987), pp. 101–19, at pp. 103–05.

[54] Liddiard, 'Deer parks', pp. 14–15.

[55] Darby and Campbell (eds), *South-east England*, pp. 466–8.

There were a couple of rural *hagæ* in Domesday Book, but as they were recorded in a different region of England and as part of two place-names they cannot be used as certain evidence of the presence of a *haga* at the time of Domesday Book's compilation. However, both of these entries were associated with woodland. Domesday Book stated that there was woodland in *brictices haga* in Cretingham in Suffolk and the entry for Hempnall in Norfolk stated that part of the woodland there was called *Schieteshaga*.[56] This entry introduces the notion that a *haga* was part, not the whole, of a wood.

There is a strong association with woodland in the *haiæ* of Domesday Book. For some places in a few counties in England Domesday Book recorded either a single *haia* or two or more *haiæ*. With one exception, Warwickshire, all the counties in which *haiæ* were recorded in 1086 are thought to have been part of the same circuit.[57] There is another possible exception, the largely unnoticed *heia* (*sic*) in the manor of Blythburgh, Suffolk, where the fourth penny from the dues of the *heia* of an unidentified *Riseburc* belonging to the manor were to be divided between the king and the earl. Although it has been suggested that the *heia* was 'perhaps a fortified market-site within the manor of Blythburgh' or refers to a sea-weir, it has also been treated as an alternative spelling of the Latin *haia*. As well as making money from fishing (it paid some of its dues to the king in herrings) Blythburgh was an agricultural manor, with ploughs, woodland and meadow; the *heia* of *Riseburc* might have been a *haia* like those recorded elsewhere. The special feature of the *heia*, that the income from it was divided between the king and the unnamed earl, was presumably the reason for the record.[58]

The *haiæ* of Domesday Book were recorded in counties by the Welsh border and elsewhere in the west Midlands. In Shropshire they numbered over 80 and were recorded in 36 places, including Stretton where there had been five in the past. In Herefordshire there were 19 in 12 places, in Gloucestershire five in two places, in Worcestershire three, in Cheshire 104 in 49 places and in Warwickshire one.[59] Slightly different figures can be given for some of the counties, and figures vary according to whether a place is counted under its Domesday county or the county to which it was subsequently transferred.[60] For the region between the Ribble and the Mersey, which became south Lancashire and was included under Cheshire, *haiæ* were recorded without numbers. The manor of Salford had *plures haiæ*; *plures* has been variously translated as 'many' and 'several'. No *haia* was recorded as belonging to the manor of Leyland, but the men of that manor used to make one *haia* in the woodland. The men of West Derby used to build the dwellings – *domos* – of the king and whatever belonged to those dwellings, including fisheries and in the woodland *haiæ* and stag-beats – *piscarias & in silua haias & stabilituras*. Another translation of *stabilituras* is 'buck-stalls, besetting

[56] A. Rumble (ed.), *Domesday Book, 34, Suffolk* (2 vols, 1986), I, fo. 433b; Philippa Brown (ed.), *Domesday Book, 33, Norfolk* (1984), fo. 248b.

[57] Wiltshire and Woore, 'Hays', p. 196; Darby, *Domesday Book*, pp. 103–8.

[58] Rumble (ed.), *Suffolk*, I, fo. 282a, II, note under 1.12; R.E Latham, *Revised Medieval Latin word list* (1965), p. 220.

[59] Thorn and Thorn (eds), *Shropshire*, under notes for Much Wenlock; ibid., fo. 254a for the five *haiæ* in Stretton; H. C. Darby and I. B. Terrett (eds), *The Domesday geography of Midland England* (sec. edn, 1971), pp. 140, 88, 31, 249, 295; Higham, *Frontier landscape*, p. 106; H. C. Darby and I. Maxwell (eds), *The Domesday geography of northern England* (1962), p. 357.

[60] Dolly Jørgensen, 'The roots of the English royal forest', *Anglo-Norman Studies* 32 (2009), pp. 114–28, at p. 125.

the woods (for game)'.[61] The link between *haias* and *stabilituras* is reminiscent of the link between *deorhege* and *stabilitatem* in the early medieval *Rectitudines Singularum Personarum* cited before. In some entries for Cheshire *haiæ* are also said to be within woodland. In others they appear alongside woodland; *& ibi i haia* – 'and there one *haia*' – is a frequent phrase. In some entries a *haia* is followed in the list by a hawks' eyrie. Some of the Shropshire entries are even more explicit, listing the woodland and then adding a phrase such as *in qua sunt* – 'in which are' – before giving the number of *haiæ*. The distribution of *haiæ* in Cheshire coincides with the more wooded parts of the county, and the lands in south Lancashire had very large quantities of woodland.[62] Although *haiæ* were associated with woods, they were distinct from woods.

In the counties of Herefordshire and Shropshire some manors were described as waste, with no details of the taxable value of the manor or any of its resources apart from *haiæ*.[63] There must have been something special about *haiæ* which meant that they were recorded even though the manor's lands lay uncultivated or otherwise unused and the inhabitants had fled, had died or were unable to work on the land. The entry for *Lege* (variously assumed to be Longnor, or Lee in Lebotwood) in Shropshire describes the manor's three *haiæ* as *firmæ*, an adjective which has been translated as 'fixed', suggesting that other *haiæ* might have been temporary enclosures.[64] A wish to preserve customary dues might account for records of temporary enclosures, but the records of *haiæ* in manors which were waste implies a physical presence at the time of the survey, rather than a temporary structure created as and when required.

Some of the Domesday *haiæ* were used for capturing or holding wild animals, or, specifically, roe deer. A few entries in the folios for Cheshire, Shropshire, Gloucestershire and Worcestershire state this precisely. Weaverham in Cheshire had two *haiæ* of roebucks – *capreolorum* – and Kingsley in the same county four *haiæ* of roebucks – *haiæ capreolorum*. Corfton in Shropshire had a single *haia* for taking or capturing roebucks – *haia capreolis capiendis* – and Lingen in the same county (but later transferred to Herefordshire) had three *haiæ* used for the same purpose – *haiæ capreolis capiendis*. Under Churcham and Morton in Gloucestershire it was recorded that the church (of St Peter, Gloucester) had its hunting there through three *haias* in the time of King Edward and in the time of [King] William – *Ibi habuit æccl'a uenatione' sua' p' iii haias T.R.E. & t'p'r' W.* Kington in Worcestershire had one *haia* in which wild animals used to be captured or taken – *in qua capiebant' feræ*.[65]

The explicit references to capturing deer and other wild animals have led some to infer that every *haia* in Domesday Book had a distinct function and meaning associated with hunting. In her detailed research into the place-names of Shropshire Margaret Gelling went so far as to suggest that in Domesday Book *haia* was probably either a medieval Latin word or a

[61] Higham, *Frontier landscape*, p. 106; Morgan (ed.), *Cheshire*, fos 270a, 269d; Latham, *Word list*, p. 449; Hooke, 'Woodland landscape', p. 166.

[62] Darby and Maxwell (eds), *Northern England*, pp. 357–9; Morgan (ed.), *Cheshire*, fos 269c, 270a; Higham, *Frontier landscape*, p. 106.

[63] Darby and Terrett (eds), *Midland England*, p. 88; Thorn and Thorn (eds), *Shropshire*, fo. 258b.

[64] Darby, *Domesday England*, p. 194.

[65] Morgan (ed.), *Cheshire*, fos 263c, 267d and *passim*; Thorn and Thorn (eds), *Shropshire*, fos 256c, 260b and *passim*; Moore (ed.), *Gloucestershire*, fo. 165c; Thorn and Thorn (eds), *Worcestershire*, fo. 167c; Darby and Terrett (eds), *Midland England*, p. 140.

Norman-French technical term, meaning 'part of a forest fenced off for hunting', rather than Old English (*ge)hæg* meaning 'enclosure'.[66]

This suggestion, that the *haiæ* of Domesday Book might have represented a type of enclosure introduced, or at least categorized, by Norman lords after the Conquest, gains some support from eleventh-century charters dealing with lands in Normandy. Some of these make specific reference to a *haia*, for example a grant of the tithe of the *haia* of Le Theil-Nolent (*decimam Haie de Tilio*) to the Abbey of Notre Dame in Le Bec in 1077 and the right for pigs to graze acorns in the forest and *haia* of *Salsoif* without paying the due of pannage (*Dedi etiam porcis suis lapaisson in foresta mea et in haia de Selesoef sine pasnagio*) to the abbey of Saint-Sauveur-le-Vicomte *c.*1080–85. A grant to the abbey of Saint-Wandrille in 1074 made an exception for the *haia* and *defensio* of the count of Evreux (*excepta haya sua et defensionis)*; the meaning of *defensio* is discussed later in this article. Between 1068 and 1076 William I also confirmed grants made by his father, Duke Robert, to the abbey of Notre-Dame at Montivilliers, of *la Haya de Teilleid*, rendered as *la Haia de Telloil* and *la Haya de Teilled* in various versions of Duke Robert's charter of 1035.[67] The inclusion of the French feminine definite article, *la*, suggests that the use of the Latin *haia* was a straightforward translation of the French noun *haie*, to which a dictionary of Old French attaches the dual meaning of hedge (as in modern French) and enclosure, and, separately, part of the forest reserved for hunting wild animals. These charters refer to forests and woods in such a way as to indicate that in Normandy in the eleventh century a *haia* was distinct from forests and woods, albeit often associated with them. This distinction and this association are also found in a slightly later grant, made by Richard de Redvers between 1100 and 1107 to a new foundation of Sainte Marie at *Néhou*. This included tithes from forests belonging to the old honour of *Néhou*, namely from *Mondrooldo* and the *haia* of *Néhou* and the *haia* of *Moreville* (*de forestis meis pertinentibus ad veterem honorem Nigellihulmi, scilicet de Mondrooldo et de haia Nigellihulmi et de haia Morevill*).[68]

The distinction in the Normandy charters between *haiæ* and forests is also apparent in Domesday Book. Forests were recorded in Domesday Book, but usually only incidentally, in the form of statements that a manor, or a holding, or its wood had been placed *in foresta* or *in foresta regis*. Domesday Book contains no statement to the effect that a *haia* has been put into a forest. Two manors in Cheshire exemplify the point. Weaverham, first in the list of the holdings of Earl Hugh of Chester, paid tax on 13 hides. Its appurtenances included woodland two leagues in length and one in width and there were two *haiæ* of roebucks – *capreolorum*. The entry stated that Jocelyn held four hides of the land from the Earl, who had put three hides of that land into the forest, but there is no statement about the Earl's demesne woodland or *haiæ* being put into the forest, despite the explicit association of the *haiæ* with roe deer. In the

[66] Hooke, 'Pre-Conquest woodland', p. 126; ead., *Trees*, p. 142; ead., 'Woodland landscape', p. 166; Liddiard, 'Deer parks', p. 7; Rackham, *Ancient woodland*, p. 188; M. Gelling and H. D. G. Foxall, *The Place-Names of Shropshire* (6 vols, 1990–2012), II, pp. 11, 59, III, pp. 20, 24, 32, 66.

[67] D. Bates (ed.), *Regesta Regum Anglo-Normannorum*: *The acta of William I (1066–1087)* (1998), pp. 550–4, 784–5, 789–91, 654–7; Marie Fauroux, *Recueil des Acts des Ducs de Normandie de 911 à 1066* (1961), pp. 231–7.

[68] A. J. Greimas, *Dictionnaire de l'Ancien Français jusqu'au milieu du xiv siècle* (sec. edn, 1968), p. 327; R. Bearman (ed.), *Charters of the Redvers family and the earldom of Devon* (Devon and Cornwall Record Society, new ser., 37, 1994), pp. 55–6.

other manor in Cheshire in which *haiæ* are linked to roe deer, Kingsley, the woodland had been put into the Earl's forest, but the four *haiæ capreolorum* were recorded separately with no reference to the forest.[69]

The distinction between hays and forests is also apparent in the entry in the Anglo-Saxon Chronicle stating that William I, known to have established the New Forest in Hampshire, set up great *deorfrið*; the word *deorfrið*, translated into modern English as 'game reserve' or 'sanctuary', contains the Old English word *fyrhth* or *fyrhthe*, not *haga* or *(ge)hæg*.[70]

Domesday Book also distinguished between *haiæ* and parks. Parks appeared in their own right as the Latin *parcus*. Nonetheless, it has been claimed that the *haiæ* were the same as a pre-Conquest *haga* or *(ge)hæg* and were also related to post-Conquest parks, in which fallow deer were contained and bred as semi-domesticated livestock confined permanently to the park, often by a substantial bank and ditch as well as a hedge or park pale. A recent study has identified 37 Domesday parks, but regards the figure as a minimum. That study concluded that the terms *parcus* and *haia* or *haga* were used interchangeably in Domesday Book, with the different terminology being explained by variation according to the shire or circuit within which separate groups of Domesday commissioners collected information.[71] The conclusion has been disputed or at least questioned. It has been explained that roe deer are 'notoriously unsuitable as park animals, the males in particular becoming dangerously territorial when confined', although it has also been suggested that this very habit added to the excitement of the hunt or that *haiæ* and *haga* 'were probably intermittent boundary structures rather than continuous enclosures – thus enabling animals to enter and leave the woodland'. This suggestion has also been used to explain why in some manors Domesday Book records several *haiæ*. In any event it has been concluded that pre-Conquest enclosures for capturing roe deer would have had a different function to those late medieval parks that were used to breed fallow deer in captivity.[72]

This conclusion is supported by the rare translation of *parcus* into Old English in the decade before the Domesday survey, found in the Old English version of the declaration of his grant by Odo, Bishop of Bayeux and Earl of Kent. That version used the phrase *deor falde*, not the words *haga* or *(ge)hæg*.[73] Whilst some *haiæ* might have been converted into parks in later centuries this does not mean that this was their original function; they could have had different uses in the early medieval countryside.

Haiæ and parks are recorded shortly after the Domesday survey as separate items in some manors, providing more evidence that they were regarded as distinct from each other. In Warwickshire, for example, both are found in twelfth-century records of Kenilworth and Sutton Coldfield. The *haia* of Kenilworth, recorded in the foundation charter for Kenilworth Priory *c.*1124 as reserved to the grantor, Geoffrey de Clinton, remained separate from other woods and the park in Kenilworth.[74] In 1133–35 Henry I ordered that his men of Stoneleigh

[69] Darby, *Domesday England*, p. 195; Jørgensen, 'English royal forest', p. 125; Morgan (ed.), *Cheshire*, fos 263c, 267d.

[70] Darby, *Domesday Book*, p. 108 for the quotation; Jørgensen, 'English royal forest', p. 116; D. J. Stagg (ed.), *A calendar of New Forest documents, 1244–1344* (Hampshire Rec. Ser., 3, 1979), p. 5.

[71] Liddiard, 'Deer parks', pp. 6, 12–21.

[72] Sykes, 'Animal bones', pp. 60–1.

[73] Lewis C. Loyd and Doris Mary Stenton (eds), *Sir Christopher Hatton's Book of Seals* (Northamptonshire Rec. Soc., 15, 1950), p. 301.

[74] Wager, *Woods*, pp. 33–4.

should have their pasture in the hay (*haia*) which he had given to Geoffrey de Clinton, just as they had in Geoffrey's time, and also referred to the hay as a wood (*boscum*).[75] Domesday Book had recorded that Kenilworth was a member of the king's manor of Stoneleigh, and Henry I's order indicates that his tenants in Stoneleigh had a traditional and valued right to common pasture in the area of woodland called the Hay arising from an old manorial link between Kenilworth and Stoneleigh. Henry II regained control over Kenilworth Castle and its lands, and when the Close Rolls, where decisions over crown lands were recorded, begin in the following century, the hay of Kenilworth was still a distinct area. It seems to have remained wooded, at least in part, because the Close Rolls record various gifts of timber by the king in the first half of the thirteenth century. Kenilworth's hay seems to fit the model of hays which provided wood pasture. The site of the hay appears eventually to have been absorbed into the wood known in the sixteenth century as Thornton Wood; a survey in 1591 records a place called Great Haes next to or within Thornton Wood.[76] The hay of Sutton Coldfield, recorded in the middle of the twelfth century, was also distinct from the park and the outwood. That hay was described as *liberam haiam in defensione*, an unusual phrase. The Latin word *defensa* is recorded *c*.1113 as meaning an area of protection, and therefore could apply to places in which either hunting was prohibited or livestock excluded at least at certain times of the year – a kind of closed season – without the necessity of a physical barrier. Sutton Coldfield's hay, which was arguably situated in the east of the parish, by the medieval wood (there was a close called *Sidehaleheye* in 1316, later *Sydnall haye*, which presumably became the modern Signal Hayes in the Walmley area), and not in the area in the west of the parish which became the late medieval park, might have been free to local people either in the closed season, or with limits on that freedom in the closed season. The description of Sutton's hay implies that tenants had free, customary use of it and that its function was not associated with hunting.[77]

There is information in Domesday Book itself that refutes the claim that the *haiæ* of Domesday Book were a post-Conquest introduction. As noted above, the entry relating to Churcham and Morton in Gloucestershire stated that the church of St Peter in Gloucester had its hunting through three *haias* in the time of King Edward the Confessor as well as in the time of William I. Given the close relationship between King Edward and the dukes of Normandy it could be argued that Norman-French hunting practices might have appeared in the English countryside before the Conquest. However, hunting was well recorded in England in the early medieval period, and the church of St Peter in Gloucester was an old foundation not linked to

[75] C. Johnson and H. A. Cronne (eds), *Regesta Regum Anglo-Normannorum, 1066–1154,* II, *Regesta Henrici Primi, 1100–1135* (1956), p. 386. The Latin text reads, 'Precipio quod homines mei de Stanley ita bene et plenarie et juste habeant pasturam suam in haia quam dedi G. de Glint' sicut habuerunt tempore G. de Glint', et sicut consideratum fuit quando illi boscum dedi, ne super hoc ulla eis [fiat] injuria vel contumelia, et ne audiam inde clamorem.' The text's G. de Glint' [*sic*] refers to Geoffrey de Clinton.

[76] Judy Plaister (ed.), *Domesday Book, 23, Warwickshire* (1976), fo. 238b; *VCH Warwickshire*, VI, p. 135; *Calendar of Close Rolls, 1234–1237*, p. 303; *1237–1242*, pp. 50, 78, 105, 442–3. The manor of Kenilworth was transferred to Simon de Montfort for his lifetime in 1253 (*VCH Warwickshire,* VI, p. 135), which presumably explains why the Close Roll references do not continue throughout the century; S. G. Wallsgrove, *Kenilworth 1086–1756: The development of medieval Kenilworth* (1991), Fig. 13.

[77] Wager, *Woods*, pp. 67–8; Latham, *Word list*, p. 135; G. J. Turner, *Select pleas of the forest* (Selden Society, 13, 1899), p. xciv.

any French church. (The account of its foundation *c.*679 as preserved by the abbey's monks is accepted as broadly accurate, the grant of Churcham and Morton to the church was made in 1022, and the first Norman abbot was not appointed until 1072.[78]) Nor is the reference under Churcham and Morton an isolated example of the existence of Domesday *haiæ* before the Conquest. As work on the *haiæ* undertaken by thanes in the lands between the Ribble and the Mersey was described as a customary due in the reign of King Edward the Confessor, it cannot refer to features which were a post-Conquest, Norman-French introduction.

It is therefore reasonable to conclude that use of the latinized *haia* in Domesday Book reflected a similarity in nomenclature between Old English and Norman French arising from a common northern European stem and that the features named had developed independently in England and France. The evidence suggests that *haia* was used by the compilers of Domesday Book to translate into Latin the Old English words *hege* or *(ge)hæg.* The nature and purposes of these pre-Conquest features should therefore inform the debate about the nature and purposes of the *haiæ* of Domesday Book. The link already made between them, with a greater or lesser degree of confidence, is on the basis that both were associated with hunting.[79]

Haiæ in Domesday Book have a strong association with woodland. When listed as one of the appurtenances of a manor, rather than as a duty owed to a lord, they are clearly more than a hedge or fence. The question is whether the Domesday commissioners confined their records to a particular type of *haia*, one used for keeping or hunting roe deer, or whether some of the *haiæ* had other functions also associated with woodland. The specific references to roe, rather than another species of deer, may be attributed to the dominance of roe deer in the consumption of venison, which is apparent from excavated sites of high status in the early medieval period. They should be considered in the light of earlier comments about the difficulty of confining these animals within enclosures.[80] It can be suggested that in these cases, as in the early medieval period, the *haia* might have been a narrow enclosure into which roe deer were driven and through which they were chased towards a group of huntsmen in a stall. This might explain why some manors, if they had extensive areas over which the lord could hunt, had two or more *haiæ*. However, the one case in which Domesday Book gives the size of a *haia,* for the unidentified manor of *Donnelie* in Warwickshire, does not support the case that all *haiæ* were for hunting roe deer. That *haia* measured half a league by half a league, far too wide for the kind of enclosure used in deer coursing, and yet probably not extensive enough for deer habitually wandering over miles of countryside. There was no mention of deer in relation to the *haia* of *Donnelie*.[81] One also has to consider why the Domesday commissioners described the function of some *haiæ* but not others. If it was generally known that all *haiæ* were for capturing roe deer or other wild animals there would have been no need to make

[78] Hooke, 'Woodland landscape', pp. 162–9; H. P. R. Finberg, *The early charters of the west Midlands* (sec. edn, 1972), pp. 153–66; *VCH Gloucestershire,* I, p. 55, X, p. 53.

[79] Hooke, 'Views on the Worcestershire landscape', p. 95, equates *hagan* with *haia;* for more hesitant views, ead., *Trees*, p. 142 and ead., 'Woodland landscape', p. 167.

[80] Sykes, 'Animal bones', p. 60.

[81] Plaister (ed.), *Warwickshire*, fo. 240a. For a discussion about the location of *Donnelie*, see Steven Bassett and Sarah Wager, '*Donnelie* (Warwicks): identifying a lost Domesday manor and understanding the nature and function of its *haia*', *Midland Hist.* 42 (2017), pp. 1–17.

the statement. It could therefore be suggested that the commissioners limited their comments to those *haiæ* used for roe deer because they were exceptions to the norm. Other *haiæ* might have had functions related to wild animals generally or to livestock. The multiplicity of *haiæ* in some manors might reflect separate enclosures for different types of animal.

A hay was not an essential adjunct to hunting. Domesday Book includes records of hunting in places which had no *haia*, even in those counties where *haiæ* were recorded. Leyland and Penwortham in Lancashire each had a hawks' eyrie without having a *haia*. Domesday Book for Herefordshire recorded a customary service for the king's hunting which had no reference to a *haia*. The dues from woodland in some of the manors held by the church of Worcester in Worcestershire included income from honey and hunting, but no *haia* was recorded in any of these woods.[82]

Consideration should be given to the possibility that some of the *haiæ* recorded in Domesday Book were used to hold livestock rather than wild animals or that the Domesday survey omitted many hays which had this function at the time. With the importance of pastoral farming in mind, it is possible to interpret the entries for Churcham and Morton in Gloucestershire and Kington in Worcestershire as records of privileged access to the *haiæ* for hunting, implying that it was an exceptional arrangement, which might be to the disadvantage of local people who had traditionally used the *haiæ* for common pasture and who would challenge the use for hunting. The Domesday survey offered landholders the opportunity to assert their rights, in order to prevent future claims or disputes.

Suggestions about the nature and purpose of hays should be set in the context of changes in land use during the early medieval period – more intensive use of land, the influence of developing lordship, attempts to limit common rights, and direct exploitation on a lord's behalf of areas of land within a territory.[83] Such changes might have involved the creation of hays to provide exclusive access to resources for the lord, whether for pasture or timber, although some hays might have provided enclosed pasture for the whole local community, peasants as well as lords. A pastoral function does not necessarily imply woodland, although the importance of wood pasture would explain the frequent link between hays and woods. As kings and lords pursued hunting as a sport appropriate to their status, they could have sought the right to chase deer throughout their lands, including those enclosed for protecting livestock. Faced with opposition from those jealously guarding their rights of common pasture, some lords might have decided to try instead to create additional enclosures specifically to capture deer rather than compete with pastoral rights in existing hays. Such attempts would have been easier in parts of England in the second half of the eleventh century if the manor in question had become, in the words of Domesday Book, waste, or where there was a powerful Norman lord prepared to disregard traditional rights and customs.

[82] Morgan (ed.), *Cheshire*, fo. 270a; Frank Thorn and Caroline Thorn (eds), *Domesday Book, 17, Herefordshire* (1983), fo. 179a; Thorn and Thorn (eds), *Worcestershire*, fos 173a–173b.

[83] Rosamond Faith, *The English peasantry and the growth of lordship* (1997), *passim*.

IV

Evidence for the existence of *haiæ,* haws and hays in the centuries following Domesday Book is much more plentiful, because of the great increase in documentary records. A distinction is apparent between large hays belonging to the Crown, nobles and lords of manors, hays which might be called manorial and in which local inhabitants sometimes had common rights but whose origins and main function are not explained, and small hays in small landholdings. Although, as in earlier periods, there is no definitive explanation of the function of a hay, there are enough references to common pasture to suggest that hays for which there are records of this practice might have had this function since the early medieval period.

The dual meaning of the Latin *haia* or *haya,* and its plural form *haiæ*, sometimes apparent in the same document, reflected the variety of meanings attributed to their Old English antecedents. In the case of the Boldon Book, compiled for the bishopric of Durham not quite a century after the Domesday survey, when the duties of the villeins of Aucklandshire for the bishop's hunting included making their part of a *haya* around the lodges (*circa logias*), it is not clear which meaning applies. The Boldon Book does not state that the *haya* was used to capture, hold or hunt deer and, although it has been translated as 'enclosure', *haya* could be read as meaning a hedge or fence rather than the enclosure formed by the hedge or fence. The meaning 'hedge' frequently appears amongst the appurtenances in late medieval grants of land, hedges being valuable sources of wood and timber.[84]

Both meanings were concurrent and can even be found in the same document, for example, the Great Charter of the Forest of Edward I for Shropshire. Although Shropshire's hays were within the forest they were distinct areas within it, that distinction being important enough for the boundaries of each hay, including hedges, to be recorded over two centuries after the compilation of Domesday Book; in the Great Charter *haia* covered both meanings.[85] Hays are often associated with woodland and with royal forests, an association which has perpetuated the association with hunting and a presumption that they were used to hold and hunt deer. Given the very large areas of the English countryside into which royal forest law had been extended by the thirteenth century and the many records created during the administration of that law, it is hardly surprising that hays appear in the records of the management of royal forests and of depredations in them. Forest law, including restrictions on access and use, and fines for transgressions and assarts, was applied alike to woods, parks and hays in forests, and yet each of these continued to be treated as a distinct type of feature in the countryside.[86]

The distinction between royal hays and forests appears in early records of Crown revenues. In the earliest surviving Pipe Roll, for 1130, income from the hays (*Haiis*) of Hereford and the hays of Brampton was separate from income from forests. Nine manors described as waste in Domesday Book were part of the forest of Hereford by *c.*1160–70, but grants of timber

[84] David Austin (ed.), *Domesday Book, 35, Boldon Book, Northumberland and Durham* (1982), pp. 36–7; Gooder, *Latin for local history,* p. 140.

[85] Latham, *Word list*, p. 220; U. Rees (ed.), *The cartulary of Shrewsbury Abbey* (2 vols, 1975), II, pp. 246–8.

[86] Young, *Royal forests, passim*; Helen E. Boulton (ed.), *The Sherwood Forest Book* (Thoroton Society Record Series, 23, 1965).

and roebuck were made from the *haia*, not the forest, of Hereford during the thirteenth century.[87] In Staffordshire royal hays were treated as sub-divisions of some of the forests, with foresters appointed specifically to manage individual hays. A similar arrangement seems to have been followed in the forest of Inglewood in Cumbria, where the office of keeper of the king's hay of Plumpton existed in the reign of Henry I. The hays in Sherwood Forest, Nottinghamshire were not used as administrative divisions, but an inquisition dated to 1251 stated that no one could exercise common rights in them, and a survey, probably from *c.*1334, lists each hay with its bounds, so that its size can be estimated. Royal hays often covered large areas, greater than that of the only *haia* in Domesday Book for which dimensions are given.[88] If hays were intended to be enclosures into which deer were driven and held before being killed they would have needed to be relatively small, not the large size of some of the later medieval hays. Records of exactly how deer were chased, captured and killed in the later medieval period, as distinct from the numerous occasions on which they were hunted illegally and which were recorded in proceedings held under forest law, are scant.[89] However, if hays had been essential to the hunting of deer they would have been found in any forest where that sport was practised, but there are no references to hays in the management of the New Forest in Hampshire, whose administrative districts were called bailiwicks. Whilst common rights were forbidden in the hays of Sherwood (and in some other hays such as the *haya de Ixhull* in Bernwood Forest, Buckinghamshire), there were some hays in which common rights were permitted; examples from Derbyshire and Worcestershire are given below.[90]

Hays have also been associated with late medieval parks. It has been suggested that the physical proximity of some late medieval hays and parks in Cumbria arises from the creation of parks from parts of hays which might have been 'baronial hunting enclosures pre-dating the formal enclosure of parks', although it is acknowledged that, owing to the lack of early medieval records, the age of these hays cannot be known.[91] However, although the physical proximity of some parks and hays cannot be denied, and it was possible to convert a hay into a park, there is a similar spatial relationship between some parks and woods.

Manorial hays recorded in the twelfth century were usually identified simply from the place to which they belonged, often using the Norman-French definite article *le* or *la*, a frequent practice in several types of field-name. A few compounded, descriptive names for hays, such as *farhaie* or *farheie* in Felsted in Essex which is thought to contain the Old English word *fearh,* meaning pig; *Oxeheie* in Chesterton in Oxfordshire in 1151–54; and *Horsehaie* in Pucklechurch in Gloucestershire recorded in 1189, relate to livestock rather than

[87] Judith A. Green (ed.), *The Great Roll of the Pipe, 31st year of the reign of King Henry I, Michaelmas 1130* (Pipe Roll Society, 95, new ser., 57, 2012), pp. 60, 37; V. H. Galbraith and J. Tait (eds), *Herefordshire Domesday circa 1160–1170* (Pipe Roll Society, new ser., 25, 1950); for gifts of timber and deer from the hay of Hereford see the volumes of the *Calendar of Close Rolls* for the reigns of Henry III and Edward I.

[88] *VCH Staffordshire*, II, pp. 336–49; Winchester, 'Parks in medieval Cumbria', p. 172; Boulton (ed.), *Sherwood Forest*, pp. 45–6, 56–9.

[89] Taylor, 'Ravensdale Park', pp. 47–8; Jean Birrell, 'Deer and deer farming in medieval England', *AgHR* 40 (1992), pp. 112–26, at p. 115.

[90] Stagg (ed.), *New Forest*, pp. 141–5; H. E. Salter (ed.), *The Boarstall cartulary* (Oxford Historical Society, 88, 1930), pp. 176–7, 217; Wiltshire and Woore, 'Hays', pp. 210–3; TNA, E 315/49 no. 310, for common pasture in the hay of Hanbury (Worcs.).

[91] Winchester, 'Parks in medieval Cumbria', pp. 171–2.

deer.[92] It is possible that, although these names were first recorded in the twelfth century, they were much older.

Proper names for hays become more apparent from the thirteenth century. Although there are counties for which place-name surveys have not been completed or were undertaken before field-names were included, there are enough comprehensive county surveys to reveal the widespread occurrence of hays – and haws – across England in the fourteenth and fifteenth centuries. In some areas many of these hays and haws may have been created during the later medieval period and named from those Middle English words, with their variations in spelling, rather than from the Old English *hege* or *(ge)hæg* or *haga*. The difference between Middle English haw and hay may be one of regional distribution, of dialect rather than meaning.

Compound names often included the names of people, or described the site, size or age (old or new) of a hay or haw, or referred to animals. The records reveal many hays for cows, calves, oxen, sheep, lambs, rams, pigs, horses, mares, doves and, more rarely, goats and geese. There were also some hays named after mills and churches, presumably because they surrounded these buildings or were part of lands belonging to them, or after people, presumably their tenants.[93] There is at least one account to show that sheep hays were used to contain sheep; the *Shephey* in Stanton in Gloucestershire was the site of the village's fifteenth-century sheepcote. Arable crops do not feature in these compound names, at least in the medieval period, although one can find a few rye, oat or wheat hays in nineteenth-century tithe awards, or even a couple of centuries earlier. There was a *piriheye* in Gloucestershire in 1282, but this could have been named after pear trees in the surrounding hedge.[94] The names of hays found in late medieval records point to the segregation of different species, ages or sexes of animal into separate enclosures, which might have had a communal function. However, when personal names are used they point to a system of dispersed settlement and farming.

The frequent compound 'haywood', associated with manorial woods, is usually interpreted as a wood which was wholly enclosed, but might instead have referred to a wood characterized by the presence of a hay or hays, but with the hay(s) originally forming only part of the wood. The grant in Baddesley Clinton, Warwickshire *c.*1200, of free entry and exit in the *defensa* called Haywood for all the grantee's animals except goats, can be taken as implying that the whole wood was enclosed. However, as explained above in relation to the *haia* of Sutton Coldfield, the Latin word *defensa* is recorded *c.*1113 as meaning an area of protection, and therefore could apply to woods in which hunting had been prohibited or woods from which domestic animals were excluded (at least at certain times of the year – a kind of closed season) without the necessity of a physical barrier.[95]

[92] P. H. Reaney, *The Place-Names of Essex* (1935), p. 422; Gelling, *Oxfordshire*, I, p. 206; Smith, *Gloucestershire*, III, p. 67.

[93] Detailed information about the many hays with compound names can be found in J. E. B. Gover, Allen Mawer and F. M. Stenton, *The Place-Names of Devon* (2 vols, 1931–32); Mills, *Dorset*, *passim*; J. McN. Dodgson, *The Place-Names of Cheshire* (4 vols, 1970–72), *passim*; Smith, *Gloucestershire*, *passim*; Gelling and Foxall, *Shropshire*, *passim*.

[94] Christopher Dyer, 'Sheepcotes: evidence for medieval sheep farming', *Medieval Archaeology*, 39 (1995), pp. 136–64, at pp. 147, 150; Dodgson, *Cheshire*, III, pp. 90, 201, 258, 266; Smith, *Gloucestershire*, III, p. 219.

[95] Shakespeare Birthplace Trust Record Office, DR3/1; Latham, *Word list*, p. 135; Turner, *Select pleas*, p. xciv; Wager, *Woods*, pp. 142, 258.

Devon, Dorset, Cheshire, Gloucestershire and Shropshire had large numbers of minor place- and field-names including hay and associated with a variety of agricultural purposes. In the nineteenth century the numbers recorded in tithe awards in Cheshire ran into many hundreds; individual parishes or townships might have a dozen or more. A similar picture emerges in Dorset. Some of these late medieval hays were named in the plural, as if each was a collection of small enclosures. The plural form occurs not only in Dorset but also in other counties, such as Devon, Shropshire and Cheshire. Over the years the plural form could replace or be interchangeable with the singular. In relation to Devon it has been suggested that the word 'hayes' came to mean a smallholding, and the multiplicity of these small hays, combined with what is known of agriculture and field systems in south-west England, suggests that they were part of individual landholdings rather than a communal system of agriculture.[96]

Hays and haws were not confined to the western regions of England. Hays were relatively few in Warwickshire but more common in Leicestershire, where haw could also be found and occasionally used interchangeably with hay, and Rutland. The English Place-Name Society's volume for Worcestershire lacks field-names, but some research into original documents by the author of this article has found hays in many parishes. Hays and haws were rare in Lincolnshire, but both were found in that part of Norfolk for which a survey has been undertaken. Even though there has not been a detailed survey of field names in Essex, the published survey of place-names in that county includes dozens of minor place-names with hay. For Suffolk there is as yet no place-name survey, but examples taken from the records of St Edmund's Abbey suggest that hay predominated but with some use of haw. Hays and haws were found in varying densities in the West Riding of Yorkshire, including a detailed study of the landscape of the upper Calder Valley, where the evidence suggests that hays were rough pasture, often located at the highest limits of enclosure adjoining open moorland above. In Derbyshire dozens of hays have been identified in documents dating from before 1500 and here too an association has been made between hays and pastoral farming; haw was the predominant noun in the High Peak. Hays can be found in parts of Berkshire (although *haga* was used in all the surviving Old English charter bounds, both hay and haw are found in later medieval names) and Oxfordshire.[97]

The proliferation of late medieval hays may be set in the context of what has been called the 'enclosure movement of the thirteenth century'. The growth of population, the expansion of settlement, and the conversion of woodland and moorland to cultivation were accompanied by the creation of enclosures for new tenancies, often held by prosperous peasants, exemplified in a common phrase in grants of land *ad claudendum, fossandum et hayandum* – 'to enclose, ditch and hedge'. This process has been seen as the context for the creation of hays in northern

[96] Gover *et al.*, *Devon*, *passim*, but particularly I, p. xxix, II, p. 677; Mills, *Dorset*, *passim*; Dodgson, *Cheshire*, *passim*; Smith, *Gloucestershire*, *passim*; Gelling and Foxall, *Shropshire*, *passim*.

[97] Wager, *Woods*, p. 258; Cox, *Leicestershire*, *passim*; Barrie Cox, *The Place-Names of Rutland* (1994), *passim*; Kenneth Cameron with John Field and John Insley, *The Place-Names of Lincolnshire* (7 vols, 2010), *passim*; Sandred, *Norfolk*, *passim*; Reaney, *Essex*, *passim*; Rackham, *Abbey woods*, pp. 153–9; Rackham, *Woodlands*, pp. 122–3; Smith, *West Riding*, VII, pp. 198–9; Smith, *Patterns in the landscape*, pp. 108–14; Wiltshire and Woore, 'Hays', *passim*; Gelling, *Berkshire*, *passim*, Gelling, *Oxfordshire*, *passim*.

England. However, it could result in the subdivision and destruction of existing hays, which might have been considerably older. An attempt at such subdivision led to a dispute between the tenants of King's Norton and Alvechurch in Worcestershire over common rights in two pastures, one of which was called *Dodenhaleshey*. In 1287 the dispute ended with the men of King's Norton giving up their claim to common pasture in that hay, as a result of which enclosures made there were allowed to remain. Those enclosures were presumably named by their new tenants, which may explain the subsequent disappearance of the name *Dodenhaleshey* as well as of the hay itself.[98]

It could be argued that late medieval hays had no links to the early medieval period apart from their nomenclature, and were distinct from the hays recorded in Domesday Book. This may be the case for small hays within new tenancies created in the late medieval period by converting woodland and waste to agriculture. In those parts of the country where systems of dispersed settlement and farming continued throughout the medieval period hays might have been much older in origin. Whatever their origins, late medieval hays are evidence of the importance of livestock farming to many peasant communities and of the use of enclosed pasture in that period.

Manorial hays may also have been in continuous use from the early medieval period into the twelfth century and beyond. Some records relating to manorial hays occur within a few decades of the compilation of Domesday Book, suggesting that the hays of Domesday Book were but one aspect of a longer history of hays. Although records of a tradition of common pasture within some manorial hays can be found throughout the late medieval period, those dating from the twelfth century may be particularly significant because of their early date. The examples of hays in Kenilworth and Sutton Coldfield in Warwickshire were cited above in the discussion about parks in Domesday Book. The dispute over *Dodenhaleshey* mentioned above suggests that the tradition of common pasture and the hay itself were older than the thirteenth century. Detailed research into hays in Derbyshire has produced at least four twelfth-century records of hays including a reference to the creation of the hay of Bradley for hunting. It is significant that the record specified the purpose of the new hay. It also stated that another, existing, hay was a demesne hay for the lord's grazing and a third was used for grazing by both the lord and the tenants of nearby Yeldersley.[99] The different functions of these three hays may reflect the chronology of their creation; the third, with its shared pasture, may have been the oldest and date from the early medieval period.

The use of hays for pastoral farming might be seen as a function secondary to that of capturing deer and therefore analogous to the use of parks for livestock as well as deer. However, there is a distinct difference between pasture in parks and pasture in manorial hays. Pasture in parks always belonged exclusively to the lord.[100] At a time when lords sought to restrict or remove common rights, the existence of common pasture in manorial hays suggests that these hays were much older than parks. The common right in hays seems to have been for

[98] Christopher Dyer, 'Conflict in the landscape: the enclosure movement in England, 1220–1349', *Landscape Hist.* 28 (2006), pp. 21–33. For the north of England, see the summary in Smith, *Patterns in the landscape*, pp. 10–13, 109–10, and Winchester, 'Parks in medieval Cumbria', p. 171.

[99] Wiltshire and Woore, 'Hays', pp. 216–25, 210–11.

[100] Liddiard, 'Introduction', p. 1.

pasture only, and not to have included other common rights, such as the collection of wood for fuel, house building or hedging.

Hays for livestock do not necessarily have to be located in or near woodland. There is a record of a hay in Kingsbury, Warwickshire, dating from the early twelfth century, which describes its location as between the river Tame and a place called *lacum*. The tithe award for Kingsbury shows a place called Lakes not far from the river Tame. The site is nowhere near Kingsbury's medieval wood. In this case it seems that the hay was not, and could never have been, in a suitable place for capturing or holding deer, but low-lying riverine land would be suitable for livestock. Together with another early twelfth-century deed referring to *la haie* this record puts Kingsbury's hay in the category of manorial hay and shows that it existed within a few decades of the compilation of Domesday Book.[101]

Some manorial hays remained distinct features, but over the centuries seem to have lost their original purpose. Arguably created to manage aspects of common grazing, they would have lost that function as and when rights of common pasture were lost. Wooded hays then became indistinguishable from other enclosed woods. Thirteenth-century treatises on estate management referred to woods, pastures, meadows, marshes and wastes but not to hays, an omission which may indicate that the decline of manorial hays had already begun.[102] In contrast, many smaller hays had no association with woodland and survived as enclosures into the early modern period, although how long they retained the specialist functions from which they took their names is not clear. Although some of these smaller hays may have been created during the late medieval period, their names may reflect a much older association between hays and livestock. The link between some hays and hunting which is so prominent in Domesday Book and some other sources may have obscured not only the function of hays in medieval livestock farming but also a continuity in that function between the early and late medieval periods.

V

The paucity of documentary records from the early medieval period and their character make the origins and initial purpose of hays obscure. It is likely that changes in the nature and purpose of hays took place in the context of agricultural, demographic, economic, social and political developments over the many centuries covered by this study, developments which are often hidden by the lack of documentary evidence. However, the practice of, and limitations on, common grazing and other uses of woodland which applied to some manorial hays in the late medieval period and which arguably reflect very old customary practices, suggest that wooded hays were parts of common woods set aside for purposes often related to livestock and had their origins in the early medieval period. The prevalence of wood pasture in medieval England accounts for the association between hays and woods, with hays being a method of separating areas of woodland used for pasture from those used for the production of wood and timber. A hay intended for livestock might also be enclosed from land which was not wooded.

[101] Wager, *Woods*, pp. 64–5, 258. The two deeds are in the British Library, Cott. Ch. xxv, 25 and xxii, 2.

[102] Dorothea Oschinsky, *Walter of Henley and other treatises on estate management and accounting* (1971).

Whether the noun, 'hay', denoted a large area attached to a manor or local community or a smaller enclosure attached to an individual landholding, a common theme across the best part of a thousand years is an association with livestock. It is indisputable that in the eleventh century, and probably earlier, some hays were used to capture, hold or hunt roe deer or other wild animals and that hunting was permitted in some others. However, it is questionable that this was the original or even the prime function of hays. The widespread assumption that hays were invariably associated with hunting, especially at the time Domesday Book was compiled, overlooks their contribution to livestock farming and medieval economy and society in both the uplands and lowlands of England. Asking why a record of a particular use or practice was made may give the answer that it was necessary or desirable to record the exception rather than the rule; people of high status attached importance to hunting. The long-standing association of hays with animals, livestock as well as wild animals, compels a reassessment of their history and functions. The available evidence suggests that hays were an important part of pastoral farming throughout the medieval period. More research, particularly into documents which have not been edited or calendared for publication, might produce evidence which is more definitive.

Technology, labour, and productivity potential in peasant agriculture: England, *c.*1000 to 1348

by Janken Myrdal and Alexandra Sapoznik

Abstract

The period between the eleventh and fourteenth centuries was one of rising population and increasing pressure on land and resources. Access to land per person and per household declined as peasant arable holdings were fragmented to make room for this growing population, and an increasing proportion of the population was left reliant on smallholdings from which to earn a living. How so many people were able to live off of so little land is a crucial problem in our understanding of the high and late medieval economy. Through examination of illuminated manuscripts, religious iconography, archaeological findings and written records, we identify a series of agricultural techniques, well suited to the growing number smallholding peasants, and argue that peasants were able to achieve high levels of land productivity through the labour-intensive use of small-scale technologies.

The period from the late eleventh century to the turn of the fourteenth was one of tremendous economic expansion in England. Much of this was driven by a growing population, which at least doubled and possibly tripled between 1086 and *c.*1300.[1] In many areas, rapidly rising population put increasing strain on arable resources. In response to this pressure, much new land was brought into cultivation through assarting and reclamation, and the amount of land under cultivation probably doubled over the period.[2] Nonetheless, continued population growth in many areas increased demand for land to such an extent that many peasants fragmented their holdings, giving rise to a substantial population of tenants and subtenants with very small holdings of only a few acres – far less than the 10 acres with which it has long been estimated was necessary to maintain a family on the thinnest edge of subsistence.[3] By 1300 this process had advanced so far that an estimated 60 per cent of households in England were reliant upon smallholdings of less than 10 acres for their immediate needs.[4] How this vast

[1] J. Hatcher, *Plague, population and the English economy, 1348–1530* (1977), p. 71.

[2] S. Broadberry *et al.*, *British economic growth, 1270–1870* (2015), pp. 72–3.

[3] A problem highlighted in B. M. S. Campbell, 'The agrarian problem in the early fourteenth century', *Past and Present*, 188 (2005), esp. pp. 53–62, in which he notes at p. 62, 'it is the sheer number of smallholdings, both villein and free, that is the single most arresting feature of the pattern of tenant property holding revealed by the Hundred Rolls'.

[4] E. Miller and J. Hatcher, *Medieval England: rural society and economic change, 1086–1348* (1978), p. 395; C. Dyer, *Standards of living in the later middle ages: social change in England, c.1200–1520* (1989), p. 126; and H. E. Hallam, 'Population movements in England,

population could be fed, given the amount of land to which peasant households had access and what is known of medieval agriculture, is an enduring problem in our understanding of the medieval economy.[5]

The extent to which an answer to this question lies in a significant productivity difference between peasants and their lords is, in the absence of direct data for peasant yields, a matter of much debate. Recent research based on manorial case studies in Cambridgeshire has suggested that peasants, particularly smallholding peasants, may have achieved higher yields than their lords by a margin of 10 to 25 per cent.[6] However, it has yet to be determined whether the findings of these studies can be applied across the country. Indeed, Broadberry *et al.* contend that lords' access to the best land would have given them a natural advantage over their peasants. Thus they argue that demesne yields, for which there is much evidence, can be considered representative of medieval yields as a whole.[7] Implicit in both of these arguments is the suggestion that peasants were working their land in ways which allowed them to achieve higher yields than those secured by lords, or simply allowed them to overcome their disadvantaged position in terms of land quality. Yet how peasants may have achieved these yields has yet to be understood. Certainly, the amount of labour used in preparing, cultivating and maintaining the soil was crucial to the land productivity of medieval agriculture. In this respect, peasants may have had a distinct advantage over their lords.[8] Indeed, Bruce Campbell has calculated that smallholding peasants in eastern Norfolk could have expended six times as much labour on their holdings than did their lords.[9] On peasant lands, much of this was family-based and was likely to have been more productive than the waged and customary labour upon which lords were reliant.[10] Peasants therefore had access to a motivated and effective labour force that could be deployed with great intensity per unit area, particularly on small farms. What medieval peasants were doing with the labour available to them, by

Note 4 *continued*
1086–1350, in H. E. Hallam (ed.), *Agrarian history of England and Wales* [hereafter *AHEW*], II, pp. 508–93.

[5] Compare for example B. M. S. Campbell, *English seigniorial agriculture* (2000), pp. 386–410 and D. Stone, 'The consumption of field crops in medieval England', in C. Woolgar, D. Serjeantson, and T. Waldron (eds), *Food in medieval England: diet and nutrition* (2006), pp. 19–21.

[6] D. Stone, *Decision-making in medieval agriculture* (2005), pp. 269–71; Stone, 'Consumption', p. 21; A. Sapoznik, 'The productivity of peasant agriculture: Oakington, Cambridgeshire, 1360–99', *EcHR* 66 (2013), pp. 518–44. Even higher estimates are given in H. J. P. Le Poutre, 'Fertilization by manure: a manor model comparing English demesne and peasant land c.1300', *AgHR* 65 (2017), pp. 20–48.

[7] Broadberry *et al.*, *British economic growth,* p. 90.

[8] Outlined in M. Bailey, 'Peasant welfare in England, 1290–1348', *EcHR* 51 (1998), p. 228, although note also limits to this on p. 230. A similar line of thought is noted for eighteenth-century Poland in W. Kula, *An economic theory of the feudal system*, trans. L. Garner (1976), pp. 116; and A. Kahan, *The plow, the hammer and the knout: an economic history of eighteenth-century Russia* (1985), pp. 67–8. Our thanks to Sheilagh Ogilvie and Tracy Dennison for these references. In the Duchy of Wroclaw, Hoffmann found smallholders paying rents four times as high as those for larger tenants, due to the productivity of their land: R. Hoffmann, *Land, liberties, and lordship in a late medieval countryside* (1989), p. 255.

[9] B. M. S. Campbell, 'Agricultural progress in medieval England: some evidence from eastern Norfolk', *EcHR* 36 (1983), p. 39.

[10] G. Dyer, 'Output per acre and size of holding: the logic of peasant agriculture under semi-feudalism', *J. Peasant Studies* 24 (1996), pp. 112–15; also Bailey, 'Peasant welfare', pp. 227–8. Both hired and family labour were likely to have been more productive than customary labour: D. Stone, 'The productivity of hired and customary labour: evidence from Wisbech Barton in the fourteenth century', *EcHR* 50 (1997), pp. 640–56.

what means it was applied to the land, and the potential consequences of this for peasant land productivity are the focus of this study.

Innumerable aspects determined the production aims of peasant households, of which the most important factors were access to land, labour and capital. On smallholdings, large quantities of labour could compensate for deficiencies in both capital and land, increasing land productivity at the expense of labour productivity.[11] Our focus in this study is on the most intense uses of labour to increase arable output over small areas. Although this does not by any means encompass all peasant households in medieval England, it does capture a substantial group of people who were operating under intense pressure. As noted above, smallholding peasants became an increasingly large proportion of the population over the thirteenth century. Many of these people would have been reliant on wage labour to supplement their incomes. Indeed wage income is used in model household budgets to explain how peasants could survive off very small parcels of land.[12] Yet the extent to which wage labour could sustain a large section of the population is debatable.[13] Certainly many demesnes were heavily reliant on wage labour to supplement customary services in the latter part of the thirteenth century. But over the late thirteenth century agricultural wages fell, even as lords brought in more wage labour in their efforts to raise the productivity of their demesnes. The downward movement of wages at a time when wage labourers were in increasing demand indicates a surplus supply of wage labour.[14] In this environment it seems probable that many people would have been unable to find enough work with which to substantially ameliorate their poverty.[15] Therefore, although the opportunity for waged work was an important factor in the medieval peasant economy, it was not so abundant as to have fundamentally altered labour priorities within the majority of peasant households. Thus it is likely that most peasants would have focused on putting intense amounts of labour into household production, either for consumption or sale. The central issue here is not the extent to which smallholding peasants produced goods for consumption or market, but rather that conditions prevailed which would have encouraged cultivation techniques geared toward high land productivity, increasing produce to either eat or sell.

[11] Bailey, 'Peasant welfare', p. 231.

[12] For example, Dyer, *Standards of living*, p. 117.

[13] Karakacili's estimates of labour productivity on the Ramsey Abbey demesnes clearly illustrate this point. At Elton, the demesne with the highest labour inputs, 13.4 man-days were used per acre, on a demesne comprising 432 statute acres with a potential workforce of 300. Indeed, she estimates only about a third of the potential workforce would have been required on the demesne: E. Karakacili, 'English agrarian labor productivity rates before the Black Death: a case study', *JEcH* 64 (2004), p. 34; and ead., 'Peasants, productivity and profit in the open fields of England: a study of economic and social development' (Unpublished PhD thesis, University of Toronto, 2001), pp. 92, 148.

[14] D. Farmer, 'Prices and wages', in Hallam (ed.), *AHEW,* II, pp. 715–817.

[15] A discussion of this can be found in J. Hatcher, 'Unreal wages: long-run living standards and the "golden age" of the fifteenth century', in B. Dodds and C. D. Liddy (eds), *Commercial activity, markets and entrepreneurs in the middle ages: essays in honour of Richard Britnell* (2011), especially pp. 13–14. Under- and unemployment due to overpopulation is noted in Campbell, 'Agrarian problem', p. 9.

I

Our knowledge of agriculture in medieval England is largely based on manorial accounts, which record the practices of landlords in unparalleled detail. However, although invaluable for the study of the agrarian economy, these accounts shed little direct light on the agricultural practices of peasants.[16] How far can it be assumed that the techniques detailed in the manorial accounts and used on demesnes were applied in the same way, or to the same extent, on peasant lands? After all, lords and peasants had access to different quantities and qualities of resources, including land, labour and livestock. Both lords and peasants no doubt sought to achieve their production aims by utilizing their resources most effectively, but it is also likely that varying constraints meant they differed in the means by which they did this.

We cannot escape the fact that manorial accounts document the running of demesnes rather than peasant holdings. We can, however, use the sources we have in ways which will help illuminate aspects of medieval agriculture which would make sense on smallholdings, and from this to posit suggestions for understanding peasant cultivation techniques. To do this, we must not only examine the written evidence from a different perspective, but also look beyond documentary sources to the variety of visual and physical remains of the material culture of the past.[17] The intent is not to create long series of data, but rather to be alert to small details, to ask why the detail is there and what might be gleaned from it. It is often an exercise in looking for what is not there, as much as what is.

A striking feature of manorial accounts is how few hand tools are listed. Yet numerous images in illuminated manuscripts, religious iconography, archaeological remains of iron implements, and indeed other types of written record, demonstrate that hand tools were ubiquitous in medieval agriculture. That these implements are found only in very small numbers in manorial accounts, however, suggests not only that labourers brought their own tools with them when they worked on the demesnes, but also that these tools might have played a more prominent role on peasant land than on demesnes. Through careful examination of a variety of sources, we identify three techniques, barely noted in demesne accounts, which were likely prominent on peasant holdings: spade cultivation, intensive weeding with hooks and by hand, and planting legumes. These methods were particularly suited to the cultivation of smallholdings because of the amount of land and the type and quantity of labour available to smallholding peasants. From this, we suggest that high levels of arable output may have been achieved through the labour-intensive use of small-scale technologies.

This does not mean that peasants created large amounts of surplus, either in cash or in kind. High land productivity was both a cause and, importantly, a consequence of population growth. That this drove peasants to develop a package of techniques which involved exhaustingly high

[16] Exceptions to this are manorial accounts, which include tithes in cash, and especially in kind, and lay subsidy receipts. See for example, B. Dodds, 'Estimating arable output using Durham Priory tithe receipts, 1341–1450', *EcHR* 57 (2004), pp. 245–85; Sapoznik, 'Productivity'; M. M. Postan, 'Village livestock in the thirteenth century', *EcHR* 15 (1962), pp. 219–49.

[17] This necessitates an understanding of the specific problems of each type of source material, a method which has been labelled 'source pluralism'. J. Myrdal, 'Source pluralism as a method of historical research', in S. Fellman and M. Rahikainen (eds), *Historical knowledge* (2012), pp. 155–89.

labour inputs in order to overcome land shortages, allowing them to achieve a subsistence existence while living off of decreasing amounts of land, is further indication of the economic difficulties of the period. Yet it also begins to explain how the population of England grew even in the face of these adverse conditions, and earned a living off increasingly small holdings.[18]

II

Many years ago, M. M. Postan wrote that the 'inertia of medieval agricultural technology is unmistakable'.[19] Yet perhaps the cumulative impact of seemingly small technological changes on agricultural productivity has been overlooked. One such innovation is the iron-shod spade, which seems to have developed in Roman Britain and subsequently spread along the borders of the late Roman Empire. As the population of Europe fell during the early Middle Ages, the iron-shod spade fell out of use in many regions. But in the centuries around the year 1000, it became increasingly prevalent across northern Europe. Spade cultivation has received little detailed attention within an English context.[20] Yet sources from across northern Europe indicate the prevalence of peasants who performed corvée with spades and hoes because they owned no ploughs or teams.[21] That there existed in England, too, a group of peasants with small holdings who, as a consequence of their poverty, did not have animals for a plough team or ploughing equipment is evident sources which detail labour services. For example, at the Ramsey Abbey manor of Barton-in-the-Clay (Bedfordshire) in 1254–55, each yardlander holding 30 acres was to plough half an acre of the lord's land, 'if he [had] his own plough team'. But if not, he was able to join with up to seven other men 'if their means stretch no further', and together all eight men were required to plough only half an acre. At Banstead in Surrey in 1325, tenants with 15 acres who did not have a plough team with which to perform ploughing services were instead to 'delve four day works'.[22] These records suggest that even with 15 to 30

[18] This is the 'slum' agriculture described by Langdon, which may also have been a factor driving down holding sizes: J. Langdon, 'Technology, labour opportunity and inventive thinking in medieval England', in M.-L. Hechmann and J. Röhrkasten (eds), *Von Nowgorod bis London: Studien zu Handel, Wirschaft und Gesellschaft im mittelalterlichen Europa: Festschrift für Stuart Jenks zum 60. Geburtstag* (2008), p. 446.

[19] M. M. Postan, *The medieval economy and society: an economic history of Britain in the Middle Ages* (1972), p. 44.

[20] Dyer, *Standards of living*, p. 171; J. Langdon, *Horses, oxen and technological innovation: the use of draught animals in English farming from 1066 to 1500* (1986), pp. 174, 195.

[21] E. Thoen, 'The birth of "the Flemish husbandry": agricultural technology in medieval Flanders', in G. Astill and J. Langdon (eds), *Medieval farming technology*, pp. 69–88; J. David, 'Spade cultivation in Flanders', *Tools and Tillage* 5 (1984), p. 10. For peasants who were to work the land by hand see M. Bloch, *Feudal society* (1961), p. 195 (France); L. Verriest, *Le polyptyque illustré dit 'Veil rentier' de Messire Jehan de Pamele-Audenarde* (1950), fos 98v, 115v, 144r, 156v (Flanders); B. Poulsen, 'Agricultural technology in medieval Denmark', in Astill and Langdon (eds), *Medieval farming technology*, p. 136 (Denmark). For spade cultivation of gardens and small fields see A. Derville, *L'agriculture du nord au moyen age: Artois, Cambresis, Flandres wallone* (1999), pp. 101–2, 117–18; indications of this are also found in the Sachsenspiegel: M. Dobozy, *The Saxon Mirror: a Sachsenspiegel of the fourteenth century* (1999), pp. 110, 139 (Germany).

[22] G. C. Homans, *English villagers of the thirteenth century* (1941), pp. 80, 77. At Bugthorpe, Yorks. even tenants holding two bovates might not own their own plough: T. A. M. Bishop (ed.), 'Extents of the Prebends of York', *Miscellanea*, IV (Yorks. Archaeological Soc. Rec. Ser. 94, 1937), p. 11.

acres it was possible that a peasant might have neither plough nor team, casting some doubt on the suggestion that 10 acres was the almost universal threshold for plough-ownership.[23]

That not all tenants with more than 10 acres had ploughs is clear from the inventories made in the immediate aftermath of the Black Death on the estates of Durham Cathedral Priory, although plough ownership was certainly related to the size of a holding. Of the 60 holdings of 18 acres for which an inventory was recorded, 67 per cent had at least one plough, compared with 43 per cent of the 23 holdings between 11 and 18 acres, while just one plough appears in the 39 inventories of holdings of ten acres or less, this being a nine-acre holding.[24] Peasant inventories in Worcestershire demonstrate a similar pattern, showing that even in the late fourteenth and early fifteenth centuries, a period of rising living standards, peasants with less than half a virgate were more likely to own spades than ploughs, with three of nine inventories for holdings of this size listing spades and none listing ploughs or plough parts.[25]

Of course, the plough itself was only part of the equation. Another important factor was the plough team. Postan and Titow's analysis of the Bishop of Winchester's estates suggested that by the turn of the fourteenth century 40 per cent of peasants were too poor to own livestock with which to pay heriots.[26] Although this may underestimate the draught animals present, it nonetheless suggests that a sizeable proportion of the population did not own even a single animal to put to the plough. Again, this is corroborated by the Durham inventories, in which only six of the 60 holdings of more than 18 acres included no draught animals, compared with 30 of the 39 holdings of ten acres or less.[27] Although the Durham inventories are probably incomplete, they nonetheless indicate very few ploughs overall and very little draught power. Plough-sharing and various iterations of co-aration would have improved this situation to some extent, allowing even smaller-holding peasants access to the plough.[28] Nonetheless, the apparent dearth of draught animals would have hindered the ability of large numbers of peasants to come together to form plough teams, and many peasants with little land must have been drawn to other methods of cultivation.

This is all the more interesting given the emphasis on both ploughs and draught animals in the manorial accounts and the lack of attention to the spade in the major English agricultural treatises of period, Walter of Henley's *Husbandry* and the anonymous *Seneschaucy*. These treatises were written for a seigneurial audience, replete with ploughs, and for whom hiring workers to dig with spades would not have been cost-effective. Yet Walter notes that spades should be used to turn the ploughed soil, while the *Seneschaucy* considers digging ditches to

[23] Langdon, *Horses, oxen*, pp. 95–6.

[24] Figures include only those entries with inventories: Durham Cathedral Muniments (DCM) Loc. IV 141, Inquest on free tenants who died in the Plague, DCM Loc. IV 146-7b, Inquest on tenants who died in the Plague; see also R. A. Lomas, 'The Black Death in County Durham', *J. Medieval Hist.* 15 (1989), pp. 132–3.

[25] In contrast to peasants with between a half and a whole virgate, all five of whom had ploughs or plough parts, as did five out of six peasants with a virgate or more: R. K. Field, 'Worcestershire peasant buildings, household goods and farming equipment in the later Middle Ages', *Medieval Archaeology* 9 (1965), pp. 137–45; Lomas, 'The Black Death in County Durham', p. 133.

[26] M. M. Postan and J. Z. Titow, 'Heriots and prices', in M. M. Postan, *Essays on medieval agriculture and general problems in the medieval economy* (1974), pp. 161–2; J. Longden, 'Statistical notes on Winchester Heriots', *EcHR* 11 (1959), p. 413; this is an increase from the thirteenth century.

[27] DCM Loc. IV 141, DCM Loc. IV 146-7b.

be one of the tasks of the ploughman.[29] Indeed, it appears that this is precisely what happened on the Bishop of Ely's manor of Wisbech (Cambs.), where iron-clad shovels are listed in the plough accounts.[30] Such complementary work is further demonstrated in the late fourteenth-century poem, *Piers Plowman,* in which Piers is helped in his work by the pilgrims who 'digged up the balkes' alongside the plough, and later, 'ditchers and diggers dug up the ridges'.[31] The spade also supplements the plough in a subsequent passage, in which the hermits, working alongside Piers, 'laid hands on spades', digging 'dirt and dung to drive off hunger'.[32] Here spadework is associated with poverty, and, importantly, with productivity, suggesting that the spade had an important role in cereal cultivation, particularly for the poor peasant, even in the later Middle Ages.

Strong evidence for the importance of the spade to the agriculture of the medieval peasantry comes from non-textual sources, for this period also saw the increasing prevalence of the spade in English art. The backbreaking nature of spadework made it most suitable for cultivating small parcels of land. Indeed, it is within this context of poverty and smallholding, and the dire subsistence-level straits in which many peasants must have found themselves, that artistic images of the spade became common over our period. This is most pronounced in the development of Adam-iconography over the high medieval period. The eleventh century saw an increase in the prominence given to images of Adam and Eve in their toil, a development associated with increased emphasis on hard work for the survival of society as a whole, which itself is indicative of an important change in ideology during the high Middle Ages.[33] Yet whereas the earliest images of Adam working, which date from the ninth century, depict him working with an ard, from the turn of the eleventh century Adam is shown working the land by hand with a hoe or, more commonly over the thirteenth century, an iron-shod spade.[34] This

[28] Langdon, *Horses, oxen*, pp. 235–41. Although Langdon notes that instances of co-aration on demesnes were probably greater in number in the thirteenth century than the twelfth, given the 'population growth of the period, as declining levels of land and livestock per person', he also notes the relative paucity of indications of plough-sharing agreements in court rolls: ibid., pp. 236, 239. Two examples of sharing ploughs are found in the Wakefield court rolls between 1286 and 1316: in 1286 two men were supposed to plough their land together, but one of them did not come, leaving the other's land unploughed; and in 1307 an agreement that one tenant plough another's land was broken. Two instances of taking other tenants' animals to attach to the plough should also be noted at Wakefield: a heifer was yoked to a plough in 1297, the fine for which was 6*d*., and that same year an ox taken to plough for three days, for which offence the fine was 4*s*.: W. P. Baildon *et al.* (eds), *Court rolls of the Manor of Wakefield* (Yorks. Archaeological Soc. Rec. Ser. 29, 36, 57, 78, 109, 1901–45), III, pp.161–2; II, p. 90, 7; I, p. 284.

[29] See Harvey's comments on Walter of Henley: P. D. A. Harvey, 'Agricultural treatises and manorial accounting in medieval England', *AgHR* 20 (1972), p. 181; and D. Oschinsky (trans. and ed.), *Walter of Henley and other treatises on estate management and accounting* (1971), pp. 283, 321.

[30] For example Cambridge University Library, EDR, D8, Box 1, Roll 14 (1340–41).

[31] W. Langland, *Piers Plowman,* ed., E. Robertson and S. H. A. Shepherd (1990), pp. 100, 101.

[32] Ibid., p. 105.

[33] M. Camille, '"When Adam delved": labouring on the land in English medieval art', in D. Sweeny (ed.), *Agriculture in the middle ages: technology, practice, and representation* (1995), pp. 247–76; G. Duby, *The three orders: feudal society imagined*, trans. A. Goldhammer (1980).

[34] The spatial and chronological distribution of this change is detailed in J. Myrdal and A. Sapoznik, 'Spade cultivation and intensification of land use, 1000–1300: written sources, archaeology and images', in Jan Klapste (ed.), *Agrarian technology in the medieval landscape*, (*Ruralia* 10, 2016), pp. 203–23. The salient point here is the almost universal depiction of the iron-shod spade in manuscripts originating in England.

is of course the foundation of the proverb, 'When Adam delved and Eve span', the first known formulation of which is from England in the late fourteenth century, and which subsequently spread across northern Europe. There is every reason to think this this trope was already well known long before the proverb was so famously quoted in John Ball's sermon during the Peasants' Revolt of 1381, for plays dating from the twelfth century depict Adam digging and Eve spinning.[35]

It is notable that at the same time as images depicting Adam delving became common, a man digging with a spade became the increasingly accepted image representing March in northern European labours of the month. In England, where labours of the month were particularly focused on depicting agricultural work, the two earliest surviving examples of labours of the months (BL Cotton Julius A vi and BL Cotton Tiberius B v) both dating from the early eleventh century, show iron-shod spades being used in the fields, and this type of spade iconography was highly developed by the twelfth century.[36]

In his classic study of the use of the horse in medieval agriculture, John Langdon argued that 90 per cent of land in England was cultivated with the plough, while the remaining 10 per cent, lying mostly in small crofts and gardens, was cultivated by hand.[37] Yet the growing iconographic importance of the spade in medieval art suggests that the spade was a tool commonly associated with cultivation. Of the famously intensive and productive 'Flemish husbandry' which developed over the thirteenth and fourteenth centuries, Erik Thoen has written that the 'shift from the plough to the more labour intensive spade was the most characteristic change'.[38] It seems reasonable to think that medieval English cultivators, who also spent so much of their time diverting water away from their crops, would have made use of their spades in similar ways.

It is well known that spade cultivation became an increasingly important facet of agriculture in the nineteenth century, another period of population increase when pressure on resources grew at a remarkable rate. The spade's superior ability to improve the quality of the soil by pulverizing it more effectively and allowing for more assiduous weeding led to high yields on spade-cultivated lands, even when compared with land cultivated by the improved ploughs of the period.[39] Indeed, spade cultivation among other labour-intensive techniques led to wheat yields that were twice as high on nineteenth-century English allotments as they were in arable fields – an enormous difference.[40] In the absence of directly comparable evidence, it cannot be said that the productivity of spade cultivation was so great in the medieval period and

[35] See for example the Anglo-Norman 'Jeu d'Adam': L. R. Muir, 'Adam, a twelfth-century play translated from the French with an introduction and notes', *Proc. Leeds Philosophical and Literary Soc.* 13 (1970), pp. 149–204.

[36] J. C. Webster, *The labors of the months in antique and medieval art: to the end of the twelfth century* (1938).

[37] J. Langdon, 'Agricultural equipment', in G. Astill and A. Grant (eds), *The countryside of medieval England* (1988) p. 88; a similar phenomenon is found at Cuxham, where peasants with no land in the fields and no livestock cultivated their crofts with corn by hand: P. D. A. Harvey, *A medieval Oxfordshire village: Cuxham, 1240–1400* (1965), p. 134.

[38] Thoen, 'The birth of "the Flemish husbandry"', p. 81.

[39] See for example David, 'Spade cultivation in Flanders' for Belgium. F. Valen-Sendstad *Norske landbruksredskaper 1800–1850* (1964) pp. 28–38 and K. Visted and H. Stigum *Vår gamle bondekultur* 1 (1971), pp. 196–9 for Norway.

[40] J. Burchardt, *The allotment movement in England, 1793–1873* (2002), pp. 156–9.

certainly there is a difference between the iron-shod spade of the Middle Ages and the modern all-iron spade. Yet it is likely that these same attributes did make spade cultivation attractive to smallholding peasants in the Middle Ages, for the importance of hand cultivation in the centuries after the year 1000 appears to have been a common phenomenon across the whole of northern Europe.[41]

The productivity potential of the spade was partly because it could be used in nuanced and varied ways to build up ridges and dig down furrows depending on particular soils, levels of moisture, and vagaries of landscape. But spade cultivation was enormously labour-intensive, best suited to the cultivation of smallholdings, crofts, gardens, and small parcels of land not easily accessible to the plough, and under economic circumstances in which raising yields meant that the family had enough to eat, rather than hiring labour in order to increase the amount of grain which could be sold. Yet for those smallholding peasants, too poor to own plough parts or teams, whose livelihood depended upon the productivity of their arable land, it seems likely that the spade was crucial to cereal cultivation.

This highlights a fundamental difference between the economics of demesne farming and that of the smallholding peasant. Analysis of the seigneurial sector has demonstrated time and again that lords sought to maximize profit, and that this did not always mean maximizing production, for the cost of labour was a constant concern. For peasant producers, especially smallholding peasants driven by subsistence needs in a period of high competition for wage labour, it was maximum production that mattered, for they consumed what they produced and their labour was abundant. Thus labour-intensive spade cultivation made sense for this sector, when it did not for lords.

The evidence discussed above suggests that cultivation techniques can be considered on a continuum, with land only cultivated by ploughing on one end, and land only cultivated by spades on the other. Toward the ploughing side were lords and wealthier peasants, whose holdings were too large to make spade cultivation feasible, and for whom the benefits of intensive cultivation did not offset the time or cost of the labour. At the other end were smallholding peasants and cottagers, particularly those with few other employment opportunities, who were very heavily reliant upon their holdings for their livelihood, and were consequently likely to expend a great deal of time and energy on the preparation of the soil. Yet these were two extremes, and between these points lay innumerable possibilities for variations in the proportions of spadework and ploughing, depending on the circumstances of each household, including holding size, labour supply and potential for co-aration and extra-arable income.

III

The productivity gains made possible through assiduous preparation and maintenance of soil would have been lost without further care taken over the crops once they were planted. Thorough weeding was another labour-intensive and time-consuming task necessary for the success of arable crops. Medieval fields were notoriously unclean, rife with thistle and stinking

[41] Myrdal and Sapoznik, 'Spade cultivation'.



FIGURE 1: Long-handled weeding hook illustrated in the Luttrell Psalter
(© The British Library Board Add. MS 42130, fo. 162)

mayweed.[42] These weeds competed with grain for nitrogen and other soil nutrients, potentially lowering corn yields, but they also diminished the viability of the straw for fodder, especially for cattle, adding further pressure in regions where pastoral resources were scarce.[43] Thus in this period of rising arable productivity and intensification of land use, the long-handled weeding hook, an invention of the high middle ages, developed and became prominent (Figure 1).[44]

This implement was particularly well adapted to densely growing grain and intensive arable agriculture. The iron weeding hook, shaped like a very small sickle, was used in conjunction with a forked wooden stick. Together these two implements allowed workers to cut or pull the weed while still remaining upright, attacking weeds with targeted precision. Importantly, the long handles also meant that weeding could be done in broadcast-sown and mature grain without walking out into it, and medieval images often depict this task being done from the balks rather than in standing in the grain itself.[45] Indeed it is possible that the weeding hook was so well suited to this task that it also supplanted the small hoe-like spud, which had been prominent in an earlier period.[46]

[42] These two weeds were mentioned by name in the Cuxham account for 1319, in which 256 day works were spent pulling mayweed (*amarissa trahenda*) and 204 day works were spent cutting thistles (*cardonibus cindendis*): P. D. A. Harvey, *Manorial records of Cuxham, Oxfordshire: circa 1200–1359* (1976) p. 339. J. Letts, *Smoke-blackened thatch: a unique source of late medieval plant remains from southern England* (1999).

[43] Cattle and sheep avoid mature thistle and stinking mayweed, the latter can also taint milk if eaten in quantity. Horses will eat thistle, but like most livestock, avoid mayweed.

[44] Langdon, 'Agricultural equipment', p. 99.

[45] This is very clearly shown in the Luttrell Psalter, below, n. 52; also for example the Oscott Psalter, BL, Add. Ms 50000, fo. 3v (England *c.*1265–70); although it was not always the case: The York Psalter, BL, Add. Ms 54179, fo. 3v (England *c.*1260).

[46] The tool described as a 'spud' for weeding was relatively more common in the Roman period, which was characterized by its wide variety of hoes, than in the medieval. The spud was a narrow socketed blade on a straight shaft which chopped down into the soil to cut the roots of weeds. The Roman blades, however, can be interpreted differently: if their wooden shafts, which are not preserved, were curved, they would have been small hoes. Goodall's compilation shows that when weeding hooks were common, the narrow blade of a hoe or spade was rare. It may also be suggested that the spud was used in conjunction with the plough, either to clean the mouldboard, or to break up soil alongside the plough, a task corroborated by the Wisbech accounts, many of which include the purchase of an iron *rastrum* the definition of which

Manorial accounts demonstrate that by the mid- to late-thirteenth century, extensive weeding was carried out on demesne lands, often by hired wage labourers.[47] Yet behind the aggregate sums of days worked weeding and the expense of this labour in services or money lies a practical issue regarding how and when that work was actually performed. Here a distinction should be made between weeding the fallow and weeding in growing grain. Unsown fields could be weeded by ploughing. Indeed, Walter of Henley prescribed two ploughings of the fallow, the first relatively deep and followed by a second, shallower, ploughing which was deep enough to attack the thistles but not so deep as to make the furrows fill with water.[48] Such intensive preparation of the fallow was a potentially expensive undertaking, and while Harwood Long doubted the possibility for deep ploughing and Postles questioned the extent to which lords really had their land cleaned in this way, the existence of 'fallow ploughs' without irons suggests that some lords did carry out this task to some degree and manorial accounts frequently mention ploughing the fallow.[49]

Weeding the fields once the grain was sown was a different task altogether. Manorial accounts list weeding under variants of the headings *sarclacio* or *sarculatio*, a task commonly specified as being undertaken as the crops were growing.[50] This task is typically translated into English as 'hoeing', presumably based on the classical Latin.[51] Yet the destruction caused by hoeing in growing grain sown by broadcast would surely exceed the benefit gained from removing weeds. In fact, medieval images of weeding show this task being performed not with hoes, but rather with hooks.[52] The hoe of the Romans, from which the word *sarculus* came into medieval usage, could be single-pointed or two-pronged, the latter not dissimilar in shape to the medieval weeding hook, and so it seems that by the time the task appears in manorial accounts, the classical word for the Roman hoe was being used to describe a new instrument for which there was no pre-existing word. Thus the Roman *sarculus* became the medieval weeding hook.[53]

Note 46 *continued*
may variously be hoe or mattock, and by extension a 'spud'. As with many implements, it probably had several functions. S. Rees, *Agricultural implements in prehistoric and Roman Britain* (BAR British Series 69, 1979), pp. 330–1; K. D. White, *Agricultural implements of the Roman world* (1967), pp. 36–68; I. H. Goodall, *Ironwork in medieval Britain: an archaeological study* (2011), pp. 80–2; for example EDR, D8, Box 2, Roll 2 (1347–48).

[47] D. Postles, 'Cleaning the medieval arable', *EcHR* 37 (1989), pp. 130–43; Stone, *Decision-making*, pp. 70–1.

[48] Oschinsky, *Walter of Henley*, p. 321.

[49] Postles, 'Cleaning', pp. 139–42; for example: at Michelmersh in 1311 (J. S. Drew, 'The Manor of Michelmersh near Romsey, Hants: an English translation of a rental and custumal, rolls and manor court rolls (1248–1331) preserved in Winchester Cathedral Library' (ts at the Institute of Historical Research, 1943); Gamlingay (Merton College Oxford, 5392, 1339–40); Waltham (N. Holt (ed.), *The Pipe Roll of the Bishopric of Winchester, 1210–1211* (1965), p. 115). Harwood Long doubted that ploughs would have been able to cut very deep at all, and it should be noted that spades were probably better suited to the task of deep cultivation: W. Harwood Long, 'The low yields of corn in medieval England', *EcHR* 32 (1979) p. 369.

[50] 'In blado sarclandis': for example Holt (ed.), *Winchester Pipe Roll, 1210–11,* pp. 57 (Brightwell), 65 (Witney), 141 (Sutton).

[51] For example, F. Page, *Wellingborough manorial accounts: AD 1258–1323* (1936), p. 138 (glossary); J. L. Fisher, *A medieval farming glossary* (1968) p. 31; R. E. Latham *et al.* (eds), *Dictionary of medieval Latin from British sources* (17 vols, 1975–2013), p. 2937.

[52] See for example the Luttrell Psalter: BL, Add. MS, 42130 fo. 172r (Lincolnshire, England, *c.*1320–40); this is also the method shown in Labours of the Months, below. The hoe is conspicuous in its absence in medieval English iconography.

[53] This was in fact the dictionary definition of *sarculus* in the seventeenth century: C. Wase, *Dictionarium*

Later evidence clearly supports this point: in his section on weeding, the early sixteenth-century writer Fitzherbert makes no mention of hoes, describing instead two types of long-handled weeding implement, one un-ironed for use in wet soils and one ironed for hard, dry soils.[54] The un-ironed implement would have been cheaper than that which was ironed, and could have been made by peasants themselves. Although this evidence comes from a later period, finds of medieval iron weeding hooks show the tool to have been very common during this period, and there is no reason to think that the simpler, all-wooden apparatus of a similar shape would have been a later innovation unknown to medieval cultivators.[55] The use of two different instruments based on soil conditions is further evidence of the deeply considered approach to soil maintenance and the important role of hand tools in medieval agriculture. Again this has implications for understanding the type and amount of labour needed for this task, and it is a sign of how important weeding was to the medieval agricultural year that Labours of the Months over the twelfth century came to represent June as a man weeding with hooks, a motif Webster considered to be 'distinctively English'.[56]

Thistle was probably the most strenuously fought weed, both because of the ferocity with which it grew, and because its thick stalks made harvesting with sickles even more difficult.[57] Thistle is a perennial that uses its intercalated reserve nutrition in the spring and early summer to reproduce. Once the shoot reaches its bud stage, the deep root system has lost much of its nutrients. By destroying the shoots at precisely this time the plant will be weakened – any earlier or later, and the thistle will thrive and spread. It is for this reason that Walter of Henley advised weeding after the Feast of St John the Baptist (24 June), for to begin earlier would encourage thistles to grow.[58] This required a great deal of work expended over short periods of time. The amount of labour lords were willing to put towards weeding was a considered and profit-driven balance between the cost of labour and the sales price of the grain produced by that labour.[59] In periods of high grain prices and low wages, as in the late thirteenth and early fourteenth centuries, lords expended a good deal on labour of all kinds, including weeding.[60] But the type of labour put towards weeding on demesne land was highly dependent upon the

Note 53 *continued*
minus, a compendious dictionary English-Latin and Latin-English (1675). Similarly, *tribula* no longer meant threshing sledge but rather shovel (although note mistranslation in Page, *Wellingborough*, fo. 22).

[54] W. Skeat (ed.), *The book of husbandry by Master Fitzherbert* (1882), p. 31.

[55] Goodall, *Ironwork in medieval Britain*, pp. 80–1.

[56] Webster, *Labors of the months*, p. 93; see for example St John's College, MS K.30 (England, *c.*1190–1200) which depicts weeding in June and delving with an iron-shod spade in March.

[57] This was noted by Fitzherbert in 1534: *Book of husbandry*, p. 29.

[58] Oschinsky, *Walter of Henley*, p. 323. Many lords appear to have followed this advice, and weeding was often most vigorously undertaken in the weeks around midsummer, late June and early July, when thistle was at its most vulnerable, a time noted in some Ramsey Abbey accounts as the *tempus sarclandi*. For Ramsey: Postles, 'Cleaning', p. 136; Stubbington: Winchester College Muniments, 15379. Extra weeding because of thistles, and weeding specifically aimed at thistles, is noted for example on the demesne of the Westminster manor of Kinsbourne: D. Stern, *A Hertfordshire demesne of Westminster Abbey: profits, productivity and weather*, ed. C. Thornton (2000), pp. 93–5. Similarly short periods of concentrated weeding are demonstrated in the accounts of the Durham Priory manor of Pittingdon in 1277–78: R. H. Britnell (ed.), *Durham Priory manorial accounts, 1277–1310* (Surtees Soc., 218, 2014), p. 11.

[59] Stone, *Decision-making*, pp. 238–41.

[60] Miller and Hatcher, *Medieval England*, pp. 213–24.

economic circumstances of the lord. Hired labour was more productive than customary labour, as Stone has demonstrated, because the latter was compulsory and therefore not competitive, and furthermore it was assigned by holding and unlikely to attract the best worker from a household.[61] The profit-oriented nature of demesne agriculture meant that lords were typically willing to spend money on weeding only as long as the value of the extra grain produced exceeded the cost of labour. The point at which the wage bill was no longer offset by the additional income derived from higher grain yields was very likely well short of the maximum increase yields which could be achieved from the application of extremely high amounts of labour, such as would have been applied on the lands of smallholding peasants. This is not to say that lords necessarily placed a low value on grain straw, but rather that they placed a lower value on it than did smallholding peasants because they, the lords, had access to more of it, or to greater quantities of additional fodder.

Family labour was clearly more incentivized than customary labour, but also rather more than wage labour, perhaps especially in a period of low wages and chronic underemployment. Furthermore, images such as that from the Luttrell Psalter show both men and women weeding with hooks, suggesting that this task was not gender-specific and thus the labour could be spread across all members of the household.[62] In addition to this, the implements themselves were relatively simple, much cheaper than fallow ploughing advocated by agricultural treatises, and, like the spade, allowed for very precise and thorough work. A peasant family could also undertake this task at the precise time when it was needed, because the size of their plots was smaller in relation to the workforce available. Furthermore, the general efficacy of the labour force on peasant lands may have further enjoyed a comparative advantage, if indeed peasants tended not to send their best labourers to work the lords' demesnes. Weeding by hand was also probably the task of women and children, whose labour is chronically under-recorded in medieval accounts; children also helped throughout the growing season by chasing away birds which ate the corn.[63] Thus women and children had important roles in cereal cultivation, perhaps especially so on peasant smallholdings.

Although time-consuming, attentive weeding was worth the effort, for competition from weeds was an important factor in lowering medieval yields.[64] For peasant households, high land productivity was the crucial outcome, and lower marginal returns on otherwise underemployed labour were of less concern than for their lords. By considering the details of how agricultural tasks were actually performed, we can see that peasant agriculture was productive not simply because small farmers were able to apply more work per land unit, but rather that they were able to carry out specific tasks with greater precision and efficiency. The two ideas are intrinsically linked, and together serve as a reminder that the production increases derived from even diminishing marginal returns on labour were important to smallholding peasants, and this was probably increasingly true as the thirteenth century wore on.

[61] Stone, 'Productivity', p. 654.

[62] BL, Add. Ms 42130 (Luttrell Psalter), fo. 172r; women are sometimes specifically mentioned in manorial accounts, for example at the Durham Priory manor of Belasis in 1305–06, where 25 women weeded for 10 days at a cost of 10*s*. 5*d*: Britnell (ed.), *Durham Priory manorial accounts,* p. 59.

[63] D. Banham and R. Faith, *Anglo-Saxon farms and farming* (2014), p. 60; J. Claridge and J. Langdon, 'The composition of *famuli* labour on English demesnes, *c*.1300', *AgHR* 63 (2015) pp. 202–4.

[64] Long, 'Low yields'.

IV

Campbell has emphasized extensive cultivation of legumes as one of the most important components of high-yielding demesne cultivation regimes.[65] By fixing atmospheric nitrogen in the soil, leguminous crops replenished nutrients, allowing the amount of land left fallow each year to be decreased, while at the same time providing a source of food and high quality fodder. The latter was important because the quantity and quality of fodder is directly related to the amount of manure available for fertilizing crops. Consequently, legumes became increasingly prominent on demesnes across the country over the late thirteenth and early fourteenth centuries, where they were followed in rotations by nitrogen-demanding cereal crops.[66]

The positive effects of legumes on yields were of course also known to peasants, and indeed evidence from peasant land suggests that peasants may have grown proportionately more legumes than did their lords: Le Poutre, for example, has recently argued that legumes were twice as prominent on peasant lands than on demesnes.[67] The prevalence of pea bread and pottage in the diets of the very poor is further indication of the importance of peas for human household consumption. We must envisage that much of the pea crop was consumed by the people that grew it. But legume cultivation, which also provided fodder for livestock, was also so important on peasant land because access to meadow and pasture were often strictly regulated. Resource allocation for peasants with small holdings was therefore a negotiation in which competition for resources and dependence among sectors set the parameters for the balance between pastoral and arable production.[68] Arable fodder was therefore a vitally important means by which peasants could support their livestock, an even more pressing concern in regions where grass was not plentiful.

This pressure meant that the importance of legumes lay not simply in the proportions in which they were grown, but also in the yields they could be coaxed to attain. In this, the method by which they were put in the soil could have had a significant impact. Peas could be sown either by broadcast or planted with a dibbler.[69] Planting meant that the seeds could be put deeper in the soil. In general, seeds should be covered with soil to a depth of ten times the diameter of the seed. Thus peas, and especially beans, should be put down deeper than grain. Peas and beans are also palatable to birds, and their larger size make them easier to pick up than grain. If not immediately pressed into the soil much of the seed would have disappeared, and harrowing had to be done very soon after broadcasting the seed. With planting, this problem disappeared.

[65] Campbell, 'Agricultural progress', pp. 32–3.

[66] Campbell, *English seigniorial agriculture*, pp. 228–9; Stone, *Decision-making*, pp. 62–5; their role in enriching the soil is even remarked upon in manorial accounts: for example, C. Thornton, 'Determinants of land productivity', in B. Campbell, and M. Overton (eds), *Land, labour and livestock: historical studies in European agricultural productivity* (1991), p. 196.

[67] H. J. P. Le Poutre, 'The contribution of legumes to the diet of English peasants and farm servants, *c.*1300', *AgHR* 63 (2015), pp. 19–38; see also Sapoznik, 'Productivity'; Harvey, *Cuxham*, pp. 130–1; Stone, *Decision-making*, pp. 265–6.

[68] A. Sapoznik, 'Resource Allocation and Peasant Decision-Making: Oakington, Cambridgeshire, c.1290–1399', *AgHR* 61 (2013), pp. 187–205.

[69] Described by Bennett; we have, however, been unable to follow the citations given. What follows here is a reworking of the idea: H. S. Bennett, *Life on the English manor: a study of peasant conditions, 1150–1400* (1937), pp. 81, 231. It is also mentioned in C. Dyer, 'Farming practice and techniques: West Midlands', in E. Miller (ed.), *AHEW,* III, *1348–1500* (1991), p. 231.

Planting was obviously much more labour-intensive than broadcasting, but it would also have given a higher yields by conserving more seed and encouraging that seed to take root better.

Indeed, this higher yield must have made planting legumes worthwhile even on demesne lands, for manorial accounts not infrequently record payments for planting (*planteando*) these crops rather than sowing them. At the Winchester manor of Bitterne two bushels of beans were bought 'ad plantandam' in 1210-11, and planting beans was a task specified in the 1265–66 extent of the Gloucester Cathedral manor of Linkeholte.[70] At Cuxham in 1359 9½*d*. was spent on planting legumes on a piece of curtilage, and at the Winchester manor of Havant 1*s*. 10*d*. were spent on furrowing and planting beans in 1301–02.[71] At Stubbington, planting beans is mentioned several times in the half dozen accounts which survive from 1281 to 1331. Although the cost of labour to perform this task was usually low, suggesting perhaps relatively small amounts were being planted, in 1331 56*d*. was spent on planting three quarters of beans, a clear indication that planting was a viable method even over several acres of land.[72] Furthermore, at the Ramsey Abbey manor of Elton in 1324–25, 249 works were spent on planting beans, again a quantity of labour suggestive of work in the fields. This task was both cumbersome and labour-intensive, for when properly done a single seed went into a single hole. In 1320 several men were fined for cheating in this work, dropping four or five beans into a single hole.[73]

Thus although broadcasting seed was doubtless the more common method, planting legumes is also very much in evidence. Stone has remarked upon the higher sowing cost for legumes than for other crops (21½*d*. per acre compared with 18½*d*. per acre for wheat).[74] This cost differential is slight enough to suggest sowing rather than planting, but perhaps suggests that sowing legumes was slower or more laborious than other crops, possibly requiring extra care.

An interesting aspect of planting versus sowing is that the former was considered women's work. At Stubbington in 1281 4½*d*. was paid for 17 women to work 'pricking in' (*punctuare*) the fields, and in 1320 13½*d*. for six women for the same task, this time after the sown beans had been harrowed.[75] It seems probable that these women went out to dibble down the beans which still lay on, or close to, the surface of the soil. This can perhaps be characterized as an intermediate method between sowing and planting – although apparently a rather costly one. The extra expense, however, was derived from the extra labour required for the task, which would have affected the extent to which this method was employed on demesnes, but would not have been relevant for peasants using family labour.

Certainly the dibbler or dibble stick was a very old tool, and not an invention of the middle ages. But its existence demonstrates the potential impact of very small tools, which, in the

[70] Holt (ed.), *Winchester Pipe Roll, 1210–11*, pp. 6 (Bitterne), 57 (Brightwell), 154 (Southwark), 57 (Brightwell); W. H. Hart (ed.), *Historia et cartulorium Monasterii Sancti Petri Gloucestriae* (3 vols, 1863) p. 42.

[71] Harvey, *Manorial records*, p. 512; *The Pipe Roll of the Bishopric of Winchester, 1301–2*, ed. Mark Page (Hampshire Rec. Ser., 14, 1996), p. 239. It appears that planting beans was a common practice, for example: CCA, DCc-BR/Eastry/37 (Eastry, Kent, 1311–12) and CCA, DCc-BR/Meopham/8 (Meopham, Kent, 1285–86), both manors of Canterbury Cathedral Priory; Norwich Cathedral Priory, spent 2*s*. 4*d*. on planting and threshing beans in the garden in 1387–88: C. Noble, C. Moreton and P. Rutledge (eds), *Farming and gardening in late medieval Norfolk. Norwich Cathedral Priory's gardener's accounts* (Norfolk Rec. Soc., 61, 1996, p. 36).

[72] Stubbington: Winchester College Muniments, 15376a–15382.

[73] S. C. Ratcliff, *Elton manorial records, 1279–1351* (1946), pp. 298, 249.

[74] Stone, *Decision-making*, p. 63.

[75] Winchester College Muniments, 15379.



FIGURE 2: Men shown ploughing, sowing seed, and digging while women are spinning and carding wool illustrated in the Holkham Bible
(© The British Library Board Add. MS 47682, fo. 6)

garden-like agriculture of the small farmer, may have been used to great effect. Further indication of planting rather than sowing is found in an image in the Holkham Bible (*c*.1327–40), which, to our knowledge, has not been observed in this context before. The artist of this Bible had a particular fascination with the minutiae of everyday life, an especially rich image of which depicts the progeny of Cain.[76] In this picture, men are shown ploughing, sowing seed, and digging while women are spinning and carding wool (Figure 2). At the bottom of the picture is a man pruning and, very close by, a man is shown bending down with

[76] BL, Add. MS 47682, fo.6r (England, *c*.1327–35).



FIGURE 3: Detail of a man using a planting stick illustrated in the Holkham Bible
(© The British Library Board Add. MS 47682, fo. 6)

an iron-tipped planting stick in his left hand while in his right hand he is placing a large seed into a hole in the ground (Figure 3). This is, as far as we are aware, the only image depicting what appears to have been a very common task, although more often performed by women, the use of a plant stick. This task is also described in *Le ménagier de Paris*, a French household book from the late fourteenth century, which notes one of the wife's tasks is to plant and tend beans, including covering the shoots with soil to ensure strong growth.[77]

Although little is known of how peasants allocated crops on their land, nonetheless it may be surmised that smallholding peasants used what land they had with great intensity. Under such high-pressure circumstances, especially given the female workforce to hand in household economies, planting may have been more common on peasant than demesne land. This, as already mentioned, gave much higher yields and perhaps this method was not only used for beans, as seems to have been the custom on demesnes, but for peas as well. Thus on small farms legumes provided an opportunity to increase work intensity for rich reward.

V

We have argued that small farmers would have had a number of comparative advantages over their lords with regard to land productivity. Not only would they have been able to invest more labour per land unit, but they would also have been able to fine-tune specific actions through more effective control over their workforce. This is not to say that peasants were better farmers

[77] *The good wife's guide (Le ménagier de Paris)*: *a medieval household book*, ed. and trans. G. L. Greco and C. M. Rose (2009), p. 209.

than lords and their estate managers per se, but rather it highlights the potential for increased land productivity driven by different production goals. Demesne agriculture was most often directed toward the efficient production for market, and this meant that lords had to balance the income derived from sales with expenditure on labour. In contrast, peasant agriculture was largely geared towards immediate household needs. Peasants did not pay family members for their labour and could play on their self-interest. It is therefore important to separate measures which increased land productivity from those which increased labour productivity, for it has been seen that potential increases in land productivity were often achieved through techniques which led to diminishing productivity of labour.

Each agricultural task had a gradient of labour, ranging from intensive to extensive efforts, resulting in varying incremental increases in land productivity, but also decreases in labour productivity. Campbell has shown the gradient of labour investment on lords' demesne lands, demonstrating that in some regions of England lords were able to achieve very high land productivity through high labour inputs.[78] The components of these highly productive regimes were both land and labour intensive, and thus could only be implemented in regions with good soils and where social and economic conditions made this expenditure of time and money worthwhile. Such land use was profit-oriented, taking advantage of high grain prices and low wages, and consequently took place in highly commercialized regions with high population densities and developed marketing networks, such as eastern Norfolk and parts of Kent. However, in regions where these conditions were not present, profit would also be made by less intensive use of land and labour. This suggests elasticity in demesne production, which was not typical of peasant farming, where reduction of output could have had significant negative effects.

Nonetheless, just as in the seigneurial sector, the point along each task gradient at which a peasant household operated was determined by resource constraints and production aims. What was attractive to one producer because of his economic and household circumstances would have been wholly unappealing or even impossible for another producer working under different circumstances. Consequently, there were numerous technologies from which cultivators could choose. No combination of these was mutually exclusive, and there was much opportunity for overlap, as labour and technical inputs expanded over the period.

A package of techniques existed regarding the investment of labour per area unit, the deployment of which depended upon the circumstances in which medieval cultivators found themselves. For tillage, this gradient ranged from working only with ploughs to the spade-cultivation of small plots. Ploughing was, in theory, ideal for seigneurial agriculture. In reality, however, it was often combined with digging with hand tools, for example to turn over the balks missed by the plough, to break up clods of hard soil, divert rainwater, and weed the fallow.[79] Of course, peasants who did not own ploughs, plough parts or draught animals could get help with ploughing from wealthier members of the village community. We contend, however, that as the size of holdings decreased and the number of peasants too poor to own draught animals

[78] Campbell, 'Agricultural progress'.

[79] Remarked upon by Claridge and Langdon, who note, following Backhouse, that this work, called 'spreading furrows' was probably work for the elderly: Claridge and Langdon, 'Composition', pp. 207–8.

increased, especially over the later thirteenth century, spade cultivation became an important and widespread method of tilling small plots.

In a similar manner, a gradient of labour application also existed for weeding. It is likely that small farmers were able to mobilize the total available workforce in a concentrated attack on their smallholdings. This could be done by hand or with hooks, and again the type of implement and amount of labour used could be adjusted depending on availability, the size of the holding, and the composition of the labour force. Furthermore, the labour-intensive planting of legumes, a crop whose nitrogen-fixing properties were crucial to improving and maintaining medieval grain yields, would also have resulted in higher yields for peas and beans. This technique was best suited to smallholdings and gardens, and again the extent to which peasants engaged in this task would have depended on household circumstances. These are just three of a plethora of labour-intensive agricultural techniques which, when brought together could have contributed to substantially higher levels of land productivity on smallholdings.

Hints of these techniques are to be found in manorial accounts, but they become clear when one considers not only what is written in the documents, but also what is not. Although the accounts often list large implements such as ploughs and carts and their repair in great detail, hand tools are recorded with much less frequency although tasks which must have been performed with these tools, such as digging, weeding and harvesting, are noted in the accounts. Therefore, peasants must have brought their own tools when they came to work on the lords' demesnes. From this it follows that the development of hand tools must have occurred largely outside the seigneurial sector. This development probably took the form of numerous small amendments, and proof of these small changes can be found across northern Europe in images and archaeology. Much of this technology was, quite literally, in the hands of peasants, and would have varied according to soil type and other environmental and social factors. The nature of the sources examined has not made it possible to determine regional variations, although these must certainly have been important. Nor has this been an exhaustive study of the huge range of techniques available to peasants, including those regarding pastoral husbandry. Rather, the study here has sought to identify a sample of representative techniques and to consider a methodology for developing a more detailed picture of medieval peasant agriculture.

In discussing agricultural change and the economic expansion of the high middle ages small-scale farming cannot be overlooked. It is no longer possible to refer to the well-documented seigneurial economy and to assume that what lay outside this sector looked much the same. Careful study of literature, art and archaeology demonstrates that there existed packages of technologies and techniques that are not to be found in manorial accounts. These packages were characteristic smallholding peasants, but not of their lords. Indeed, perhaps they were not even characteristic of peasants with more substantial holdings. Yet, as the population of England grew in the two and a half centuries after the Conquest, the number of smallholding peasants also increased. What has been presented here is only a small sample of the numerous tasks performed by medieval cultivators, and a more complete study is needed before the productivity potential of medieval peasants can be fully understood. If the hypothesis presented here is correct, this group practised forms of labour-intensive, highly productive agriculture, and this has important implications for our understanding of economic growth in the centuries before the Black Death.

From couper to farmers' cooperative: livestock fairs and markets in north-east Scotland from 1800 to 1900*

by Richard Perren

Abstract

In 1800 local livestock fairs and markets in north-east Scotland were traditional open markets held at fixed times of the year. Their number increased in the first half of the nineteenth century as the region's meat industry developed to supply the growing demand of the Scottish and English markets. After 1850 and the appearance of the railways the number of livestock markets grew further and localities competed with each other, sometimes fiercely, to capture the benefits of a new livestock market. These markets, where deals were made privately between individuals, were dominated by local butchers and livestock dealers. This changed from 1870 as open markets gave way to regular livestock auction markets (or marts) conducted by professional auctioneers. Farmers believed that auctions served their interests better than open markets as sales were conducted quickly and in greater comfort, and they could also judge whether buyers were competing fairly. Farmers from the north east became so enthusiastic about this form of sale that they took advantage of the nineteenth-century Company Acts to float their own joint stock limited auction companies, and also take over some of the existing family-run livestock auction markets. In spite of some opposition from butchers and cattle dealers, the auction markets were all very successful and by 1900 had largely replaced the traditional fairs and markets.

Scotland in 1500 was a poor country with a small population and a backward, underdeveloped economy. Although not entirely stagnant during the sixteenth and seventeenth centuries, the rate of agricultural change was slow. Limitations on transport meant that elements of commercial farming were most in evidence near to the largest towns, or within reach of them by coastal shipping.[1] Subsequent development of Scottish lowland agriculture was a process that accelerated after 1760. The remaining elements of subsistence farming crumbled and had collapsed by 1820.[2] New methods were generally promoted by progressive landlords

* My thanks to the staff of Aberdeen City Archives and Aberdeen University Library Special Collections for their invaluable help, and also to two anonymous referees, and to Mr R. E. Tyson, for their generous and helpful comments.

[1] Ian Whyte and Kathleen Whyte, *The changing Scottish landscape, 1500–1800* (1991), pp. 1–27; Ian Whyte, *Agriculture and society in seventeenth-century Scotland* (1979); id., *Scotland's society and economy in transition, c.1500–c.1760* (1997).

[2] T. M. Devine, 'The transformation of agriculture: cultivation and clearance', in T. M. Devine, C. H. Lee and G. C. Peden (eds), *The transformation of Scotland:*

and implemented by commercially minded tenants.[3] In north-east Scotland this involved the consolidation and enlargement of farms and the use of bone meal to boost the output of root crops to produce more animal feed, a process which permitted the increase and improvement of sheep and cattle to feed the growing urban demand for meat.[4] Within Scotland as a whole the market for food grew as its population increased from 1.6 million to 4.4 million between 1800 and 1900. But the specialist beef producers of the north east also supplied the larger and more prosperous English market, concentrating particularly upon London.[5] However, there is little in these studies on how the structure of livestock marketing changed within north-east Scotland in response to the dramatic expansion of the region's meat and livestock industry. This paper is an attempt to fill that gap and link it to the factors behind that growth.

I

The public marketing system for north-eastern farmers selling their livestock passed through three stages between 1800 and 1900. The first was the 'couping' period when butchers and cattle dealers were dominant, doing business either at the farm or at periodic livestock fairs.[6] The second was after 1800 when livestock markets increased in numbers and became more frequent, especially after the introduction of the railways from around 1850. The third stage was from the 1870s as auction marts became increasingly common. By 1900 this form of livestock marketing had largely replaced the old fairs and new markets.

In the eighteenth century livestock dealers either visited farms to purchase animals directly from farmers, or else they bought animals from farmers and from each other at the various temporary livestock fairs and markets that were held on particular days at fixed times of the year. These were called 'periodic' markets by Ian Whyte.[7] In the late eighteenth century most of the periodic livestock markets in north-east Scotland were seasonal fairs for the sale of store animals where they were bought and collected into droves by itinerant dealers who walked them on to other fairs further south such as the Falkirk Trysts and the All Hallows markets at Edinburgh. The cattle were then mostly moved to England for fattening.[8] In 1800 the universal type of sale at these fairs was the local 'open market'.[9] There, farmers and dealers met on a piece of ground conveniently sited near to towns or villages, and often close to inns. A small custom, or toll, was charged for beasts entering the stance, and as they entered animals were

Note 2 *continued*
the economy since 1700 (2005), pp. 77–84; M. Gray, 'Scottish emigration: the social impact of agrarian change in the rural lowlands, 1775–1815', *Perspectives in American Hist.* 7 (1973), pp. 113–31.

[3] T. C. Smout, 'A new look at the Scottish improvers', *Scottish Hist. Rev.* 91 (2012), pp. 125–49.

[4] Robert Hay, 'Crops and livestock in the improvement era', in A. Fenton and K. Veitch (eds), *Scottish life and society, a compendium of Scottish ethnology,* II, *Farming and the land* (2011), pp. 244–66.

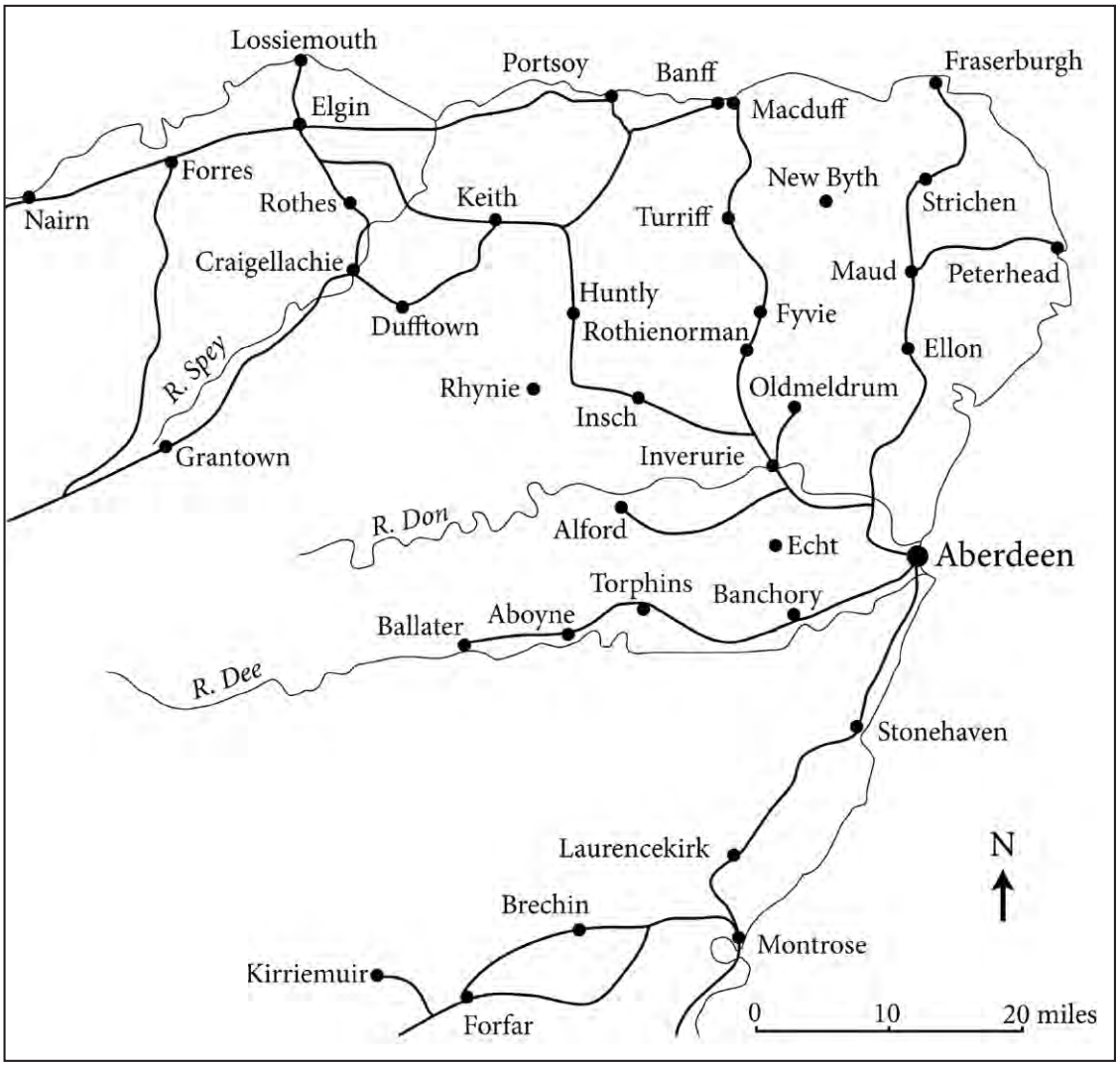
[5] J. H. Smith, 'The cattle trade of Aberdeenshire in the nineteenth century', *AgHR* 3 (1955), pp. 114–18; G. Channon, 'The Aberdeen beef trade with London, a study in steamship and railway competition, 1850–69', *Transport Hist.* 2 (1969), pp. 1–24.

[6] *Scots* coup, *vt*, buy, trade, ~ er, trader, dealer

[7] I. D. Whyte, 'The growth of periodic market centres in Scotland, 1600–1707', *Scottish Geographical Magazine* 95 (1979), pp. 13–26.

[8] A. R. B. Haldane, *The drove roads of Scotland* (1973), pp. 204–22.

[9] Highland and Agricultural Society, *Report on the present state of the agriculture of Scotland*, Edinburgh (1878), p. 200.



MAP 1: North-east Scotland sites of livestock markets and railways, c.1900

marked with a splash of colour to show it had been paid. Bargains were made individually between buyer and seller. Once a price was agreed the seller often returned a small amount to the buyer as a 'luck penny' to wish him good fortune on the long journey to any further market to which he might take them. Although the traditional fairs were temporary gatherings with no fixed buildings, they could still be quite elaborate with bankers' and refreshment tents as well as a 'judge of the market' to settle disputes.[10]

[10] *Aberdeen Journal* (hereafter *AJ*), 2 Oct. 1850, p. 4b; 30 Oct. 1850, p. 4b; *Banffshire Journal* (hereafter *BJ*), 23 Oct. 1858, p. 6e; W. Alexander, *Sketches of Life Among My Ain Folk* (1875), pp. 101–4; I. Carter, *Rural life in Victorian Aberdeenshire* (1992), pp. 147–9.

Sales by public auction were known in Scotland as roups.[11] There were four types for livestock, and they were reserved for particular circumstances. The first was when a tenant left a farm and farming, and the whole of his livestock, implements, crops and sometimes even the farmhouse furniture were sold off by a professional licensed auctioneer specially engaged to conduct the sale. This was a displenishment. The second was when large lots of animals, usually stores and with a high net worth collected together by a dealer were sold. The third was when a particularly valuable lot of good quality animals was sold at a farm, either from the home farm of an estate or a part of the herd from a livestock breeder. Finally, any farm animals seized for debt had to be auctioned. But roups were expensive to organize, and needed to be widely advertised to attract as many buyers as possible to recoup the cost.

The law regarding sale of livestock by auction in Scotland was the same as that in England.[12] In 1777 during the North administration an excise duty was placed on property sold by auction, and it had to be paid by the auctioneer. Although frequently evaded, and complicated by various exemptions, the bureaucracy and expense discouraged auctions of lower-value farm animals. Peel's budget of 1845 abolished the excise and instead all auctioneers paid an annual licence fee of £10. But although this simplification made general livestock auctions easier and cheaper, as the traditional open market sale was well established and still capable of further development, both before and after the railway reached Aberdeen in 1850, there were no serious attempts to replace it until after 1870.

II

In the early years of the nineteenth century the numbers of markets were increased by raising the frequency of existing ones and by the establishment of completely new markets. In some instances markets and livestock fairs were part of the new planned villages founded in the 1750s onwards in the north east of Scotland by progressive landowners to bring about economic development. In the north east there were 98 planned villages between 1750 and 1850, a dozen of which are mentioned in this article as having some form of livestock fair or market.[13] Farmers, landowners and burghs were all eager to bring more business into their locality and did as much as they could to encourage the cattle and livestock trade by advertising in the local press. In 1805 the Duke of Gordon, who was establishing a planned village at Rhynie 12 miles south of Inverurie, declared a new market would be held four times a year on the Muir of Rhynie.[14] As an inducement for farmers to bring their animals to new markets it was promised they would remain custom-free (i.e. toll-free) for some years to come. As part of the development planned for the village of Ballater on upper Deeside the proprietor, William Farquharson, proudly announced in March 1809 that a weekly market would begin there and that there would also be two new two-day seasonal livestock markets in May and September each year, for sheep on the first day, and cattle and horses the on the second, promising 'No

[11] *Scots* roup *n* sale or let by public auction

[12] Stephen Dowell, *A history of taxation and taxes in England* (3 vols, 1888), III, pp. 19–21, 141–3.

[13] They are Ballater, Dufftown, Ellon, Grantown, Huntly, Keith, Laurencekirk, New Byth, Rhynie, Rothes, Strichen, Turriff. Douglas G. Lockhart, *Scottish planned villages* (Scottish Hist. Soc., 16, 2012), pp. 18, 21, 257–59.

[14] *AJ*, 23 Mar. 1803, p. 2a; 22 May 1805, p. 4c.

custom will be taken in the first three years'.[15] But such expansion of markets was by no means confined to planned villages. In 1803 the ancient royal burgh of Inverurie added another two annual markets on its 'Borrowmuir' to the four it already held there. At Oldmeldrum, a burgh of barony since 1672, in 1810 the proprietor, James Urquhart, believed its fortnightly winter and spring markets had been so well attended that there would be a large enough trade in cattle and horses to justify holding monthly summer ones.[16] In 1827 'after requests from a number of respectable farmers and cattle dealers' the proprietor of the Mason Lodge inn, Glenkindie, decided to hold four new trysts annually at that site 'custom-free for some years'.[17]

This steady growth in the number of livestock markets in the villages and small towns of the region before 1850 bypassed the city of Aberdeen. It had slaughterhouses but no regular livestock market within the boundaries of the burgh, unlike Glasgow and Edinburgh. As most cattle went out of the county for further feeding, the numbers of fat animals needed to supply the city itself were few, and their sale in Aberdeen did not require much of an infrastructure. The small supply needed to feed the city was provided by a number of markets held on its outskirts.[18] In 1841 Aberdeen had a population of only about 40 thousand and so its demand for fresh meat was limited. In the earlier part of the century the numbers of fat animals sold for local consumption were very few with seldom more than 20 advertised at a sale.[19]

More animals were brought into the town from 1829 when the export of cattle from the port of Aberdeen by steamship began. But this was only open to members of the Flesher Incorporation, and the animals were purchased either at farms, or from the growing number of markets in the surrounding villages and small towns of the region. By 1849 the town of Huntly, a burgh of barony but developed as a planned village by the Duke of Gordon after 1769, held 15 markets, and Inverurie had 19.[20] The need for a market within Aberdeen itself only became essential after the railway line made it a centre for the buying and selling of livestock. The railway 'reached' Aberdeen in March 1850, but stopped just south of the city centre: the station within Aberdeen itself was not finally opened until August 1854.[21] But from 1853 onwards the building of the network of branch lines in north-east Scotland promoted further development of the region.[22] It allowed local towns and villages to grow in size, some local industries to develop, farming to improve, as well as increasing the number and reinforcing the importance of fixed regular livestock markets held near the local railway station.

But these new rural and urban markets were still dominated by butchers and livestock salesmen, and all transactions conducted there remained personal bargains between seller and buyer. It was only after 1870 that livestock auctioneers opened their own permanent markets

[15] *AJ*, 29 Mar. 1809, p. 1b.

[16] *AJ*, 1 Nov. 1809, p. 4d; 2 May 1810, p. 1c.

[17] *AJ*, 14 Mar. 1827, p. 2e; 28 Mar. 1827, p. 1a.

[18] *AJ*, 11 Aug. 1800, p. 4d; *New Statistical Account of Scotland* [hereafter *NSA*], (15 vols, 1834–1845), XII, p. 102.

[19] *AJ*, 20 Apr. 1803, p. 4c; 18 Apr. 1821, p. 2f; 27 Feb. 1822, p. 2f.

[20] *AJ*, 3 Jan. 1849, p. 7e.

[21] J. J. Waterman, *The coming of the railway to Aberdeen in the 1840s* (1976), pp. 23–6; J. S. Smith, 'The growth of the city'; in W. H. Fraser and C. H. Lee (eds), *Aberdeen, 1800–2000: a new history* (2000), pp. 38–9.

[22] W. M. Acworth, *The railways of Scotland: their present position, with a glance at their past and a forecast of their future* (1890), pp. 116–17, 139–42; S. Wood and J. Patrick, *History in the Grampian landscape* (1982), pp. 28, 64–8; R. H. Campbell and T. M. Devine 'The rural experience', in W. H. Fraser and R. J. Morris (eds), *People and society in Scotland*, II, *1830–1914* (1990), pp. 48–9; T. M. Devine, *The Scottish nation, 1700–2000* (1999), pp. 451–2.

TABLE 1: North-eastern livestock fairs and markets between 1797 and 1902

	1797	*1829*	*1850*	*1860*	*1870*	*1880*	*1890*	*1902*
January	10	17	45	42	45	50	42	15
February	15	14	41	55	50	58	56	18
March	15	25	47	47	63	59	48	12
April	13	29	49	52	60	64	59	19
May	28	53	68	71	79	66	65	19
June	33	28	49	56	61	55	48	20
July	19	33	54	76	67	64	53	28
August	22	31	65	73	59	62	52	25
September	19	41	44	47	54	51	41	14
October	16	43	66	71	67	64	51	25
November	21	39	53	68	79	54	49	10
December	18	27	36	39	55	54	51	14
Total	229	380	617	697	739	701	615	219

Note: The areas covered are the old Scottish counties of Aberdeen, Banff, Moray and Nairn, Kincardine, and Angus, which was called Forfar up to 1928.
Sources: For 1797, J. Chalmers, *Aberdeen Almanack for the Year 1797* (1796); for 1829, 1860, 1870, 1880, 1890, 1902, *Aberdeen Journal*.

TABLE 2: Sheep and cattle in north-east Scotland, 1870–1910

Year	*Sheep and lambs*	*Cows and heifers in milk or in calf*	*Other cattle two years of age and above*	*Other cattle under two years of age*	*Total cattle*
1870	457,678	83,670	74,114	139,365	297,149
1880	414,294	80,913	67,306	143,641	291,860
1890	529,989	85,399	84,158	148,389	317,946
1900	592,659	85,580	72,597	162,567	320,744
1910	584,542	81,176	79,541	152,572	313,289

Note: North-east Scotland is defined as the counties of Aberdeen, Banff, Elgin or Moray, Forfar (Angus), Kincardine, Nairn.
Source: Agricultural Returns.

where they took control of all official transactions. There was no sharp chronological division between these methods of sale, and for all of the nineteenth century they coexisted. But by 1900 most livestock left the farm for sale at livestock auctions, and this switch to auctions was a change that began both in Aberdeen and its hinterland. Part of it can be seen in Table 1, which shows a more than threefold increase in the region's advertised fairs and markets between 1797 and 1870, and a decline thereafter. The decline was not accounted for by any reduction in the numbers of livestock in the region (see Table 2) but was a function of the transfer of trade to regular weekly and also special livestock auctions, which were never included in these monthly

lists. By 1902, the last year in which the lists of markets and fairs were regularly recorded in the *Aberdeen Journal*, the numbers were very close to those of 1797. However, this was not necessarily the survival of a hard core of traditional outlets for livestock over the whole century as some of the venues of 1902 did not exist in 1797, and those which still did were reduced in importance.

III

When the Aberdeen Railway Company connected the city with the south in 1850 its first livestock market site was provided by the company on its property south of the river Dee. This was in response to a letter from 188 farmers, butchers and cattle dealers asking it to provide a market.[23] But this arrangement did not cater for farmers and dealers bringing cattle that were intended to be sent south as dead meat into the city from the north, as the city and all its slaughterhouses were north of the river. In addition most livestock were fattened north of the city. A market was therefore needed within Aberdeen, and so in August 1851 a further deputation petitioned the town council to provide one.[24]

A few weeks later the council acquired a suitable site in King Street, about a mile north of the main business centre. Besides helping the farmers and fleshers to carry on their trade, they believed it had the extra advantage that it might provide the city with a useful source of revenue. It opened on Wednesday 17 December 1851 and the initial arrangement was for a weekly market, free of custom for the time being, to be held on Wednesdays.[25] Initially the town provided just a fenced open site of about an acre but as it became more popular the council added a timber building where business could be carried on in greater comfort, and refreshments served.[26] After a slow start in the first few weeks, the new market picked up business. In its first two years, shown in Table 3, it averaged some 9000 cattle and with the small stock of sheep, lambs, calves and a few swine, over 17,000 animals passed through the market in each of its first two years.

There was no instant transformation of this market from an open to an auction one. Instead it passed through a long transitional stage lasting from 1860 to 1884 when its regular Wednesday markets were open markets, but at the same time some salesmen held auctions of stock they had either been consigned by farmers, or collected from the rural markets themselves. The first to modernize sales in this way was Alexander Lyon, cattle salesman and hide merchant, who started with an advertisement in April 1860 listing the support of 88 butchers and giving those with sheep and cattle for sale the option of having them 'exposed by private sale or public competition'.[27] With the support of so many of the local butchers, Lyon became the market's lead salesman. The speed of sale by public auction was remarked on, and in January 1861 the market reporter noted 'There has been a marked improvement on the market since this mode of selling has been adopted'.[28]

In 1867 Alex Lyon gave up livestock selling and his place at the Aberdeen market was taken by John Duncan who became its sole lessee in 1869 for an annual rent of £90 and had the

[23] *AJ*, 6 Nov. 1850, p. 4d.

[24] Aberdeen Town House, Aberdeen City Council Registers (hereafter CA) /1/1/79, p. 145.

[25] CA/1/1/79, p. 152; *AJ*, 8 Oct. 1851, p. 6c; 29 Oct. 1851, p. 1c; 19 Nov. 1851, p. 1b; 3 Dec. 1851, p. 1c.

[26] CA/1/1/79, p. 189; *AJ*, 14 Jan. 1852, p. 4d.

[27] *AJ*, 18 Apr. 1860, p. 1c; 28 Sept. 1906, p. 10h.

[28] *Aberdeen Herald* (hereafter *AH*), 10 Nov. 1860, p. 7e; *AJ*, 2 Jan. 1861, p. 7f.

TABLE 3: Livestock exposed for sale at the King Street Cattle Market in 1852 and 1853

	Cattle	*Sheep*	*Lambs*	*Calves*	*Swine*	*Total*
1852	9265	7253	114	21	42	17,695
1853	9054	7321	744	39	90	17,239

Sources: For 1852 *Montrose, Arbroath and Brechin Review*, 24 Dec. 1852, p. 7c; for 1853, *Aberdeen Journal*, 21 Dec. 1853, p. 5b.

exclusive right to sell animals by auction.[29] But when in 1871 the Aberdeen butchers complained of insufficient capacity at the Wednesday market to handle all the fat and store animals coming into town, Duncan agreed to open the market from 8 to 12 o'clock on Saturdays for his own increasingly popular auction sales.[30] The normal business of the Wednesday markets shrank to small numbers of traditional open sales between farmers, dealers and butchers which amounted to about 100 cattle and a few pigs and sheep a week, while Duncan's public auctions held at other times grew so much that in 1880 he could afford to build his own auction hall on part of the site at King Street.[31] He was finally able to buy the entire site from Aberdeen council in 1884 for £1850, when the Privy Council Veterinary Department required the town to lay concrete to make it easier to disinfect for disease control. Rather than undertake the expenditure the town sold the entire market stance to Duncan who paid for the work instead, and open sales of livestock at King Street came to an end.[32]

In the meantime the rapidly mounting demand for more market capacity in the city allowed another three permanent auction marts to be opened by 1883. These were a couple of miles further north of Duncan's establishment and close to Kittybrewster station. This was the main station of the Great North of Scotland Railway and it was here that most of the cattle coming into the city were unloaded. Two of them were privately owned family firms. The first was Alexander Middleton's Belmont Mart and the second was the Kittybrewster Mart owned by the partnership of Robert Reith and Robert J. Anderson.[33] The third was the Aberdeen Cattle and Farm Produce Association (ACFPA), formed as a farmers' cooperative in June 1882 with a nominal capital of £25,000 in shares of £1 each. Its foundation was a reaction to the fall in livestock prices after 1873.[34] According to its prospectus it was to be a direct selling organization which would bypass the middlemen – that is other auctioneers and cattle dealers – whose intermediate profits would be saved and put towards increasing farmers' returns. It was also planned that any surplus profit above 7½ per cent paid to the shareholders would 'be allocated rateably among consigners [sic], according to the value of their respective sales through the Association'.[35]

[29] CA/1/1/87, pp. 22–5; 50–1.

[30] CA/1/1/88, pp. 214–15; *AJ*, 4 Oct. 1871, p. 6b.

[31] *AJ*, 18 Dec. 1880, p. 4c.

[32] Aberdeen University Library, (Lf Per Aa H5 Min), City of Aberdeen, Minutes and Proceedings of the Town Council (1883–4), pp. 172–3, 202.

[33] *AJ*, 20 May 1874, p. 4b; 15 July 1874, p. 4c.

[34] T. W. Fletcher, 'The Great Depression of English agriculture, 1873–96', *EcHR* 13 (1961), pp. 417–32; R. Perren, *Agriculture in depression, 1870–1940* (1995), pp. 7–16.

[35] Prospectus reprinted in *AJ*, 19 July 1882, p. 1c.

IV

If the railway revealed the need for more livestock marketing capacity in Aberdeen, it also contributed to overcapacity among the country markets. The markets that opened in the first half of the century were added to a pre-existing system of fairs inherited from before the eighteenth century. As the local railways were gradually extended throughout the region between 1850 and 1866, the pressure was to add even more markets sited at or very close to local railheads, where dealers and butchers could move quickly from their carriages to the sale rings and not have to search around for transport to take them a further three or four miles to some of the market stances (see Map 1). From the railhead sites it was far easier once they had made their purchases to send them straight on to their destinations by rail rather than searching around for local drovers to take them by road to the nearest station. As not all farmers and traders using the old stances were immediately willing to move nearer the station, the railways caused further duplication of markets, and much argument.

At the end of 1859 the question of fairs and markets came to a head in the Aberdeen press. In some cases pressure was put on proprietors to move their markets nearer to the railway station. In other instances there was concern over markets being held in close proximity on the same day. A leading part of this debate was taken by the Free Church and Liberal *Aberdeen Free Press* which in November 1859 carried a lengthy editorial titled 're-organisation of our cattle markets'. Its editor, William M'Combie, suggested that thoroughgoing rationalization was required, moving the Old Style markets that were fixed according to the Julian calendar to the current calendar, and involving 'the transfer of markets now held at inconvenient points to the vicinity of the nearest railway station'.[36]

The first response was from the editor's namesake and cousin who was one of the leading cattle breeders of the region, William M'Combie of Tillyfour, near Alford.[37] He argued that the Aberdeen butchers, as the main buyers of fat cattle at all the local fairs and markets, were the only group powerful enough to impose any reform. Although he did not use the term, he held that they were the market makers with the power to dictate the shape of the region's livestock marketing network.[38] The matter was taken up again in July 1860 by a correspondent to the *Journal* who outlined a reduced calendar of cattle markets and fairs. But not all were in favour of rationalization, and a fortnight later 'A Garioch Farmer' actually argued for the continuance of established fairs on the grounds of 'respect for whatever is ancient'.[39] As can be seen from Table 1, there was no overnight rationalization and under the stimulus of the expansion of the railways network, the number of livestock markets continued to increase up to 1870, as did disputes about them.

Where they thought they had a strong enough case the Aberdeen butchers, supported by local dealers and farmers, petitioned landowners to make changes. This practice was particularly strong in the 1860s.[40] No formal decisions were ever taken by dealers and butchers acting

[36] *Aberdeen Free Press* (hereafter *AFP*), 18 Nov. 1859, p. 5a; also substantially reprinted in the *Nairnshire Telegraph*, 23 Nov. 1859, p. 4a–b.

[37] T. G. Otte and Paul Readman (eds), *By-elections in British Politics, 1832–1914* (2013), p. 284.

[38] *AFP*, 18 Nov. 1859, p. 5a. This letter was also reprinted in the *AJ,* 30 Nov. 1859, p. 7c–d and the *Montrose, Arbroath and Brechin Review* (hereafter *MABR*), 2 Dec. 1859, p. 6e.

[39] *AJ*, 18 July 1860, p. 8e; 1 Aug. 1860, p. 5d.

[40] *Elgin Courier* (hereafter *EC*), 20 Dec. 1861, p. 7e; *BJ*, 28 Mar. 1865, p. 1e; 27 June 1865, p. 1f; 15 Dec. 1868, p. 8f.

together to boycott inconvenient sites, but there was strong pressure on proprietors to improve them or change inconvenient market days. At the end of 1859, 60 butchers, 20 cattle dealers and 15 others, with their signatures witnessed as authentic by Aberdeen's Flesher Incorporation, petitioned William Cosmo Gordon of Fyvie to hold the Fyvie markets on the second Monday of every other month throughout the year. As an incentive they promised 'we will attend them if such alteration takes place'. They did not say what they would do if it did not, but the occasion never arose as Gordon immediately agreed to the change as from January 1860. A similar approach was made to the Earl of Fife to alter the days of the Turriff markets to the second and fourth Wednesdays of every month, to which he also agreed. But not all market owners were willing to be pushed around in this way by petitioners. Robert Leslie, proprietor of the Rothienorman market told them he was not inclined to make any changes as the days of his markets suited his tenants and 'a large district of the country'.[41]

V

The accelerated decline in the number of rural markets in the 1880s with their collapse after 1890 was caused by auction markets taking the place of both the old livestock fairs and many of the newer markets established after 1800, a transformation that was warmly welcomed by farmers.[42] It began with auctioneers conducting sales of special lots of animals at the sites of existing markets. As early as 1847 Alex Chisholm, an auctioneer at Turriff was selling 'Short-Horned Bulls and South Down Tups' on the market stance at Turriff on the 'day of Cowan Fair', and again in 1849 he used the Turriff stance on a market day to dispose of a 'Pure-bred Shorthorned Bull Calf' and 'three mules'. In May 1849 auctioneer Thomas Philip sold 40 cattle and 'a few sheep' at the New Byth market, midway between Turriff and Strichen.[43] Sometimes this was done rather tentatively, as when 15 Ayrshire cows were promised to be on offer by auction at the 'Lourin' (or Lawrence) Fair of Old Rayne, ten miles northwest of Inverurie, in August 1852, by an auctioneer who did not put his name to the advertisement. Those who were more open were John Thomson, a cattle dealer from Echt 12 miles south of Inverurie, who promised to auction between 40 and 50 Ross-shire stores at Echt in 1853 and James Barrie from Stonehaven with five shorthorn bulls at Huntly in 1854.[44] Another example in this decade was Laurencekirk cattle dealer James Molyson who between 1852 and 1859 advertised regular October roups of cattle at the Laurencekirk market stance in Kincardineshire, 30 miles southwest of Aberdeen.[45]

These infrequent examples of 'pop-up auctions' were dealers testing local demand for occasional sales at fresh market situations away from the farm, perhaps hoping to find extra customers at the traditional markets. But they were not attempts to replace them. In all cases above, the times these sales took place were in the afternoon, so as not to interfere with the

[41] *AJ*, 28 Dec. 1859, p. 1e.

[42] I. Riddell and K. Walker, 'Crops and livestock in the modern era', in Fenton and Veitch (eds), *Farming and the land*, p. 268.

[43] *AJ*, 22 Sept. 1847, p. 1d; 13 Oct. 1849, p. 1e; *BJ*, 24 Apr. 1849, p. 1c.

[44] *AJ*, 11 Aug. 1852, p. 1f; 4 May 1853, p. 6c; 18 Mar. 1854, p. 5b; *BJ*, 2 May 1854, p. 3f.

[45] *MABR*, 8 Oct. 1852, p. 1c; 21 Oct. 1853, p. 4b; 6 Oct. 1854, p. 4a; 28 Sept. 1855, p. 4b; 10 Oct. 1856, p. 1e; 25 Sept. 1857, p. 4b; 24 Sept. 1858, p. 4a; 30 Sept. 1859, p. 1c.

main business of the markets, which began in the morning. They may even have assisted the markets by keeping dealers at the stance rather than have them drift away after lunch.

By the 1860s the practice of auctioneers using market stances on market days became more common, and though the numbers sold in this way were still low, the quality of the animals offered remained high, mostly coming from named farmers. In March 1860 John Thomson of Echt announced he was instructed to sell on the market stance at Inverurie the surplus stock of pure-bred shorthorn bulls and heifers belonging to William Gibson of Kinmundy, ten miles south-east of Inverurie.[46] In February 1862 Thomson sold at Echt market three pure shorthorn bulls 'with good pedigree' and in January 1863 four bulls and four calves 'well worth the attention of first-class Breeders', also at the Echt market.[47] In April 1867 Alex Russell conducted an auction sale of ten 'superior quality' cattle on market day at the Insch market stance, starting 'at Half an Hour after Noon'.[48] As early as September 1862 there is record of six pedigree bull calves of James Lumsden of Braco being auctioned by James Hendry in a field above the Keith market stance on Keith Summer Eve's Fair at between two and three o'clock, and most of the farmers and buyers in the market attended.[49] But by 1868 Hendry had become bolder, selling cattle, the property of William Ogilvie, on the market green at Keith on the day of the Keith Market, starting at two o'clock.[50] But the first regular monthly auctions held on Keith market green were by auctioneer Gordon Robertson, who held eight between November 1870 and June 1871, beginning at noon, again so as not to clash with the start of the market.[51]

Most of these examples, with the exception of the last, were still irregular occasional sales like those in the 1850s, and most of the work of these auctioneers was still displenishment and surplus stock sales conducted at farm premises.

A more sustained attempt to establish auctions on market days was at Laurencekirk. In November 1864 James M'Gregor, an auctioneer in Laurencekirk, advertised that commencing at 12 o'clock he would sell 24 fat cattle, 2 milk cows and 70 store ewes at the village's next fortnightly market and by April 1865 this had become his 'usual fortnightly sale of fat cattle'.[52] But although his auctions became a fairly regular part of the market for some years, at some he would fall back on private bargains if he was unable to sell all animals by auction.[53] He continued selling in this way until 1871 when he announced he would hold his fortnightly sales on market days outside instead of inside the market.[54] He was not alone in doing this as other auction firms also held rival sales close to the market in the 1870s.[55] But this form of direct competition did not have a great effect on the fortnightly markets. The Laurencekirk council owned the market

[46] *AJ*, 7 Mar. 1860, p. 1e; 14 Mar. 1860, p. 1e. Kinmundy was a small estate of 440 acres six miles north-west of Aberdeen with a rental value of £700 per annum. *AJ*, 7 Mar. 1866, p. 2c.

[47] *AJ*, 5 Feb. 1862, p. 1e; 21 Jan. 1863, p. 1e.

[48] *BJ*, 16 Apr. 1867, p. 5b.

[49] *Elgin Courant and Morayshire Advertiser*, 19 Sept. 1862, p. 8e–f. James Lumsden was a prominent breeder of shorthorns and farmed at Braco Grange in Banffshire, four miles southeast of Keith. *AJ*, 1 Nov. 1877, p. 4g.

[50] *BJ*, 19 May 1868, p. 1b; 26 May 1868, p. 1f.

[51] *BJ*, 15 Nov. 1870, p. 4b; 6 June 1871, p. 4b.

[52] *MABR*, 18 Nov. 1864, *Stonehaven Journal* (hereafter *SJ*), 27 Apr. 1865, p. 3e.

[53] *SJ*, 13 Apr. 1865, p. 3e; 11 May 1865, p. 3e; 11 Oct. 1866, p. 3c; *MABR*, 12 Oct. 1866, p. 5a; 26 Oct. 1866, p. 5a; 28 Dec. 1866, p. 1b; *SJ*, 3 Jan. 1867, p. 3d; 25 Feb. 1869, p. 3c; 28 Mar. 1867, p. 3e; *DC*, 13 Dec. 1870, p. 3e.

[54] *MABR*, 26 Jan. 1871, p. 3d; 27 Jan. 1871, p. 4f.

[55] *DC*, 5 Mar. 1872, p. 2a ; 29 Oct. 1872, p. 2a; 12 May 1875, p. 4a; 14 May 1874, p. 7e; 10 June 1875, p. 3f; 25 Apr. 1876, p. 4b.

stance where they provided licensed refreshment rooms and business booths. The right to run these was sold each year to local firms who provided services for the market, and there was no fall-off in the bidding for them or for the right to collect the market tolls, which was also auctioned annually.[56] As a strategy for protecting the town's fortnightly market this had some success and the freeloading auctions held at nearby sites remained relatively infrequent.

Unlike Laurencekirk, which had been reach by the railway in 1849, the planned village of Forres in Morayshire was connected to Aberdeen by a branch of the Great North of Scotland Railway as late as 1858, with no direct connection with the north and south until the Inverness and Perth Railway came to the town in 1863.[57] This explains why it took longer to develop as a livestock market centre and there were no local auctioneers making use of its stance on the market green for occasional sales in the 1850s. In 1850 the town had only eight cattle sales and was somewhat overshadowed by the nearby ancient burgh of Elgin, which had 11.[58] The extension of the town's livestock markets came about only after an improved railway station was built in 1863, when in November of that year the town council announced it would hold monthly markets as well as look for a new stance nearer the railway station.[59] Although one was not found, the monthly markets did experience a few years of growth as the railway brought more livestock and dealers into the town, a process helped by the opening of the Station Hotel in July 1865.[60] But in 1867 some of the wealthier farmers in the county who made up the Forres and Northern Fat Cattle Club, which had been founded two years earlier, formed a joint-stock company to build an Agricultural Hall to hold their December shows sheltered from the blizzards sometimes encountered on the Market Green. It was also sited closer to the railway station than the market green.[61] The hall was an immediate success, and by the mid-1870s was also used for occasional cattle and sheep auctions as well as shows for the cattle club. In addition a separate building was opened as the Morayshire Auction Mart in 1877 by a firm of local auctioneers, Messrs Ross and Macpherson, who used it to run competing sales with those on the market green and those in the Agricultural Hall.[62] Auction marts in the town were being held weekly by 1879 and when they coincided with the monthly sales it became quite common for owners of any stock unsold at the latter to drive them from the market green to try their luck in either the Agricultural Hall or at the mart.[63]

By 1884 the Forres monthly markets were in such a sad state that the town council was unable to find anyone willing to pay the annual rent to collect the market tolls. It even took counsel's opinion on whether it could levy custom on the animals being sold at the auction marts, but was advised it could not.[64] The final record of any activity at the monthly markets was in April 1885, but by then the show of animals was too few for any prices to be quoted, while at the same

[56] *DC*, 28 Apr. 1866, p. 2h; *SJ*, 7 May 1868, p. 3f; 6 May 1869, p. 3d; 4 May 1871, p. 2f; *DC*, 25 Apr. 1873, p. 4c; 2 May 1874, p. 3c; 25 Apr. 1876, p. 4b; 22 Apr. 1879, p. 5f.

[57] H. A. Vallance, *The Great North of Scotland Railway* (1989), pp. 31–5.

[58] *Russel's Morayshire Register and Elgin and Forres Directory 1850*, pp. 187, 218; EC, 29 Mar. 1850, p. 4f.

[59] *BJ*, 10 Nov. 1863, pp. 4b and 6d; *Inverness Courier* (hereafter *IC*), 10 Dec. 1863, p. 6b.

[60] *IC*, 18 Feb. 1864, p. 7d; 4 Aug. 1864, p. 7e; *EC*, 14 July 1865, p. 8b–c.

[61] *EC*, 2 June 1865, p. 8b–c; 22 Nov. 1867, p. 8b.

[62] *AJ* ,12 Dec. 1877, p. 2b; 30 Jan. 1878, p. 7g.

[63] *AJ*, 29 Oct. 1879, p. 3b; 16 Feb. 1881, p. 3c–d; 19 Apr. 1882, p. 3d; 8 July 1882, p. 7g; *AFP*, 17 Mar. 1880, p. 3f; 20 Feb. 1884, p. 7d

[64] *AJ*, 14 Apr. 1880, p. 3c; *AFP*, 13 Feb. 1884, p. 3c; *AJ*, 11 Feb. 1885, p. 7f.

time the auction had a good show of all classes of stock and trade was animated.[65] Thereafter the Morayshire Auction Mart became the town's main livestock market.

VI

When the question of origin and ownership is considered, the livestock auction marts outside Aberdeen in the 1870s were, like Messrs Ross and Macpherson at Forres, begun as private family firms, but in 1896 this mart became a public limited company.[66] By 1900, many others had either been converted into public limited companies, or started as such like the ACFPA in Aberdeen, taking advantage of the Companies Act of 1856 and subsequent changes in company law. The final outcome of this process is shown in Table 4, which shows that, by 1900, only nine of the region's 34 marts were still run as family firms. This trend in favour of limited liability was in keeping with the same development in the wider British and Scottish business communities.[67]

A good example can be found in the Kincardineshire county town of Stonehaven, some 14 miles south of Aberdeen. From 1875 the auctioneers, John Brown and Alexander Murray, operating under the partnership of Brown and Murray, held monthly cattle auctions in the town's market square. In 1878 they acquired premises within the town and opened their 'new auction cattle mart' in August, increasing their sales to fortnightly.[68] By 1880 their business had grown to holding weekly livestock sales and they continued in that way for the rest of the 1880s. But at the end of 1890 John Brown retired from the firm and Alexander Murray continued to run it with his brother William under the title of A. and W. Murray.[69] At the start of 1892 the partnership and premises were taken over by the Stonehaven Auction Company Limited. According to its prospectus the share capital was £4000 in 4000 shares of £1 each. We do not know how much of this was taken up, but as the press reports said 'The directors include most of the farmers in the district', with the Murrays retained as managers, it was certainly a farmer-financed takeover.[70] Its increased capital allowed further expansion of the firm by opening a branch in the Deeside town of Banchory. As that town did not have an auction mart, the first sales began in the open air in summer 1892 at the old market stance, where the firm subsequently arranged with the council to build a mart which was opened in April 1893.[71] Both marts appear to have been a success and in 1896 shareholders received a tax-free dividend of 6 per cent, a level comfortably maintained for the rest of the century.[72]

An important feature of the change from open markets to auction marts in the 1890s was the decline of family firms and the rise of new joint stock firms financed by local groups of farmers, businessmen, and landowners, who felt that regular weekly or fortnightly sales under

[65] *AJ*, 15 Apr. 1885, p. 3c–d; Robert Douglas, *Annals of the Royal Burgh of Forres* (1934), p. 343.

[66] *AJ*, 4 Nov. 1896, p. 3e; 14 Mar. 1900, p. 2d; 14 May 1914, p. 3f.

[67] L. Hannah, *The rise of the corporate economy* (1976); P. L. Payne, *The early Scottish limited liability companies 1856–1895* (1980).

[68] *AJ*, 13 Jan. 1875, p. 7f; 12 Dec. 1877, p. 7g; 6 Aug. 1878, p. 1d; 16 Aug. 1878, p. 2b.

[69] *AFP*, 29 May 1880, p. 1g; *AJ*, 29 Dec. 1890, p. 7d; *AFP*, 2 Jan. 1891, p. 1a; 9 Jan. 1891, p. 7e.

[70] *AJ*, 14 Jan 1892, p. 3c.

[71] *AFP*, 3 June 1892, p. 2e; *AJ*, 14 Oct. 1892, p. 2c; 28 Apr. 1893, p. 3f.

[72] *AJ*, 20 Mar. 1896, p. 3d; *DC*, 12 Mar. 1897, p. 3e; *Dundee Advertiser*, 18 Mar. 1898, p. 4f; *DC*, 17 Mar. 1899, p. 3a; *AJ*, 15 Mar. 1900, p. 6f.

TABLE 4: Livestock auction markets in north-east Scotland, *c.*1900

Place	*Name*	*Ownership*	*Ownership*	*No. of marts*
Aberdeen	Belmont Auction Mart	Alec Middleton and Son	Family firm	
	Central Auction Mart Aberdeen	Aberdeen Cattle and Farm Produce Association Limited[a]	Farmer	4
	City Auction Mart	John Duncan	Family firm	
	Kittybrewster Auction Market	Messrs Reith and Anderson	Family firm	2
Aboyne	Aboyne Auction Company Limited	Aboyne Auction Company Limited	Farmer	
Banchory	Banchory Auction Mart	Stonehaven Auction Company Limited	Farmer	2
Brechin	The Farmers' Mart	Brechin Farmers' Mart Limited	Farmer	
Craigellachie	Craigellachie Auction Mart	Craigellachie Auction Company Limited	Farmer	
Dufftown	The Auction Company	The Dufftown Auction Company Limited	Farmer	
Elgin	Elgin Market Green Auction Co. (Ltd.)	Elgin Market Green Auction Company Limited	Farmer	
	Northern Auction Company Limited	Northern Auction Company Limited	Farmer	3
Ellon	Central Auction Mart	Central Auction Mart Company Limited	Farmer	4
	Ythanside Mart	Ythanside Farmers' Auction Company Limited	Farmer	
Forfar	Forfar Auction Market	Messrs Scott and Graham Limited	Farmer	
	Forfar Auction Mart	Strathmore Auction Company Limited	Farmer	2
Forres	Forres Auction Mart	Forres Auction Company Limited	Farmer	
Fraserburgh	Fraserburgh Auction Mart	John Bell	Family firm	2
Huntly	Northern Auction Co. Limited	Northern Auction Company Limited	Farmer	3
Insch	Northern Auction Co. Limited	Northern Auction Company Limited	Farmer	3
Kirriemuir	Kirriemuir Auction Mart	Strathmore Auction Company Limited	Farmer	2
Laurencekirk	Kincardineshire Auction Company Limited	Kincardineshire Auction Company Limited	Farmer	
Maud	Buchan Central Auction Mart	Messrs Reith and Anderson	Family firm	2
	County Auction Mart	John Bell	Family firm	2
	New Maud Auction Mart	William Findlay	Family firm	2
Montrose	Montrose Auction Company Limited	Montrose Auction Company Limited	Farmer	
Nairn	Nairnshire Auction Mart Company Limited	Nairnshire Auction Mart Company Limited	Farmer	
Oldmeldrum	Oldmeldrum Auction Mart	Oldmeldrum Auction Mart Company Limited	Farmer	

Place	*Name*	*Ownership*	*Ownership*	*No. of marts*
Peterhead	Peterhead Auction Mart	William Findlay	Family firm	2
Rothienorman	Rothienorman Auction Mart	Central Auction Mart Company Limited	Farmer	4
Stonehaven	Stonehaven Auction Company Limited.	Stonehaven Auction Company Limited.	Farmer	2
Strichen	Strichen Auction Co., Limited.	Strichen Auction Company Limited	Farmer	
Torphins	Central Mart, Torphins	Central Auction Mart Company Limited	Farmer	4
Turriff	Shire Auction Market	John Bell Jnr and William Flett	Family firm	
	Turriff Auction Mart	Turriff Auction Mart Company Limited	Farmer	

[a] The marts of this company in Aberdeen, Ellon, Rothienorman and Torphins were all operated under the name of the Central Auction Mart Company Limited.
Sources: *Aberdeen Journal, Peterhead Sentinel, Dundee Courier*, 1898–1900, passim.

cover afforded them more control over the market system. In 1890 at the establishment of the Kincardineshire Auction Company, based in Laurencekirk, the shares were taken up by over 200 local farmers and agricultural businessmen.[73] Other examples of farmer-funded limited liability companies taking over or establishing auction marts were at Strichen in February 1894, Dufftown in October 1895, and Turriff in 1898.[74] In the case of Strichen, its auction mart, founded by Alex Calder in 1882, was taken over and added to by the Strichen Auction Mart Company.[75] Auction sales, initially in the open air, were also undertaken by John Bell Sen. in the 1880s before the Turriff Cattle and Auction Mart Company Limited was formed in 1898 with a capital of £6000 in £1 shares and took over as a going concern the private rival business there of Alexander Johnston. This meant that by 1900 the town had two auction marts, the farmer-funded Turriff Mart, which was still managed by Alexander Johnstone, and the privately owned Shire Auction Market, now managed by John Bell Jnr and William Flett.[76]

The establishment of multiple branch auction firms was also another feature of the 1890s. In 1896 a group of local farmers and businessmen decided to open an auction mart at Huntly.[77] But even before the mart was built on a site adjacent to the railway station on land leased from the Duke of Richmond and Gordon (who owned the town), it was decided to amalgamate the concern with the Elgin Auction Mart Company which had been founded in 1888, and rename the new firm the Elgin and Strathbogie Auction Mart Company (ESAMC).[78] The new company underwent more expansion when the farmers at Insch decided to abandon their monthly markets, form a company and build themselves an auction mart. But even before they appointed

[73] *AJ*, 5 Feb. 1890, p. 7f; 19 Mar. 1890, p. 7e, *DA*, 25 Mar. 1890, p. 4g.

[74] *AJ*, 6 Feb. 1894, p.1e; 26 Oct. 1895, p. 4b; *DC*, 2 July 1898, p. 6b.

[75] *AJ*, 14 Oct. 1882, p. 5d; *AFP*, 24 Sept. 1884, p. 1f; *AJ*, 14 Feb. 1894, p. 8e.

[76] *AJ*, 10 Mar. 1888, p. 5g; *AFP*, 27 Sept. 1889, p. 2e; *AJ*, 2 Apr. 1896, p. 2f; 20 Apr. 1896, p. 7b; 29 Dec. 1897, p. 7g; 16 Aug. 1899, p. 11f; 9 Feb. 1900, p. 2b.

[77] *AJ*, 20 Feb. 1895, p. 6d.

[78] *AJ*, 18 Sept. 1888, p. 6e; 23 May 1896, p. 5c; 27 May 1896, p. 2b; 15 Aug. 1896, p. 6d; 4 Feb. 1897, p. 7f.

an architect to draw up plans, the directors of the ESAMC met and suggested an amalgamation with the proposed Insch Auction Company under the new name of the Northern Auction Company Limited (NAC), with branches at Elgin, Huntly and Insch. The proposal was agreed to by all parties and the NAC held its first Christmas sales in all three markets in December 1898.[79]

Firms also moved out from Aberdeen to establish country branches and compete with local auctioneers. As early as November 1876 Alexander Middleton who operated the Belmont mart in Aberdeen, opened a new mart in Keith. He soon had competition from a local firm of Mundell and Hendry.[80] The auctioneer in this partnership was George Hendry, son of James Hendry, who had been conducting crop, livestock, and property sales in and around the town since 1825, and the irregular livestock auctions on the town's market stance in the 1860s detailed in section V above.[81] Keith was unusual as it was an ancient burgh with a charter dating from 1195, which was later developed as a planned town by two neighbouring landowners, the Earl of Findlater from 1750 and the Earl of Fife from 1817.[82] As each allowed a mart to be built to assist development in their parts of the town both Middleton and Hendry ran their auctions from separate premises.

In February 1887 the Aberdeen firm of Messrs Reith and Anderson opened their Buchan Central Auction Market at Maud.[83] Maud was the railway junction where the lines into Aberdeen from Fraserburgh and Peterhead joined. Because of this position it became an important livestock-marketing centre, and already had an auction mart owned by William Findlay who had been running marts at Maud and Peterhead since 1878.[84] In the 1890s it also attracted another local auctioneer to open a third market there. This was John Bell, who had established an auction mart at Fraserburgh in 1878. He set up the County Auction Mart at Maud in May 1895, preventing any of the other Aberdeen based firms from establishing a branch there.[85]

In 1896 the ACFPA, the only joint stock Aberdeen-based livestock auctioneers, set up a branch outside of the city when it built and opened a small mart at Torphins on Deeside, a village served by the Deeside railway line. When the mart opened in August 1896 it could accommodate 150 cattle, 250 sheep and 80 pigs, with a sale ring of 30 by 40 feet and sitting and standing room for 200 buyers. Prior to this the village had had monthly cattle fairs, but the new mart held fortnightly sales.[86] In June 1898 the Association opened another branch in the town of Ellon 16 miles north of Aberdeen. The circumstances of this were unusual as at the same time another Aberdeen firm, Alec Middleton's Belmont Auction Mart Company, also opened a mart in the town. But after nine months of competition Middleton sold the Ellon branch to the Ythanside Farmers' Auction Company for £1150.[87] This company was formed in March 1899 by a group of local farmers and businessmen with capital of £2000 in one-pound shares specifically to purchase the mart, again stopping the ACFPA from gaining a local monopoly.[88]

[79] *AJ*, 25 Jan. 1898, p. 6f; 16 May 1898, p. 4g; 2 Dec. 1898, p. 1f.

[80] *AJ*, 15 Nov. 1876, p. 4c; 13 Dec. 1876, p. 7g; 20 Dec. 1876, p. 7g.

[81] *BJ*, 16 Aug. 1870.

[82] *Old Statistical Account of Scotland*, (21 vols, 1791–99), V, pp. 418, 420; *NSA*, XIII, p. 391.

[83] *AJ*, 10 Feb. 1887, p. 3d.

[84] *AJ*, 20 Aug. 1878, p. 1d; 15 June 1899, p. 7d.

[85] *AJ*, 2 Mar. 1878, p. 7b; 17 Mar. 1896, p. 1e; 19 Feb. 1902, p. 7a.

[86] *AJ*, 20 Aug. 1896, p. 7b; 3 Aug. 1899, p. 3d.

[87] *AJ*, 7 June 1898, p. 7f; 9 June 1898, p. 7h, 14 Apr. 1899, p. 4f.

[88] *Glasgow Herald* (Hereafter *GH*), 31 Mar. 1899, p. 5c.

VII

This transformation from livestock markets to auction marts was not achieved without opposition. In his study of the region's farming, Ian Carter mentions that the butchers did not like auction markets and formed a cartel to break Aberdeen's first pioneering market.[89] However this over-simplifies events and fails to acknowledge that on three occasions, and not only in Aberdeen, local butchers attempted to interfere with the transition from markets to auctions. It is not surprising that they did, as in 1800 the active players in the marketing process were butchers and livestock dealers who went from farm to farm and from market to market assembling their herds and flocks. Their relationship with the producer was an individual one and they were the unchallenged mediators of demand because it was upon the information they possessed that prices were decided. This did not alter greatly even with the building of the railways and telegraph.

According to Kieve the telegraph often followed the construction of the railway, and was in place in Aberdeen by 1854.[90] But its effect was to strengthen the hand of the urban butchers and meat salesmen of north-east Scotland. The weakness of the farmers' position was that their information on markets and prices was always less than current, whereas after 1854 the Aberdeen salesmen and butchers who traded directly with England always had up to date knowledge of cattle and meat sales and prices in London and elsewhere, from their English counterparts. Farmers had no immediate access to the telegraph offices, nor had they anyone to contact for daily market information. The *Aberdeen Journal,* although published since 1747, was an inadequate substitute. It appeared on a Wednesday and was still only a weekly in the 1850s and 1860s. And while its direct competitor the *Aberdeen Free Press* was published daily from 1872, the *Aberdeen Journal* only became a daily paper after May 1876.[91] Even then, the London market reports and prices published in both papers from the 1870s to the 1890s were still only those of the previous couple of days which meant dealers always had access to current price information via the Aberdeen telegraph office, but the prices that farmers received via the newspapers lagged by at least 48 hours.

The auction marts altered this situation by reducing informational asymmetry: seeing butchers and dealers all possessing current price information bidding against each other reassured farmers that the prices they received were the result of fair competition. Inevitably some Aberdeen butchers disliked the change. At the end of March 1871, in an advertisement published in the *Aberdeen Free Press,* 36 Aberdeen butchers called for a general withdrawal of custom from John Duncan's King Street market. They argued that sales of fat cattle by auction at Aberdeen had disrupted the hitherto 'well-arranged local markets'. They said local dealers were visiting farmers and buying up cattle and thus 'taking a position betwixt the Farmer and the Butcher to the disappointment of those regularly attending the various Markets'.[92] This letter provoked a fierce press debate and it was reprinted in both the *Aberdeen* and the

[89] Ian Carter, *Farm life in northeast Scotland 1840–1914: the poor man's country* (1979), p. 49.

[90] J. L. Kieve, *The electric telegraph: a social and economic history* (1973), pp. 44–5, 73–4, 87–9; *AJ*, 27 Dec. 1854, p. 5c.

[91] W. H. Fraser, 'The Press', in Fraser and Lee, *Aberdeen,* p. 456.

[92] *AFP*, 31 Mar. 1871, p. 1a.

Banffshire Journal along with Duncan's reply, which said that most of the signatories to the letter were not customers at his market and they only comprised a third of the butchers in Aberdeen. He also made the point that although Aberdeen butchers and dealers also purchased direct from farms and then sold in the local markets, at his sales more than three quarters of the cattle still came 'from the grower or feeder'.[93]

But the 36 butchers' advertisement was largely ignored by the rest of the trade, and it and the debate that followed made no difference to John Duncan's sales at King Street.[94] In 1881, a decade after his battle with the butchers, he was entertained to a public dinner by 150 of his supporters at Aberdeen's Music Hall chaired by his strongest advocate, landowner and farmer Archer Fortescue, the owner of the Kingcausie Estate eight miles from Aberdeen, on the south bank of the River Dee, who had patronized his sales since they first began. There were even a few butchers among the assembly, and theirs was one of the trades proposed in the toasts at the end of the meal. But the majority attending were farmers, landowners, and businessmen who provided ancillary services for the agricultural industry like bankers, fertilizer merchants, and some of the other Aberdeen auctioneers.[95]

There was a second protest against livestock auctions 12 years later, but this time it was in Keith and not Aberdeen. Being 49 miles northwest of Aberdeen and linked to it by rail in 1857, it had by the 1880s become a processing centre for the dead meat trade in the north, dispatching as many as 250 sides of beef a week for the London market.[96] Since 1876 it had had the two auction marts described earlier, one run by local auctioneer George Hendry and the other by Alec Middleton, owner of the Belmont Mart in Aberdeen.[97]

At the beginning of 1883 some of Keith's butchers and dealers signed an agreement to refrain from buying cattle at the Inverness, Keith, Forres and Grantown auction marts, saying they preferred to deal directly with the farmers either at their farms or in the cattle markets 'as in olden times' without the agency of cattle salesmen (i.e. auctioneers). They also accused farmers who used the auctions to sell their cattle of bidding up the price, or getting their friends to do so.[98] There had been an attempt at this at Alex Middleton's mart in 1881 when animals jointly owned by a farmer and a butcher were bid for by the butcher who acted as though he had no business connection with either the farmer or the cattle. This was spotted by Middleton, who ignored the butcher's bids. When the aggrieved joint owners of the animals took their case to the Aberdeen Small Debt Court the Sheriff agreed with Middleton's action and the complainants had to pay all costs of the case.[99]

At a farmers' meeting held in Keith on 20 January 1883 to discuss the butchers' threat, the general mood was one of appeasement. While there was no mention of the auction marts, it was suggested that the town's cattle market be changed from monthly to fortnightly, and to have another meeting in a week's time to make a final decision after a full consultation with farmers who were not present at the meeting.[100] But at their next meeting it was decided

[93] *AJ*, 29 Mar. p. 1a–b; *BJ*, 4 Apr. 1871, p. 1b.
[94] *AJ*, 12 Apr. 1871, p. 8e; *AFP*, 14 Apr. 1871, p. 8c; *AJ*, 19 Apr. 1871, p. 8e; 26 Apr. 1871, p. 8d; 3 May 1871, p. 9a.
[95] *AJ*, 4 Jan. 1881, p. 6a.
[96] *BJ*, 16 Mar. 1869, p. 6a; *AJ*, 28 Dec. 1886, p. 7a.
[97] *AJ*, 28 Apr. 1877, p. 1f.
[98] *AJ*, 22 Jan. 1883, p. 2h.
[99] *AEE*, 10 Feb. 1881, p. 2c.
[100] *AJ*, 22 Jan. 1883, p. 2h; reprinted 27 Jan. 1883, p. 8a.

not to have fortnightly markets but to keep to monthly ones.[101] The London *Morning Post*, commenting on the Keith dealers and butchers, said they had practically put a stop to the next sale that was going to take place in the Keith auction mart, but did not specify which one.[102]

It is difficult to judge how effective the threat to boycott Keith auctions was, as for the next few months all livestock auctions and markets in the north east were disrupted by the national outbreak of foot-and-mouth disease and government restrictions on the movement of cattle.[103] For the rest of 1883 the traditional Keith markets were held monthly as and when disease regulations allowed, but there is no record of any more auctions that year.[104] Livestock auctions started again in Keith in 1884 but on a much reduced scale and from just one market, which changed hands more than once. Alec Middleton gave up on the town and decided it would be easier to concentrate primarily on his Belmont mart in Aberdeen. According to Keith's local historian, George Hendry's auction mart had to close because it was boycotted by buyers.[105] If that was the case, it was leased to a Mr W. W. Stewart who held his first sales in November and December 1884, and weekly sales in 1885 and 1886.[106] It was then used by various auctioneers until it passed back into the Hendry family's control and George's brother Robert ran weekly sales from 1891 until April 1894.[107] Thereafter Keith had no active livestock auction mart.

Given this frequent change of ownership, it is unlikely that the Keith marts were easily crushed by the butchers' opposition alone: there were other factors which contributed. Keith was surrounded by a number of markets all within easy reach (see Map 1), and it hardly justified having the two auction marts it did since 1876. When we consider the other auction sites its butchers threatened to ignore, Inverness, Grantown and Forres, we find they failed to stop auctions in any of these. Those in Grantown and Forres thrived, and although the Inverness mart is outside the region covered by this article, weekly livestock auctions were held there by 1889 and it had two firms of livestock auctioneers conducting weekly sales by 1891.[108]

The third and final attempt by local butchers and meat traders to disrupt the region's livestock auctions was in 1897, and was on a national scale. The dispute began in Glasgow in June 1896 when the Glasgow Fleshers Protection Association (GFPA), a group of wholesale butchers and meat traders, tried to prevent the Scottish Co-operative Wholesale Society (SCWS) from buying cattle in the city's dead meat market in Moore Street. In the following weeks this was extended to auction marts by threatening to boycott any auctioneer or mart selling livestock to the SCWS.[109] The dispute spread to Aberdeen and the north east in July 1897 with an ultimatum from Aberdeen butchers to have no dealings with anyone in the meat trade who traded with the city's Northern Co-operative Society (NCS). It had been founded in 1861

[101] *AJ*, 10 Feb. 1883, p. 8c.

[102] *Morning Post*, 13 Feb. 1883, p. 6b.

[103] A. Woods, *A manufactured plague? The history of foot-and-mouth disease in Britain* (2004), pp. 1–19; *AJ*, 16 Feb. 1883, p. 7e–f; 10 Apr. 1883, p. 4h; 5 May 1883, p. 2g; 3 Aug. 1883, p 7e.

[104] *AJ*, 3 Mar. 1883, p. 4g; 7 Apr. 1883, p. 3g; 5 May 1883, p. 3h; 15 June 1883, p. 3e; 21 July 1883, p. 8e.

[105] John W. Cowie, *Recollections of Keith, Fife-Keith and Newmill* (1928), p. 30.

[106] *AJ*, 17 Nov. 1884, p. 3d; *AFP*, 12 Dec. 1884, p. 7b; *AJ*, 13 Dec. 1884, p. 8d; 22 Dec. 1884, p. 3e; 18 May 1885, p. 73; 9 Dec. 1886, p. 3f.

[107] *AFP*, 27 Mar. 1891, p. 2d; 24 Sept. 1892, p. 2d; 13 Jan. 1894, p. 2a; 20 Apr. 1894, p. 2g.

[108] *Inverness County Directory*, 1889, p. 118; *IC*, 2 Jan. 1891, p. 8e.

[109] J. Kinloch and J. Butt, *History of the Scottish Co-operative Wholesale Society Limited* (1981), pp. 253–4.

and by 1896 operated 10 retail butcher shops in the city, while private traders had 94.[110] The ultimatum included not only auctioneers and other butchers who supplied the NCS with beasts or meat, but also farmers who were members of a cooperative society and/or supplied it with any sort of farm produce.[111] Faced with this threat the Aberdeen auctioneers eventually agreed to the butchers' demands that they sign an agreement which, borrowing from the terminology of the temperance movement, was referred to as the pledge, to restrict their business dealings to those livestock dealers and farmers who agreed to have no dealings with the NCS.[112]

Although all four Aberdeen firms were prepared to agree to the butchers' demand, auctioneers in other parts of the region were less accommodating. When the farmers who held most of the shares in the Kincardineshire Auction Company met to consider the pledge, it was described as a selfish attempt to control the meat trade of the whole country and unanimously rejected, and they resolved to continue selling to the highest bidder.[113] In the important markets at the village of Maud, where three separate companies held auctions that handled most of the livestock trade in and out of Buchan and north Aberdeenshire, one of the family firms there, run by John Bell, also refused to have anything to do with the boycott.[114] While the other two firms at Maud wavered and said they would wait and see how the situation developed, John Bell was determined in his intentions right from the start, telling the *Aberdeen Journal* reporter: 'I will sell to the highest bidder, cooperative or not. John Bell has all along conducted his own sales and John Bell will continue to do so till the shop is shut'.[115] But unlike John Bell and the Kincardineshire Auction Company, many of the other country marts were pragmatic in their approach and decided to wait and see how things developed before taking sides. As the local towns outside Aberdeen did not have cooperative stores operating butchers' shops, the question of local competition from this source never arose.[116]

After lasting for around 12 weeks the boycott collapsed, not on account of anything that happened in the north east but because livestock auctioneers in Perthshire and central Scotland tired of the Glasgow butchers dictating how they should run their firms, decided to abandon the pledge.[117] Once the collapse was underway the auctioneers in Aberdeen, Aboyne, Stonehaven and Maud told the Aberdeen butchers that 'after a fair trial on their part', they would also abandon the boycotting movement, and from 2 December would resume normal practice of selling to the highest solvent bidder.[118]

There were various reasons why the boycott failed. In the first instance not all auctioneers were willing to fall in with the butchers' demands and exclude all cooperators. Auctioneers faced fierce objections from the farmers, both at a national level and locally, when they signed the butchers' pledge. Farmers argued it was they who employed the auctioneers and salesmen to get the best price for their livestock, and this could not be achieved if any group of solvent bidders were suddenly excluded from their sales. The auctioneers replied that they could not

[110] R. Perren, 'Survival and Decline: The Economy 1918–1970', in Fraser and Lee, *Aberdeen*, pp. 115–16; *Aberdeen Directory*, 1896–97, pp. 286, 406–7.

[111] *AJ*, 24 July 1897, p. 4f; *DC*, 24 July 1897, p. 6c.

[112] *The Scotsman*, 10 Aug. 1897, p. 7d; *AJ*, 10 Aug. 1897, p. 4b.

[113] *The Scotsman*, 10 Aug. 1897, p. 7d–e.

[114] *AJ*, 19 Aug. 1897, p. 6c–d.

[115] *AJ*, 12 Aug. 1897, p. 5h.

[116] *AJ*, 21 Aug. 1897, p. 6c.

[117] *GH*, 23 Nov. 1897, p. 9b; *The Scotsman*, 23 Nov. 1897, p. 6h; *Edinburgh Evening News*, 29 Nov. 1897, p. 3a; *Dundee Evening Telegraph*, 29 Nov. 1897, p. 4g

[118] *DC*, 30 Nov. 1897, p. 3e.

obtain any prices for their farmers if the principal group of purchasers – the butchers – refused to attend their sales. But the position of all auctions was not the same. Those most prone to the butchers' pressure were the urban firms of auctioneers who held large regular sales a number of times a week. In Aberdeen three out of the four livestock auctioneers were family-run. These men relied on their businesses for all of their income, and if they were boycotted for any length of time they faced staff lay-offs, and closure of their premises. But rural livestock auctioneers were in a different position. As can be seen from Table 4, here the risks were spread, as many of the country firms were joint stock companies, now owned by local farmers and landowners, who held most of the shares. Rural auction firms, with an employed manager, were not the main source of income for any of these people and it was they who made up the major opposition to those butchers who wanted to exclude all cooperators. Even John Bell, who had stood out against the boycott at Maud had other business enterprises, including a substantial farm.[119]

The success of the auctions offered advantages to all who used them. These were not always apparent to the dealers and butchers who bought fat stock and many still looked back to the previous system of open markets with some nostalgia during the dispute of 1897. But in 1900 the size of north-east Scotland's livestock farming had expanded so much that the traditional marketing system was no longer adequate to handle the numbers of animals involved. From being mainly an exporter of store cattle and sheep in 1800, north-east Scotland was by 1900 not only exporting large numbers of fat cattle but also importing substantial amounts of store animals, mostly from Ireland. It can be seen in Table 3 that in the 1850s around 9000 cattle a year passed through Aberdeen's single market in King Street, but between 1895 and 1900 the city's four markets were handling an annual average of 58,400 cattle a year, or 14,600 each.[120] In addition there was an unknown but increased number of small livestock, and it is unlikely the old chaotic system of fairs and markets could have coped efficiently with such increased numbers.

The transformation of the livestock marketing system from pitched markets to auction marts also reflected a growth in the relative strength of the farming community. The main attraction, from the larger and wealthier farmers' point of view, was that being the main group of shareholders in the joint stock livestock marts, they now possessed greater, though not complete, control over the livestock marketing system. Most large farmers of the region were shareholders in their local mart by 1900, and by promoting the formation of a number of small chains of joint stock marts shown in Table 4 they recognized there was community of interest in working together. This was in contrast to the 1850s and 1860s when the increase in the number of traditional markets was accompanied by a fierce rivalry between local communities, each endeavouring to have new livestock markets set up in their locality at the expense of their neighbours. By the 1890s the process of rationalizing away many of the earlier markets set up before and after 1850 was accompanied by cooperation between the auction marts. Instead of holding markets on the same day, the auctioneers staggered dates, and in Aberdeen, Elgin,

[119] *AJ*, 1 Sept. 1901, p. 4f.

[120] Board of Agriculture, Annual Reports of Proceedings Under the Diseases of Animals Act, the Markets and Fairs (Weighing of Cattle) Acts for 1890, Cd. 535, 1901, pp. 92–3.

Ellon, Forfar, Maud and Turriff when there was more than one market on a single day, care was taken to stagger the starting times so that customers could move smoothly from the finish of one without missing the beginning of the next.

VIII

The attempts of local butchers to undermine the new marts were all failures, with the possible exception of those at Keith. In his reply to the 36 fleshers threatening to boycott his Aberdeen auctions in 1871 John Duncan joked that they were being 'drawn into the cave' by an unrepresentative minority of malcontents.[121] This was a reference to national politics five years earlier when John Bright ridiculed members of the Liberal Party, who formed a short-lived faction opposing Gladstone's parliamentary reform Bill in March 1866.[122] And at the end of their final futile attempt to disrupt and dictate to the auction marts in 1897 one of the directors of the ACFPA raised an easy laugh from shareholders when he likened the butchers involved to 'the old woman trying to mop the Atlantic with a broom'.[123] Although not entirely squeezed out by professional auctioneers, the ability of the cattle dealers and butchers to control the marketing of livestock in north-east Scotland in the 1860s was much reduced by 1900.

In conclusion, more general points about north-eastern farming in the nineteenth century can be drawn from this study. Firstly, the increase in the number of markets was in some instances a further addition in the development of planned villages. Although the early stages of planning such villages and small towns concentrated on the laying out of streets and lotted lands, in some cases livestock markets were added where it was thought they might help further development. But in all cases the success of such markets depended on convenient railway access; and this applied equally to those in planned villages like New Byth and Rhynie whose markets failed because they had no railway access and already established villages like Echt which was similarly bypassed (see Map 1). Secondly, the evolution of livestock markets into predominantly farmer-owned auction marts is a hitherto neglected feature of the commercialization of farming in north-east Scotland, or capitalist farming if one prefers to use Carter's term.[124] If one does not then it can be explained as the adoption of a more efficient form of marketing, speeding the process of sale and drawing in a larger number of bidders than traditional markets. It can also be seen as a response by farmers to the pressures they were under with the drop in agricultural prices during the 1880s. It was, despite challenges, a successful attempt by farmers to wrest control of a significant sector of livestock marketing from local cattle dealers and butchers. It may also well be worth investigating how far similar changes took place in other regions.

[121] *AFP*, 31 Mar. 1871, p. 1a.

[122] Bright named them Adullamites, alluding to the cave in the Bible to which David and others fled to hide from an enraged Saul. K. Robbins, *John Bright* (1979), pp. 180–1; 1 Samuel xxii 2.

[123] *AJ*, 20 Aug. 1898, p. 7a.

[124] Carter, *Farm life*, pp. 176–84

International organizations and agriculture, 1905 to 1945

Edited by Niccolò Mignemi and Juan Pan-Montojo

List of abbreviations

CEA	Confédération Européenne d'Agriculture
CEAg	Comité Économique Agricole
CIA	Commission Internationale d'Agriculture
CIBE	Commission International de Betteraviers Européens
CICA	Commission Internationale de Coordination Agricole
CIPA	Commission Internationale Permanente des Associations Agricoles
CISA	Conseil International Scientifique Agricole
EFO	Economic and Financial Organization
ETAP	Expanded Technical Assistance Program (United Nations)
FAO	Food and Agriculture Organization (United Nations)
FITA	Fédération Internationale des Techniciens Agronomes
IAMCC	International Agricultural Mortgage Credit Company
IEB	International Education Board
IIA	International Institute of Agriculture
ILO	International Labour Organization
LoN	League of Nations
OIHP	Office International d'Hygiène Publique
OIV	Office International du Vin
LNHO	League of Nations Health Organization
USDA	United States Department of Agriculture

International organizations and agriculture, 1905 to 1945

Introduction*

By Juan Pan-Montojo and Niccolò Mignemi

Abstract

The first international organizations such as the Commission Internationale d'Agriculture and the International Institute of Agriculture have been studied as historical phenomena since the 1990s. Historians have also analysed the economic projects of the League of Nations, the ambitious programmes of the International Labour Organisation and the economic conferences of the 1920s and 1930s. At the national level, these analyses focus on the transnational connections of the networks of experts, on model transfers, and on scientific controversies and debates on policies. A new field of research is emerging where rural history can find new insights into the challenges posed by global debates on the modernization of agriculture and its place in economic development. This essay reviews the historical literature produced on different international and transnational organizations and networks and, at the same time, introduces the articles on international organizations and agriculture that follow. It is structured along chronological lines, summing up the main traits of the institutions and the publications that have previously discussed them.

An interest in globalization and the processes of international integration has been a key factor in the upsurge of transnational history, global history, and world history since the 1990s. These and other approaches to the past respond to new social interests in processes that take place above or through frontiers, in communities that are not defined by national borders or in phenomena with continental or world dimensions. But they reveal, too, the preoccupations of the historians who choose these supranational spaces, and their ambition to construct post-national historical narratives, partly in response to the nationalizing nature of most modern historiographies, including their international and comparative elements, partly as a result of personal or collective commitments to supranational projects.

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I

As in nearly every other field of history, current debates on globalization and its results are encouraging rural historians to address similar processes in the past, and study connections, whether institutionalized or informal, that have often been neglected by national histories. The comparative approach, as it was described by Marc Bloch in the 1920s, has always been an instrument of agricultural historians, who have used it to analyse the similarities, the divergences, the interconnections and the mutual influences between synchronic dynamics in different contexts.[1] Despite the existence of some good books that covered larger regions and even the world,[2] most twentieth-century historical studies of rural societies have been framed as either local or national. However, their authors have often had other local or national spaces in mind (and in their bibliographic references), turning their studies into comparative studies, often with a clear supranational dimension.

Rural historians have much less frequently employed the perspective of international history, here understood as the history of the relations among national states and other political systems, in other words as history of international relations. No more conspicuous has been the perspective of transnational history, where transnational refers to 'sustained linkages and ongoing exchanges among non-state actors based across national borders – businesses, non-government-organizations, and individuals sharing the same interests (by ways of criteria such as religious beliefs, common cultural and geographic origins)'.[3] The works of transnational history are not numerous but not completely lacking either, since the history of the international trade in agricultural products has long been studied by agrarian historians. Studies of knowledge transfers have followed plants, animals, and techniques across the world, and migration has often been addressed by rural historians.

Since the late 1990s historians who work on rural societies and agricultural economies have become much more global in their readings, their meetings, and their research.[4] More and more books on agricultural institutions, rural social relations, agro-systems, agrarian policies, and many other themes have combined national or regional chapters with comparative analyses. At the same time the regional and world trade of food and other

[1] M. Bloch, 'Pour une histoire comparée des sociétés européennes', *Revue de Synthèse historique* 46 (1928), pp. 15–50.

[2] B. H. Slicher van Bath, *The agrarian history of Western Europe, AD 500–1850* (1963), first published in Dutch in 1960, is one of the best-known supranational books of the twentieth century. But there are many others such as M. Tracy, *Agriculture in Western Europe: challenge and response, 1880–1980* (sec. edn, 1982), M. Mazoyer and L. Roudart, *Histoire des agricultures du monde* (1997) (English translation in *A history of World agriculture: from the Neolithic age to the current crisis*, 2006) and more recently F. Giovanni, *Feeding the World. An economic history of agriculture, 1800–2000* (2005).

[3] S. Vertovec, *Transnationalism* (2009), p. 3. For a nuanced consideration of the uses in historical and socio-scientific writing of the terms 'transnational' and 'transnationalism', see P. Clavin, 'Defining transnationalism', *Contemporary European Hist.* 14 (2005), pp. 421–39.

[4] A good example of this turn is the project that has given birth to the Brepols series *Rural History in Europe*. Between 2005 and 2008, with the support of the European COST Action 35 Progressore, a large group of mainly European rural historians were involved in workshops held all over the continent. The result of this undertaking is the series that Brepols published from 2008 onwards.

primary commodities has been revisited in essays that add new and old sources to more complex econometric models. If a supranational perspective was launched in the 1980s to explore the role of the agrarian elites in the European development,[5] in recent years transnational approaches have focused their attention on the networks of knowledge, the place of the experts, the transfers of theories and concepts, and the emergence of common policy issues, including the common agricultural policy.[6]

Despite this trend, international organizations and their role in relation to agriculture have remained a marginal object for historians, notwithstanding the fact that agriculture was the sole concern of one of the earliest international organizations, the International Institute of Agriculture (IIA), founded in 1905. The agricultural impact of transnational networks – many of them built around institutionalized exchanges – has not received sufficient attention either, even though we know that dense intellectual and social links were established among agricultural associations and academies and between agronomists, agricultural chemists and other technicians and scientists related to agriculture from the eighteenth century onwards.[7]

[5] See the hypothesis proposed by A. J. Mayer, *The persistence of the Old Regime. Europe to the Great War* (1981); M. Malatesta, *I signori della terra. L'organizzazione degli interessi agraria padani (1860–1914)* (1989) [*The lords of the land. The organization of agricultural interests in the Po Valley (1860–1914)*] and id., *Le aristocrazie terriere nell'Europa contemporanea* (1999) [*The landowning aristocracy in Modern Europe*]; the special issue 'Les associations économiques et groupes de pression en Europe XIXe–XXe siècle', *Histoire, Économie et Société* 2 (1997), presenting the papers discussed in the session 'Economic Associations in late nineteenth-century Europe' at the 1994 World Economic History Congress, held in Milan.

[6] See, for instance, N. Jas, *Au carrefour de la chimie et de l'agriculture. Les sciences agronomiques en France et en Allemagne, 1850–1914* (2001); R. Aldenhof-Hübinger, *Agrarpolitik und protektionismus. Deutschland und Frankreich im vergleich, 1879–1914* (2002) [*Agrarian policy and protectionism. Germany and France in comparison, 1879–1914*]; K. K. Patel (ed.), *Fertile ground for Europe? The history of European integration and the common agricultural policy since 1945* (2009); C. Knab and A. Ribi Forclaz (eds), 'Transnational cooperation in food, agriculture, environment and health in historical perspective', *Contemporary European Hist.* 20 (2011); P. Brassley, Y. Segers and L. Van Molle (eds), *War, agriculture, and food: rural Europe from the 1930s to the 1950s* (2012); P. Moser and T. Varley (eds), *Integration through subordination. The politics of agricultural modernisation in industrial Europe* (2013); L. Fernández Prieto, J. Pan-Montojo and M. Cabo (eds), *Agriculture in the age of Fascism. Authoritarian technocracy and rural modernization, 1922–1945* (2014); N. Vivier (ed.), *The golden age of state enquiries. Rural enquiries in the nineteenth century. From fact gathering to political instrument* (2014); C. Martiin, J. Pan-Montojo and P. Brassley (eds), *Agriculture in capitalist Europe, 1945–1960. From food shortages to food surpluses* (2016). The most recent contributions are the special issue on 'Rural Development in the Twentieth Century. International Perspectives' edited by Marc Frey and Corinna R. Unger in *Comparativ. Zeitschrift für Globalgeschichte und vergleichende Gesellschaftsforschung* 27 (2017) and L. van de Grift and A. Ribi Forclaz (eds), *Governing the Rural in Interwar Europe* (2017). We have also been able to refer to the workshops on the knowledge networks in rural Europe since 1700, organized by Yves Segers and Leen Van Molle in Bern (2013) and Leuven (2014).

[7] The history of science and technology has paid especial attention to the role of the congress in the internationalization of the scientific networks and debates, as attested by the following special issues: 'La fabrique internationale de la science. Les congrès scientifiques de 1865 à 1945', *Revue germanique internationale* 12 (2010); 'Les congrès scientifiques internationaux', *Relations internationales* 62 (1990); 'Les congrès lieux de l'échange intellectuel 1850–1914', *Mil neuf cent* 1 (1989). For a general overview of the congresses in the second half of the nineteenth century see Anne Rasmussen, 'Jalons pour une histoire des congrès internationaux au XIXe siècle. Régulation scientifique et propagande international', *Relations internationales* 62 (1990), pp. 115–33. On the specialized congresses connected to agricultural issues, see for instance: C. Fumian, 'I congressi degli scienziati e la cultura agronomica', in G. Biagioli and R. Pazzagli (eds), *Agricoltura come manifattura.*

Some of the networks that were established after 1850 did not just exchange information, techniques, and models for policies. According to Nützenadel, they gave shape to a 'global governance' of the food markets before the First World War, when national producers in Europe were 'trying to cope with the effects of a global market'.[8] When we compare the aims of these networks and associations, and consider how food markets worked before the Great War, let alone the disarray of the agrarian markets after the conflict, it is too much to claim that these institutions achieved any kind of global governance. It might be more accurate to say that they managed to redefine and, at least for some periods, to regulate certain international food markets. The establishment of international arrangements to influence food production and distribution had been a constant aim of successive generations of agricultural leaders since the 1890s, and we should not overlook their first active steps after 1900, when national protectionist measures came to be seen as not sufficiently protective by agricultural lobbies in a number of countries.

In the essays that follow, we cannot completely unravel the role of international organizations and transnational networks in agriculture. Instead we want to persuade our readers of the importance of international institutions and their relevance for modern rural history, especially in the decades between the end of the nineteenth century and the Second World War, by which time the 'agrarian question', the approach to agriculture as a multidimensional problem for national progress, was included in most political agendas. Europe became a laboratory for debates on rural development. Combining the economic, social, and political contents of the agrarian question, as contemporary observers did, allows us to understand better the social demands and rural policies that in many Western countries preceded the deep agricultural transformation of the 1950s and 1960s, both at the national level, and in the capitalist world-economy as a whole. In European countries in particular, the modernization of the rural world had become a central issue in scientific debates and policy concerns before the First World War, even though the term 'modernization' itself was not commonly used. On the one hand, the programmes and proposals of economic reform aimed at increasing total production of agriculture, through 'rationalization', commodification, and specialization. On the other hand, turning rural society into a modern society was understood as a process that would enable the political and social integration of a population still largely engaged in farming and slow down or even stop the rural exodus towards urban areas and non-agricultural employment.

Going beyond the limits of both the macro-perspective and the traditional comparative approaches, these essays attempt to address the supranational institutional factors which played

Note 7 *continued*
Istruzione agraria, professionalizzazione e sviluppo agricolo nell'ottocento (2004), pp. 203–51 [*Agriculture as manufacture. Agricultural education, professionalization and agricultural development in the nineteenth century*], and M.-A. Gagnon, 'Les réseaux de l'internationalisme statistique (1885–1914)', in J.-G. Prévost and J.-P. Beaud (eds), *L'ère du chiffre/The age of numbers. Systèmes statistiques et traditions nationales/Statistical systems and national traditions* (2000), pp. 189–219.

[8] A. Nützenadel, 'A Green International? Food markets and transnational politics, *c*.1850–1914', in A. Nützenadel and F. Trentamann (eds), *Food and globalization. Consumption, markets and politics in the modern world* (2008), pp. 153–72. See also R. Jachertz and A. Nützenadel, 'Coping with hunger? Visions of a global food system, 1930–1960', *J. Global Hist.* 6 (2011), pp. 99–119.

a central role in the agrarian dynamics of the 1900s to the 1940s, searching for connections, interactions and bifurcations in the national and regional paths. We want to overcome both national views that underestimate foreign intellectual and institutional influences and international studies that just take into account market exchanges or comparative statistical data or the design and working mechanisms of international institutions. The aim of the essays is to offer some concrete studies that show how the intensive circulation of resources (capital, technologies, knowledge and so on), products (raw materials, staple foods) and persons (rural labour, social and political leaders, technicians) induced cross-fertilizations and facilitated the transfer of policies, techniques, discourses and representations, which eventually shaped or at least influenced new international institutions. At the same time, international debates, initiatives and agreements imposed technical standards and governing models on the approaches to national questions and stimulated and legitimized local strategies to address what were considered to be common or related problems. Thus, as Jasmien Van Daele has observed when analysing the labour issue in the Belgian case, we want to encourage an approach that should 'follow a complete trajectory from the origins of international social policy until its implementation on the national level'.[9]

II

Starting with the least-studied institutions, we begin with the networks that animated the international congresses of agriculture. These congresses were organized for the first time in the 1870s, when international cereal prices were falling, and many agricultural voices in different countries were beginning to lobby actively for protection against the imports of agricultural goods from overseas. The congresses were for this reason conceived as tribunes for demands of representatives of the agrarian elites and, at the same time, for cooperation across borders among high civil servants, leaders of the agricultural organizations, agricultural engineers, and economists and lawyers who specialized in agriculture. In the Congrès international d'agriculture that took place in Paris in 1889, it was decided to create a permanent transnational institution, the Commission Internationale d'Agriculture (CIA), formally established two years later in a further congress at The Hague.[10] From 1891 until 1923, the president of the CIA was Jules Méline, the French Republican politician who led the turn to protectionism in France in 1891. The members of the organizing commission of the Congress of 1889, both French and foreign, were appointed by the French Ministry of Agriculture. They were the ones that co-opted the members of the first CIA, which then existed under the indirect guidance of the French government.[11] The CIA was designed to guarantee the continuity of the interna-

[9] J. van Daele, 'Industrial States and transnational exchanges of social policies: Belgium and the ILO in the interwar period', in S. Kott and J. Droux (eds), *Globalizing social rights. The International Labour Organization and beyond* (2013), p. 191.

[10] Ministère du Commerce, de l'industrie et des colonies. Exposition universelle internationale de 1889. Direction générale de l'exploitation, *Congrès international d'agriculture tenu à Paris du 4 au 11 juillet 1889 sous la présidence de M. Jules Méline* (1889) et *IIe Congrès international d'agriculture tenu à La Haye du 7 au 13 septembre 1891* (1892).

[11] On the French role in the international organization of agriculture, see G. Noël, 'La participation de la France aux stratégies d'organisation internationale de l'agriculture', *Économie rurale* 184–186 (1988), pp. 63–70.

tional congresses. Since they were the only regular international conferences on agriculture, the CIA secured a key position in defining of the agenda for international discussions in this field. Within the CIA, national representatives defended national interests while, at the same time, identifying common problems and solutions: as in other committees and conferences developed in the nineteenth century, 'nationalism and internationalism … appeared as intricately interlinked'.[12]

The CIA changed its nature after the Great War. In March 1925, under the leadership of Louis de Vogüé, president of the Société des Agriculteurs de France, and Ernst Laur, president of the Schweizerische Bauernverband, it adopted new statutes in order to become 'the truthful and only organisation representing general interests of agriculture in the international field'.[13] In 1927, coinciding with the announcement, by the League of Nations, of an International Economic Conference, its board accepted the transformation of the Comission Internationale into an international agricultural lobby, with its headquarters in Paris, and a large and heterogeneous membership, representing 71 agricultural organizations from 18 European countries.[14] The transformation enabled the CIA to be recognized by the League of Nations and summoned to give evidence to expert committees. The CIA's leaders were very active in the economic debates of the 1930s.[15] They played a central role in the creation of a new concept that tried to combine international trade, stability and protection of the farmers: *organization of agriculture*. It embodied an internationalist and pro-European point of view that was far away from the free-trade alignment of nineteenth-century internationalists. Moreover, the personal connections that were established in the CIA became a key element in the post-war food and agricultural policies of European countries.[16] For instance the Swiss peasant leader, Ernst Laur, who had participated and delivered an aggressive pro-family agriculture speech to the Lausanne congress of 1898, sat almost permanently on the board of the CIA in the 1920s and 1930s, and was then president of the Confédération Europeenne d'Agriculture (CEA) – one of the leading agrarian organizations in Europe in the 1950s – between 1948 and 1950.[17] The head of the CEA between 1954 and 1958, when the Common Market came into life, was also Andreas Hermes, who had been another member

[12] V. Huber, 'The unification of the globe by disease? The international sanitary conferences on cholera, 1851–1894', *Historical J.* 49 (2006), p. 458.

[13] Séance du 25 March 1926, in Société des Agriculteurs de France (SAF), 'Séances du Conseil, Comptes-rendus' (ms held by the Bibliothèque de la SAF, Paris).

[14] Noël, 'La participation' and id., 'La solidarité agricole européenne. Des congrès d'agriculture à la politique agricole commune', in J. Canal, G. Pécout and M. Ridolfi (eds), *Sociétés rurales du XXe siècle. France, Italie et Espagne* (2004), pp. 311–25; F. G. von Graevenitz, 'L'Europe comme modèle de l'Office du Blé? Les origines et les conséquences nationales de l'organisation internationale des marchés agricoles (1927–1939)', in A. Chatriot, E. Leblanc and É. Lynch (eds), *Organiser les marchés agricoles. Le temps des fondateurs, des années 1930 aux années 1950* (2012), p. 56.

[15] M. Rieul-Paisant, *La Commission internationale d'agriculture (Union internationale des associations agricoles) et son rôle dans l'économie européenne* (1936).

[16] J. Pan-Montojo, 'International institutions and European agriculture: from the IIA to the FAO', in Martiin, Pan-Montojo and Brassley (eds), *Agriculture in capitalist Europe*, pp. 23–43. Noël, 'La solidarité'.

[17] W. Baumann, *Bauernstand und Bürgerblock: Ernst Laur und der Schweizerische Bauernverband, 1897–1918* (1993) [*Peasantry and Bourgeois Block: Ernst Laur and the Schweizerische Bauernverband, 1897–1918*], and W. Baumann and P. Moser, *Bauern im Industriestaat: Agrarpolitische Konzeptionen und bäuerliche Bewegungen in der Schweiz 1918–1968* (1999) [*Peasants in the industrial state: conceptions of agrarian policy and peasant movement in Switzerland, 1918–1968*].

of the board of the CIA in the 1920s. He was a Catholic politician from Germany who had been chief of the Bureau of Agricultural Intelligence and Plant Diseases of the IIA between 1910 and 1914 and minister of Agriculture in the Weimar Republic between 1921 and 1923. He would play a key role after the Second World War in the German agrarian organizations.[18]

Partly through the networks built in the congresses and in the CIA, as well as through bilateral relations between national organizations, came the first attempts in the twentieth century to reach multilateral commodity agreements. In 1900, there was a congress in Paris on the organization of farmers for the sale of cereals. As a result of this meeting, in 1901 a provisional international office to coordinate the wheat and flour trade – known as the Internationale landwirtschaftliche Vereinigung für Stand und Bildung der Getreidepreise (International Agricultural Union for Fixing the Price of Cereals) – was established. The following year, 1902, it became a permanent organization, based in Berlin and presided over by the economist and advisor of the powerful agricultural organization Bund der Landwirte Gustav Ruhland. At much the same time, there was a sugar conference in Brussels in 1902 that led to the first European sugar convention, fourteen years after the first international meeting in London, in 1888, that tried to eliminate export subsidies for beet-sugar. The Brussels Convention was a precedent for the first real international commodity agreement for sugar, the Chadbourne Agreement of 1931, itself the major outcome of the active and efficient transnational organization created in 1927, the Commission International de Betteraviers Européens (CIBE) that conceived this international commodity agreement as a supplement to nationalist protectionist policies with regard to sugar beet.[19]

However, the most important organization before the Great War was the IIA, first conceived by the US citizen David Lubin and launched by an Italian diplomatic initiative in calling an international conference held in Rome in May-June 1905. Representatives of forty countries signed the final convention that created the IIA. The Institute's most significant purpose was to 'collect, study and publish as promptly as possible statistical, technical, or economic information [on agriculture, while] the economic interests, the legislation, and the administration of a particular nation shall be excluded from the consideration of the institute'.[20] In his contribution to these essays, Niccolò Mignemi evokes the fierce debates about the question of including delegates from the agrarian associations in the IIA although it finally took form as an intergovernmental organization. Mignemi refers to the creation in 1906 of the Internationaler Bund der landwirtschaftlichen Genossenschaften / Fédération Internationale des Coopératives Agricoles (International Federation of the Agricultural

[18] R. Morsey, 'Andreas Hermes. Ein christlicher Demokrat in der ersten und zweiten deutschen Demokratie' ['Andreas Hermes. A christian-democrat in the first and the second German democracy'], *Historisch-Politisch Mitteilungen* 10 (2003), pp. 129–49.

[19] F. G. von Graevenitz, 'Exogenous transnationalism: Java and "Europe" in an organised World sugar market (1927–37)', *Contemporary European Hist.* 20 (2011), pp. 257–80, and id., 'L'Europe'. See also id., *Argument Europa. Internationalismus in der globalen Agrarkrise der Zwischenkriegszeit (1927–1937)* (2017) [*The argument of Europe. Internationalism in the global agricultural crisis of the interwar Period (1927–1937)*].

[20] Article 9 of the convention signed on 7 June 1905, in *Conférence Internationale d'Agriculture. Rome – MCMV. Procès-verbaux* (1905), p. 113, translated into English as 'Convention between the United States and other powers for the creation of an International Institute of Agriculture', signed at Rome, June 7, 1905, Treaty Series no. 489 (1908).

Cooperatives). This organization was joined by the most important national federations of agriculture cooperatives in Europe but it was handicapped by the mutual distrust of French and German leaders, and was unable to achieve a sufficiently strong position to negotiate with the new intergovernmental institution.

Officially inaugurated in 1908, the IIA was dominated by diplomats in its governing bodies, but as Federico D'Onofrio argues in his article, its technical services were able to build the main institutional framework for the exchange of knowledge on agriculture in the first half of the twentieth century. Dissolved in 1946 – a year after the foundation of the Food and Agriculture Organization of the United Nations (FAO), in Quebec City – the IIA was able to bring together the most important agricultural countries of the world. At the request of the colonial powers, it accepted many colonies as members on the same conditions as the independent nations.[21] During the interwar years, its influence was large and its membership more numerous than that of the League of Nations (LoN), despite the 'perceived inefficiencies and Fascist leanings' of the Institute, which had its headquarters in Rome and took something of the colour of Italian domestic politics.[22] The IIA became a central place for all kinds of information exchange (statistics, legislation, scientific and technological innovations, social and economic agendas), as well as serving as the forum in which transnational networks could be developed, debates on international agricultural issues held, and common standards and agreements could be negotiated.

Apart from the large number of official publications produced by the IIA, a contemporary overview is available from the monograph published by the US delegate to the Institute, Asher Hobson, after he left the Institute. It contains a great deal of information although it is highly conditioned by the author's engagement in the internal strife in the organization.[23] Very few recent studies have been devoted to the IIA. In the 1990s, Luciano Tosi undertook the first historical study of the IIA from the point of view of the history of international relations.[24] From the very title of his book, Tosi underlined the relevance of the IIA as a precedent, the origin he claims, of the FAO, the agency of the United Nations that has played the major role in the formulation of international policies concerning agriculture since 1946.[25] In more recent years, a new generation of researchers have started exploring the largely unknown archives

[21] Article 10 of the 1905 Convention in *Conférence Internationale d'Agriculture*.

[22] P. Clavin, *Securing the world economy. The reinvention of the League of Nations, 1920–1946* (2013), p. 85.

[23] A. Hobson, *The International Institute of Agriculture: an historical and critical analysis of its organization, activities and policies of administration* (1931).

[24] L. Tosi, *Alle origini della FAO. Le relazioni internazionali tra l'Istituto Internazionale di Agricoltura e la Società delle Nazioni* (1989) [*At the origins of the FAO. The international relation between the International Institute of Agriculture and the League of Nations*]. See also id., 'The contribution of the International Institute of Agriculture to the Study Commission of the European Union', in A. Fleury and L. Jîlek (eds), *Le Plan Briand d'Union fédérale européenne. Perspectives nationales et transnationales, avec documents. Actes du colloque international tenu à Genève du 19 au 21 septembre 1991* (1998), pp. 257–69; and id., 'The League of Nations, the International Institute of Agriculture and the Food Question', in M. Petricioli and D. Cherubini (eds), *Pour la paix en Europe. Institutions et société civile dans l'entre-deux-guerres* (2007), pp. 117–38.

[25] We cannot refer to all the studies published on the FAO, its achievements and shortcomings. We shall just mention, for those interested, a recent general overview: R. Jachertz, 'To keep food out of politics: the UN Food and Agriculture Organization', in F. Marc, K. Sönke and C. R. Unger (eds), *International Organizations and Development, 1945–1990* (2014).

accumulated over the four decades of the IIA. This research has focused in particular on actors and relations with partner-organizations[26], or has examined specific projects and enquiries developed within the Institute.[27] Throughout the first half of the twentieth century, the IIA was a key actor in the international arena and through it in national agricultures. The four papers presented here back this view. The IIA analysed the project of the International Agricultural Mortgage Credit Company (IAMCC), sponsored by the LoN and studied here by Madeleine Dungy. It collaborated with the International Labour Organization (ILO) on agricultural education, as Amalia Ribi Forclaz demonstrates.

Mignemi explores the origins of the IIA and looks at the expert missions that, in the spring of 1905, were sent by the Italian government to many European countries, to prepare and win support for the debates of the international conference scheduled for May 1905. In parallel with the official action of the Italian diplomacy, the idea was to overcome the hesitations of the different governments and secure the support of public opinion and the agricultural associations and unions for the new organization. It should provide the space where 'the representatives of the various states adhering to the projects, and the representatives of the principal associations of the parties interested, should meet',[28] as proposed in the initial letter circulated by the king of Italy. Focusing in particular on the mission of the agrarian economist Giovanni Lorenzoni to the Austro-Hungarian Empire and to Germany, Mignemi analyses the alternative models proposed for the organization of the IIA. He makes special reference to the proposals to include the representatives of the agricultural associations.

This solution was finally rejected, but did not disappear from the debates within the IIA, especially in the new international environment after the Great War and the Bolshevik Revolution, which was interpreted as a peasant revolution. The first debates on the IIA often made reference to the social conflicts between rural classes and the virtues of the union of agricultural interests. The article by D'Onofrio shows, however, to what extent agrarianism – the assumption that all agriculturalists shared common interests and the design of political devices to compensate for economic and social mechanisms that endangered the existence of the peasantry or the agricultural population as a social group – became hegemonic in the

[26] On the origins of the IIA at the beginning of the twentieth century, see N. Mignemi, 'Une Chambre au service des agriculteurs? L'Italie et les origines de l'Institut international d'agriculture' (unpublished memoir of the École française de Rome, 2016), and id., 'Agriculteurs du monde entier, associez-vous! Robert de Rocquigny: du Musée social à l'Institut International d'Agriculture', *Histoire et Sociétés Rurales* 45 (2016), pp. 43–67. Special attention has been given to Giuseppe De Michelis, a central figure of the Italian international movement during the first half of the twentieth century and president of the IIA between 1925 and 1933: see, for instance, S. Gallo, 'Dictatorship and international organizations: the ILO as a "test ground" for Fascism', in Kott and Droux, *Globalizing*, pp. 153–71.

[27] A. Ribi Forclaz, 'Agriculture, American expertise, and the quest for global data: Leon Estabrook and the First World Agricultural Census of 1930', *J. Global Hist.* 11 (2016), pp. 44–65, and id., 'A New target for international social reform: the International Labour Organization and working and living conditions in agriculture in the Inter-War years', *Contemporary European Hist.* 20 (2011), pp. 307–29; and N. Mignemi, 'L'enquête de l'IIA sur la réutilisation des déchets et des résidus (1920–22), ou qui gouverne l'agriculture?', *J. Hist. Environment and Society* 2 (2017), pp. 127–53.

[28] See the English version of the letter of Victor Emanuel III to Prime Minister Giolitti, 24 Jan. 1905, in *Proclamation by H.M. Victor Emanuel III King of Italy proposing an International Chamber of Agriculture, and documents relating to the same* (1905), p. 4.

interwar period.[29] D'Onofrio examines in particular how the IIA gave voice to specific ideas within an 'international civil society', integrating in its analyses the data produced by the associations of agriculturalists. He looks at the involvement of the IIA in the world economic conferences at Genoa in 1922, Geneva in 1927 and London in 1933, but also at projects such as the Enquête agricole in 1928 or the World Agricultural Census in 1930, funded by the Rockefeller Foundation.[30] Thus, he emphasizes the importance of the agrarian organizations in the production of an international expert knowledge of agriculture, and sustains the existence of a sort of conceptual legacy of the IIA onto the development debates of the second half of the twentieth century.

After the Great War, an international society came into existence, with the League of Nations at its core. Organized in various sections, the Economic and Financial Organization (EFO) developed in the 1920s into one of the most dynamic elements of the League.[31] The Peace Treaties also recommended the establishment of an organization to secure 'social justice'. This was the global aim of the tasks allocated to the Bureau International du Travail that headed the ILO, which was established in the same year as the League, 1919, as an independent agency of the League's.[32] Despite its limitations as a world security organization, the League ended up being a 'multiverse' of international organizations, around which a number of transnational communities came into being or were reinforced. Its 'open-ended and unlegalistic structure that undermined its political authority fostered the extension of League influence in other areas'.[33]

Up until the 1930s, the involvement of the EFO in agriculture was limited by its difficult relationship with the IIA.[34] In preparation for the 1927 Conference, the EFO formed a sub-committee on agricultural questions to collect statistical data on agricultural production, prices, and consumption, and to tackle questions related to international cooperation and information. The ILO and the IIA participated in the sub-committee's work. In the World Economic Conference in Geneva, in 1927, the final resolution about agriculture included a paragraph on the need to foster the coordinated scientific struggle against animal diseases both to protect national livestock and to put an end to barriers to trade.[35] This plan, supported by the IIA and the recently established Office International des Épizooties (International Epizootic Office, today known as World Organisation for Animal Health), was undertaken by a veterinary sub-committee of the EFO that met between 1928 and 1930, and from 1935 onwards by three sub-commissions. This was one of the few undertakings of EFO in agriculture before 1929, since the IIA managed to keep a leading position in all international issues concerning the primary sector. The conference and the Convention for

[29] See, on the Italian case, F. D'Onofrio, 'The micro-foundations of Italian agrarianism: Italian agricultural economists and Fascism', *Agricultural Hist.* 91 (2017), pp. 369–96.

[30] On the census, see Ribi Forclaz, 'Agriculture'.

[31] The best introduction to the Economic and Financial Organization is Clavin, *Securing*.

[32] An updated vision of the various fields of work of the ILO is in Kott and Droux, *Globalizing*.

[33] M. Mazower, *Governing the world. The history of an idea* (2012), p. 143.

[34] Clavin, *Securing*, pp. 167–8.

[35] C. Knab, 'Infectious rats and dangerous cows: transnational perspectives on animal diseases in the first half of the twentieth century', *Contemporary European Hist.* 20 (2011), pp. 281–306.

the protection of plants in 1929 and the organization of the world census of 1930 are good examples of the Institute's ambitious projects.[36]

Nevertheless, after the start of the Great Depression, EFO began to be much more involved in agricultural questions. It began by launching a discussion on the international trade of agricultural products and the fall of prices. This initial concern expanded in the following years into a broader agenda: quality of life in the countryside within an ambitious programme of guaranteeing a balanced nutrition all over the world through a coordinated global agriculture. (We shall return to the question of nutrition.) In 1938, one of the leading politicians in EFO, the Australian Frank McDougall, signed a report on 'Living Standards in Eastern Europe'.[37] The report recommended that national states coordinated an aid policy to transfer capital and technology to the peasantry, in order to facilitate the diversification of production, promote better equipment in farms, and thus achieve more welfare in rural communities.[38] The analysis was not just socio-economic since the employees of the League were aware that the impoverishment of Eastern European rural economies could push the peasantry into the hands of Fascists or Communists. In this context, they came up with the idea of calling a conference on rural life to be held in the autumn of 1939.

Among the projects of EFO, well before the 1938 report on Eastern Europe, we must include the one of the IAMCC, described here by Madeleine Dungy. The IAMCC was the institutional response by some of the League's officials to a request for assistance submitted in 1930 by Central and East European leaders, who were alarmed by the consequences of the fall of agricultural prices among their farmers. Dungy shows the various obstacles that contributed to the failure of the IAMCC, including the complexities of decision making when national Governments, especially the French and the British, and various international institutions – in this case EFO and the IIA – were simultaneously involved. She delves into the debates around the possible uses of credit to fight the agricultural crisis as well as into the confrontation between European cooperation and British imperial projects. Her paper also reveals the potential of supranational and transnational networks to develop their own agendas, beyond national interests: the IAMCC was a highly innovative scheme and must be seen as a precedent for other international banking agencies in the post-Second World War period. Moreover, her text shows how disagreements concerning agricultural policy among British politicians and civil servants also shaped British diplomacy towards Europe.

As for the ILO, during the meeting of the International Labour Conference in Washington in 1919, it drafted the first conventions on working hours and unemployment, and decided at

[36] S. Castonguay, 'Creating an agricultural world order: regional plant protection problems and international phytopathology, 1878–1939', *Agricultural Hist.* 84 (2010), pp. 46–73; Ribi Forclaz, 'Agriculture'. See also the discussion of the conflict between the IIA and the ILO over agricultural workers, in Tosi, *Alle origini della FAO*, pp. 60–85.

[37] McDougall had a long career in different public bodies linked to agriculture in Australia and the United Kingdom and was an advisor in this field to Stanley Bruce, Australia's prime minister between 1923 and 1929, and Australian representative at the League of Nations between 1932 and 1939. McDougall gained prominence in Geneva and would eventually be a leading personality in the projects of the LoN in the 1930s and in the creation and development of the FAO in the 1940s and early 1950s. See the short biography by Alfred Stirling in the *Australian Dictionary of Biography*, X (1986) and J. B. O'Brien, 'F. L. McDougall and the origins of the FAO', *Australian J. Politics and History* 46 (2010), pp. 164–74.

[38] Clavin, *Securing*, p. 180.

its annual conference in 1921 to consider these issues in relation to agricultural labour.[39] A Service of Agriculture was set up in the ILO, in order to collect the information and prepare the guidelines for the possible conventions. This Service became a permanent office within the organization and undertook many of the inquiries that tried to find ways for the ILO to extend to agriculture a body of norms that could became the basis for an international labour law. The ILO collaborated with the IIA through the establishment of the Mixed Advisory Agricultural Committee, but this did not achieve much because of the opposed positions of the ILO and the IIA representatives. Once the 1929 crisis started, the ILO's Service of Agriculture tried to revitalize its field of competence: in 1933 the ILO's representatives on the Mixed Advisory Agricultural Committee became members of a sub-committee on agricultural work integrated into the ILO. The great change took place, however, in 1935, when the Permanent Agricultural Committee was created. Unlike the ILO's other agricultural committees, it was formed of 42 representatives from organizations of agricultural employers and agricultural workers, social agricultural experts, representatives of international institutions, and members of the Governing Body. The result of the activity of the Permanent Agricultural Committee was a study, *Social Problems in Agriculture* (1938) which made a substantial contribution to the political, social and economic literature produced on rural societies, agriculture and food in the late 1930s.[40]

Health, a field in which international conferences and transnational private institutions and networks had played a pivotal role in the nineteenth century, was a growing concern of some interwar organizations, and in this framework too, agriculture became a relevant question. The first intergovernmental organization related to health was the Office International d'Hygiène Publique (OIHP), founded in 1907, but this did not deal directly with questions of nutrition and only touched on veterinary questions when they concerned the international trade in livestock. It was the League of Nations Health Organization (LNHO) that allowed the League to become involved in the question of nutrition. It was created in 1924 building on the League's Epidemic Commission, itself established in 1920 to fight the epidemics that appeared in Europe after the Great War.[41] From its first steps, the LNHO stressed the relevance of public and social medicine even though it was only in the late 1920s that it developed socially oriented programmes that fostered preventive measures.[42] At the same time, the ILO established its own Industrial Hygiene Section in 1920, backed by an advisory committee. Both organizations cooperated in the 1930s in a number of projects, among them two of great relevance for rural society: the rural hygiene conferences, and the projects on nutrition.[43]

The rural hygiene conferences have scarcely been studied despite their role in launching research into the sanitary and economic conditions of the countryside. In 1931, at the

[39] On the ILO's activity in the field of agriculture, see Ribi Forclaz, 'A new target'.

[40] ILO, *Social problems in agriculture* (1938).

[41] M. A. Balinska, 'Assistance and not mere relief: the Epidemic Commission of the League of Nations, 1920–1923', in P. Weindling (ed.), *International health organizations and movements, 1918–1939* (1995), pp. 81–108.

[42] M. D. Dubin, 'The League of Nations Health Organisation', in Weindling (ed.), *International Health Organizations*, pp. 56–80.

[43] On the cooperation between the ILO and the LNHO see P. Weindling, 'Social medicine at the LNHO and ILO', in Weindling (ed.), *International health organizations*, pp. 134–53.

suggestion of the Spanish Government, the Council of the LoN convened a European Conference on Rural Hygiene. In August 1937, there was a League of Nations Conference on Rural Hygiene in the Far East, which took place in Bandung. It stressed in its final report that the fundamental problem of rural life was poverty, and made a connection between agricultural production, nutrition and development in its analysis of Asian rice.[44] However, the most important meeting was the one organized by the EFO's secretariat, which unfortunately did not take place: the European Conference on Rural Life of 1939. The preparatory committee produced a large quantity of material that revealed a systematic approach to socio-economic development in the countryside. It integrated all kinds of information on production, land property and exploitation, technology, demography, housing and other issues.[45] The EFO argued that any solution to the global problems of European rural societies lay in the hands of the European states, since most of the exports of the agricultural countries were intra-European. Europeanization of agriculture, the same kind of solution that was promoted by the CIA, although on different political bases, guided the reflections of the task forces.[46]

Much more historical research has been undertaken on nutrition.[47] Food consumption allowed medical experts to advance, under the guise of technical recommendations, ambitious projects of socio-economic improvement on a national and international level. After the Great War, defining hunger and malnutrition in an objective way was the aim of many biomedical researchers and the League played a highly relevant role in this endeavour.[48] Edward Mellanby, the secretary of the British Medical Research Council and John Boyd Orr, the best-known British nutritionist in the 1920s and 1930s, were both members of the LNHO nutrition committee and used the standards and perspectives on nutrition developed by the international organization (which they formulated), to criticize their government, with the backing of the ILO. This latter organization, the LNHO, the IIA and the EFO collaborated in the launch of the Mixed Committee on the Problem of Nutrition in 1935. It organized a conference in London in 1936 and in 1937 published the *Nutrition Report* that became an international reference work and propagated a new outlook on food that would have consequences for national agricultural policies.[49] Balanced nutrition demanded an increase in the consumption of 'protective' food (fresh fruit and vegetables, meat, fish and dairy products). Such an increase could both eliminate

[44] S. Amrith and P. Clavin, 'Feeding the World: connecting Europe and Asia, 1930–1945', in M. Hilton and R. Mitter (eds), *Transnationalism and contemporary global history* (*Past and Present*, Supplement 8, 2013), pp. 29–50, makes some comments on the Bandung conference and its role in the spread of new international food security paradigms for the non-Western world. On these conferences, see also I. Borowy, *Coming to terms with World Health: the League of Nations Health Organization, 1921–1946* (2009).

[45] See, for instance: League of Nations European Conference on rural life. Report of the preparatory committee on the work of its first session (April 4th to 7th, 1938), available at biblio-archive.unog.ch/Dateien/CouncilMSD/C-161-M-101-1938-II-B_EN.pdf.

[46] Clavin, *Securing*, pp. 193–7.

[47] See J. L. Barona, 'Nutrition and Health. The international context during the inter-war crisis', *Social Hist. of Medicine* 21 (2008), pp. 87–105; id., 'International Organisations and the development of a physiology of nutrition during the 1930s', *Food and Hist.* 6 (2008), pp. 129–62; id., *The problems of nutrition. Experimental science, public health and economy in Europe, 1914–1945* (2010). But see also Jachertz and Nützenadel, 'Coping with hunger?', and J. Vernon, *Hunger. A modern history* (2007).

[48] Ibid., pp. 96–125.

[49] Weindling, 'Social medicine', pp. 144–5.

malnutrition and fight the agricultural depression in Europe, and at the same time allow an expansion of 'energy' food (primarily cereals), to be grown in extra-European countries, so as to feed the local population and allow the growth of exports.[50] This was a global programme that would inspire many of the food aid projects in the decades to come.

Less well known is the work of international organizations in the field of agricultural education in the interwar years. In her paper, Amalia Ribi Forclaz examines the growing interest in the question of agricultural education in the interwar period. In 1921, there was a memorandum of the ILO to its members, asking them to develop technical agricultural education and to report on national institutions of agricultural education. At the end of the period, in 1938, a joint-expert commission was set up by the IIA and the ILO. Between these initiatives, Ribi Forclaz follows the public debates on how education should be organized to raise the technical knowledge of farmers and farm labour without encouraging emigration. She also looks at the positions of the CIA and the different voices at the IIA, and concludes that amongst ILO members, agricultural extension techniques, similar to the ones already applied in the USA, came to be seen as the best solution to diffuse 'progress in the countryside'. Again, there are continuities between the 1930s and the 1950s, when extension models were generalized in Europe.[51] Similar continuities can be found at a different level. In 1930, a Fédération Internationale des Techniciens Agronomes (FITA) was created in Rome, whose aim was to defend the interests of high professionals in agriculture. FITA organized its first conference in Prague in 1931 so that it coincided with the fifteenth congress of the CIA (June 1931), and was deeply engaged with questions of agricultural education. Finally, Ribi Forclaz shows how in the meetings of FITA and other organizations in the 1930s, the Eurocentrism of approaches to education and other aspects of socio-economic change in the countryside gave away to an approach which was much more open to other realities. In other words, her article underlines how there was what we might term a proto-rural development approach being designed both for the European countryside and for the wider world, well before rural development became the central concept of a vast array of organizations in post-Second World War global contexts.

III

There were many other international and transnational organizations in this period, some of which still await the historian's attention. Few studies of scientific conferences or of the national and international associations that organized them have been published, despite the first four decades of the twentieth century having seen the multiplication and specialization of techno-scientific meetings and societies, accelerating a tendency that had started in the second half of the previous century.[52] Many of these conferences included sessions on applied

[50] F. Trentmann, 'Coping with shortage: the problem of food security and global visions of coordination, *c.*1890s–1950', in F. Trentmann and J. Fleming (eds), *Food and conflict in Europe in the age of the Two World Wars* (2006), pp. 13–48.

[51] Pan-Montojo, 'International institutions and agriculture'.

[52] A general overview of international scientific societies in E. Schofer, 'Science associations in the international sphere, 1875–1990: the rationalization of

and technological questions related to agriculture: some were fully dedicated to them. In 1920, the IIA launched in Rome the Convention internationale pour l'organisation de la lutte contre les sauterelles (International Convention for Locust Control). The Rome conference gave continuity to previous conferences on the subject and set the bases for the international fight against the locust. There were also many conferences on individual agricultural and agro-industrial sectors, which combined sessions on economic, sanitary, and legal issues, with the diffusion of technical innovations: on wine-growing, olive-growing, tropical agriculture, agricultural engineering, dairy industries and so on. Some of these conferences were organized by product or sector: in other cases they were the occasions when trade organizations came together.

But even product or sector organizations have received little attention from agricultural historians, with the exception of sugar, which we have already mentioned. One of the earliest was the Fédération Internationale de Laiterie, which, in its first conference in 1903, approved a list of quality regulations for the production, storage and sale of milk and butter, tried to define butter against margarine, and listed measures that should be adopted for the education of dairy workers.[53] Quality standards, normalization of packaging, trade-mark regulations, sanitary rules, trade norms … a long list of regulatory proposals were agreed upon in the meetings of product or sector organizations and then supplied in adequate formats to international and national institutions to obtain their endorsement and generalization. Studying these international networks and their associations might help in understanding the regulatory frameworks of agricultural and agro-industrial markets in the twentieth century. Moreover, these product and sector organizations were not always private endeavours. In June 1923 a conference of wine-exporting countries met in Paris, invited there by the French government. The shared view that something had to be done to fight overproduction, to counter anti-alcohol campaigns, and especially prohibition in the USA, encouraged the participants to plan the creation of an international wine organization. A second conference took place in 1924 and in its course an 'arrangement' to found a new international organization, the Office International du Vin (OIV, International Wine Office) was signed.[54] The Office was an intergovernmental institution with very heterogeneous delegates and an inadequate budget, but it proved to be influential. Its monthly publication, the *Bulletin International du Vin*, its *Annuaire* and its meetings every semester of politicians, diplomats and senior bureaucrats in wine-producing countries, were

Note 52 *continued*
science and the scientization of society', in J. Boli and G. Thomas (eds), *Constructing World culture: international non-governmental organizations since 1875* (1999), pp. 249–66, G. S. Drori, J. W. Meyer, F. O. Ramirez and E. Schofer (eds), *Science in the modern world polity. Institutionalization and globalization* (2002); and diverse articles in T. R. Davies, *History of transnational voluntary associations: a critical multidisciplinary review* (2016).

[53] On the Fédération Internationale de Laiterie, there are no specific historical studies. Gianpiero Fumi presented an introductory paper, 'The rise and impact of an international network for the dairy sector (1878–1937)', at the Rural History 2017 conference at Leuven, 2017: kuleuvencongres.be/ruralhistory2017/abstractfile/6-7-2.pdf. There are some references to the Brussels meeting and its impact on regulation of milk in D. F. Smith and J. Phillips (eds), *Food, science, policy and regulation in the twentieth century: international and comparative perspectives* (2000).

[54] With regard to the origins and legal features of the OIV, and the meaning of the 'arrangement' as founding document, see J. Duffort, *L'organisation internationale du marché du vin* (1968).

to offer more than a forum for the discussion of new ideas and policies. The International Office was from the start focused on French wine policies. It dedicated hundreds of pages of its monthly publications to the review of policies to handle overproduction, firmly rejecting competition via prices and emphasizing the necessity of quality and supply controls to increase consumption: obviously a strategy for development which appealed to the winegrowers' associations in France. Cooperation among small viticulturists, self-regulation and state intervention were continuously advocated. Finally, the OIV became one of the most active ambassadors of the idea of the *appellation*. When the international wine trade shrank after 1929 and what was by then a very organized sector was placed under pressure in every European country, the OIV was there to offer a wide menu of regulations and a very concrete model of *appellations* with the strong backing of the Ministry of Foreign Affairs at the Quai d'Orsay.

All these international public and private organizations appeared to the public to be non-ideological organizations that aimed at the advocacy of general interests, even when they were fostering specific interests. However, they did have their own political discourses on society, rural society, agriculture, markets, labour relations and the desirability of state initiative. Their official positions were not overtly political: they did not totally coincide with any conventional political leanings and their internal ideological struggles were not simply between left and right.

That was not the case though with another type of international organization that came into existence in the interwar period. In the 1920s, peasant parties became important political actors in Scandinavia and Eastern Europe, and in 1921 an Agrarian International Office or Green International was established in Prague.[55] Two years later, in 1923, the Third International created the Krestintern or Peasant International, through which Communists tried to extend their influence in rural societies.[56] Neither of them has been properly studied, even though these green and peasant internationals reveal that national political forces were well aware of the importance of the international arena for their projects. In the 1920s and in the 1930s, even agricultural projects on the edge of autarky like the Fascist ones had to dispense with international isolationism, since the first globalization had revealed the interdependence of rural societies.

[55] J. Eellend, 'Agrarianism and modernization in inter-war Eastern Europe', in P. Wawrzeniuk (ed.), *Societal change and ideological formation among the rural population of the Baltic area, 1880–1939* (2008), pp. 35–56 and see also B. Valota Cavallotti, 'L'Internazionale verde tra pace e Guerra' ['The Green International between peace and war'], in *Les Internationales et le problème de la guerre au XXe siècle* (1987), pp. 285–99; E. Kubu *et al.* (eds), *Agrarismus und Agrareliten in Ostmitteleuropa* (2013) [Agrarianism and agrarian elites in Eastern Central Europe]; and S. M. Borrás, M. Edelman, and C. Kay, 'Transnational agrarian movements: origins and politics, campaigns and impacts', *J. Agrarian Change*, 8 (2008), pp. 169–204. M. Cabo, 'Los partidos agrarios en Europa hasta 1945' ['Agrarian parties in Europe until 1945'], in J. M. Lana and D. Soto (eds), *Del pasado al futuro como problema. La historia agraria española en el siglo XXI* (forthcoming), presents a general overview of agrarian political organizations and their supranational cooperation.

[56] On the Krestintern, see the recent works published by J. Vigreux, *La faucille après le marteau. Le communisme aux champs dans l'entre-deux-guerres* (2012), and id., 'Les paysans communistes', in M. Dreyfus (ed.), *Le siècle des communismes* (2000), pp. 391–403. See also G. D. Jackson Jun., *Comintern and peasant in East Europe (1919–1930)* (1966).

IV

The eleventh Congrès international d'Agriculture, convened in Paris in 1923, dedicated a full session to 'The influence of agriculture on the international relations'. One of the speakers, Adrien Toussaint, who introduced himself as general secretary of the Confédération Internationale des Syndicats Agricoles, stated that 'nobody had foreseen that one of the most important consequences of the Great War was going to be the development of international relations'.[57] The First World War transformed the international arena but an international agricultural market had already been created in the second half of the nineteenth century and, for this reason, agrarian elites – technicians, leaders of the agricultural associations, agro-industrialists – had looked to international forums for answers to the problems of national agricultures from the 1880s onwards. In 1905, an inter-governmental institution for agriculture, the IIA, became one of the first permanent international organizations. By the 1930s, a dense grid of international and transnational institutions offered wide information, diverse discourses, and many political recipes and technical models to national agricultures, and beyond them to national societies. We know less about their influence on rural societies than about the influence of agriculture on international relations, the title of the session in Paris in 1923. Some potential answers are offered in these essays where the authors explain the power of international and transnational tribunals to develop discourses, mechanisms, and concepts that were then selectively applied at national levels, backed with the legitimacy that entailed their supranational or international origin, presented as a guarantee of technical neutrality and unbiased consensus. International organizations mediated the policies articulated by national delegates, and in so doing they were the instrument of national states, but they needed to employ technicians and bureaucrats who had a great deal of autonomy in their daily tasks. Furthermore, they found it necessary to integrate into their projects transnational institutions and networks and even to promote them. All these actors introduced new forces, first in the definition of international agricultural politics, through the construction of shared values, concepts, and beliefs, and then in the shaping of new solutions for the present and the future of rural societies.

[57] Commission Internationale d'Agriculture, *XIe Congrès international d'Agriculture. Paris, 22 au 28 mai 1923. Tome Ier. Comité organisation. Règlement et programme du Congrès. Rapport et travaux préparatoires* (1923), p. 153 (authors' translation).

Italian agricultural experts as transnational mediators: the creation of the International Institute of Agriculture, 1905 to 1908

by Niccolò Mignemi

Abstract

This article examines the origins of the International Institute of Agriculture, looking at the campaign launched by the Italian government for the establishment of an international chamber of agriculture, which was discussed at a conference held in Rome in May 1905. This article challenges the 'traditional tale' of the birth of the earliest international organization in the primary sector by focusing on the reformist group that supported David Lubin's initial idea. In parallel with the diplomatic negotiations, Italian experts were sent to the most important European countries to build support for conference. Their reports make it possible to observe the mobilization of agricultural cooperatives and unions in support of the project. Although it was suggested at this stage that the national organizations would be able to participate directly, the solution of establishing the International Institute of Agriculture as an intergovernmental body was finally chosen. This led to the creation of parallel bodies representing producers, but the initial concern to unify agriculturalists beyond national borders remained an underlying theme throughout the history of the Institute between 1905 and 1946.

Internationalization has been identified as the driving force of the agricultural revolution that occurred in the second half of the nineteenth century: growth in global trade, falling transportation costs, new opportunities arising out of an overseas circulation of labour, crops and natural resources, all of these factors played a crucial role in economic expansion and rural transformation before the First World War.[1] However, problems were becoming globalized as well, such as animal pests, plant diseases, rural depopulation and price depression.

During this period, the primary sector became a sort of laboratory for new forms of cooperation between states, and informal networks emerged to deal with specialized economic and technical issues. The European – scientific, political, and economic – elites concerned with the future of agriculture reinforced their interconnections and, following their debates, their vision of an increasingly integrated world began to materialize. The first international congress of agriculture was held in Paris in 1889, and this transnational movement was then

[1] P. Bairoch, 'Les trois révolutions agricoles du monde développé: rendements et productivité de 1800 à 1985', *Annales ESC* 44 (1989), pp. 317–53.

pursued under the auspices of the Commission Internationale d'Agriculture (CIA), which was founded in 1891. In the following years, other regular meetings took place in the most prominent European cities, as previously explained in the introduction to these essays. Projects for permanent forms of inter-state collaboration were, for example, presented and discussed at the international congresses of agriculture held in Budapest (1896), Rome (1903), and Vienna (1907). On the governmental side, trade agreements, treaties, and common standards were negotiated and implemented.[2]

The idea of promoting international institutions to regulate these new dynamics appeared long before the representatives of forty governments met in Rome at the end of May 1905 and signed the diplomatic convention for the creation of the International Institute of Agriculture (IIA) ten days later, on 7 June. However, when it began to operate in 1908 after three years of preparation, the IIA became the first permanent intergovernmental organization specializing in the primary sector. It was charged to 'collect, study, and publish as promptly as possible'[3] data and information on crops, prices, diseases, and farming systems from all over the world. The birth of the new organization has to be situated in the economic, political and cultural context of the first round of globalization of modern times, when Europe viewed itself as the centre of the world, and the great powers were thinking of the rest of the world in imperialistic terms or as spheres of influence. Despite the protectionist policies provoked by the long depression of the 1870s–1880s, the context was very different to that of the 1930s which prompted the economic and financial programmes undertaken by the League of Nations and its sibling organizations, which Madeleine Dungy analyses in her article using the example of central and eastern Europe.[4]

After having been studied for years in terms of their interwar failures and setbacks, the international organizations of the first half of the twentieth century have recently been rediscovered as a 'lens through which'[5] transnational history can build up new comparative and connected approaches, rather than focusing on the existing institutional and national narratives. Even if several examples of recent research should be mentioned,[6] international organizations concerned with agriculture seem to have been marginalized in this new interest in international organizations, despite the legacy of the IIA in the post-Second World War food order and its crucial role in the decision – taken in 1949 and implemented in 1951

[2] Cf. G. Noël, 'La solidarité agricole européenne. Des congrès d'agriculture à la politique agricole commune', in J. Canal, G. Pécout and M. Ridolfi (eds), *Sociétés rurales du XXe siècle. France, Italie et Espagne* (2004), pp. 311–25.

[3] Article 9 of the convention signed on 7 June 1905, in *Conférence Internationale d'Agriculture. Rome – MCMV. Procès-verbaux, Rome, Ministère Royal des Affaires étrangères* (1905), p. 113. There is an English translation in A. Hobson, *The International Institute of Agriculture (An historical and critical analysis of its organization, activities and policies of administration)* (1931), p. 328.

[4] P. Clavin, *Securing the world economy. The reinvention of the League of Nations, 1920–1946* (2013).

[5] P. Clavin, 'Time, manner, place: writing modern European history in global, transnational and international contexts', *European Hist. Quarterly* 40 (2010), p. 630.

[6] Cf. K. K. Patel (ed.), *Fertile ground for Europe? The history of European integration and the Common Agriculture Policy since 1945* (2009), and C. Knab and A. Ribi Forclaz (eds), 'Transnational co-operation in food, agriculture, environment and health in historical perspective', *Contemporary European Hist.* 20 (2011).

– to select Rome as the headquarters of the Food and Agriculture Organization of the United Nations (FAO).[7]

In fact, the history of the IIA is still largely unknown. Its birth has long been told as 'the Romance of an Idea'[8] made possible by the missionary engagement of David Lubin, the American self-made man born into a Jewish family which had migrated from Russian Poland when he was a child. Whilst his fortune was due to a chain of stores operating in Sacramento and the West Coast, in the 1880s Lubin had begun to invest in Californian agriculture. He also became involved in the associations of local fruit growers who were experiencing, at the time, a fundamental transformation of the regional farming system.[9] Confronted with the economic and social crises of rural California, Lubin developed the idea of an international union of agriculturalists, as described by Olivia Rossetti Agresti, his translator, close collaborator, and, later, biographer. Over the following years, Lubin presented his project to various governments in Washington DC, London and Paris, but without success.[10] It was only in October 1904 that he met with king Victor Emmanuel III and obtained Italian support for founding 'an international institution, absolutely apolitical in its aims … which would be an instrument of solidarity for all the components of the agricultural classes'.[11]

The tale of the 'Vaudeville-like circumstances',[12] occurring between the arrival of Lubin in Rome and the international conference in May 1905, became the official and widely accepted narrative of the creation of the IIA. Even works by Asher Hobson, the former US delegate to the IIA, validated this version and ascribed the origins of the first international organization in the primary sector to the extraordinary intuition and determination of two 'great men'.[13] It was only in the late 1980s that Luciano Tosi highlighted new elements, analysing how Italy managed to sustain a project without equal among the international institutions preceding the First World War. Looking in particular to the history of international relations, Tosi focused on the efforts of the Italian diplomats to rally and mobilize foreign governments around an initiative that they compared to The Hague Peace Conference organized in 1899 by Tsar Nicholas II.[14]

Italy was at that time a young nation with frustrated colonial ambitions, and its political elites hoped, through this project, to reinforce their international influence. The idea of federating the interests of agriculturalists beyond national borders was met with broad

[7] Clavin, *Securing*, p. 346, and R. Jachertz and A. Nützenadel, 'Coping with hunger? Visions of a global food system, 1930–1960', *J. Global Hist.* 6 (2011), pp. 99–119.

[8] It is the title of the eleventh chapter of the biography by O. Rossetti Agresti, *David Lubin. A study in practical idealism* (1922), pp. 185–205.

[9] D. Vaught, *Cultivating California. Growers, specialty crops and labor, 1875–1920* (1999).

[10] FAO, David Lubin Archives [hereafter DLA], Part 1, International Institute of Agriculture, Sect. 1. Papers in relation to the Founding of the IIA, doc. 1, 'All American Agriculturalists' (6 Oct. 1904).

[11] *Proclamation by H. M. Victor Emanuel III King of Italy proposing an International Chamber of Agriculture and documents relating to the same. Rome, Feb. 1905* (1905), pp. 3–4.

[12] M. Augé-Laribé, *La Révolution agricole* (1955), p. 321 (author's translation).

[13] Cf. A. Hobson, 'An American pioneer in international agriculture', *J. Farm Economics* 14 (1932), pp. 574–85, and his book *The International Institute of Agriculture*, based on his doctoral dissertation in political science at the University of Geneva.

[14] L. Tosi, 'L'Italia e le origini dell'Istituto internazionale di agricoltura', *Storia delle relazioni internazionali* 3 (1987), pp. 229–65, and id., *Alle origini della FAO. Le relazioni internazionali tra l'Istituto Internazionale di Agricoltura e la Società delle Nazioni* (Milan, 1989).

approval in the country and mobilized a heterogeneous universe of individuals and organizations. They included politicians, intellectuals, and experts, but also representatives of unions and interest groups who wished to seize the opportunity to foster durable economic and social development. Thus, the individual proposal of Lubin was transformed into a collective project thanks to a *nébuleuse réformatrice*, whose members came from different ideological camps but who all believed in the knowledge of facts as a tool for reform and promoted change through more cooperative models of organization.[15] On the one hand, Lubin was a propagandist fully involved in the utopic design of an International Chamber of Agriculture 'to counterbalance the destructive effects of the concentration of Capital and Energy going on in the cities'.[16] On the other, mediators from the *nébuleuse* were charged with materializing and making the project appealing in a European context, where national egoism dominated, and protectionist policies were the sole response to the international crises of the 1870s and 1880s.

This diverse group did not hesitate to use its transnational networks to promote and ensure the success of the initiative for the founding of the IIA.[17] Three of the most prominent Italian economists also provided their scientific expertise to prepare the report submitted to the Italian government for official approval. While their political opinions differed, the neoclassical Maffeo Pantaleoni, the public finance theorist Antonio De Viti de Marco, and the social-reformist Giovanni Montemartini were all convinced that general welfare, as well as the fight against speculation, frauds and collusion could be furthered through the creation of an international office to observe and regulate the agricultural markets.[18] Their efforts were supported by Luigi Luzzatti, another well-recognized Italian economist advocating an ethical approach to the 'dismal science'. Minister of the Treasury until March 1905, he would have been 'the power behind the throne'[19] throughout all the preliminary steps for creating the IIA. The engagement of these figures was not surprising in a largely rural country where, at the beginning of the twentieth century, internal and external equilibria still relied on the primary sector: agriculture employed 60 per cent of the labour supply and produced around 40 per cent of GDP; the commercial balance was both dependent on food imports and sustained by the export of cash crops.

However, Italy was a special but not an exceptional case. All around the world, organizing agriculture was perceived as a common and urgent challenge, which arose from both the place of the agricultural sector in the economy and the role of the agriculturalists in society. Although the influence of the 'profound forces' on foreign policy has already been emphasized by diplomatic history, the idea here is to propose a social history of the origins of the IIA and

[15] Neither the literal translation 'reformist nebula', nor the alternatives, 'reformist group' or 'reformist network', seem adequate to explain the idea of the French term *nébuleuse réformatrice*, which indicates an amorphous, heterogeneous, and often transnational network engaged in getting a social question on the political agenda, see C. Topalov (ed.), *Laboratoires du nouveau siècle. La nébuleuse réformatrice et ses réseaux en France, 1880–1914* (Paris, 1999).

[16] *Proclamation*, p. 9.

[17] N. Mignemi, 'Une Chambre au service des agriculteurs? L'Italie et les origines de l'Institut international d'agriculture' (unpublished memoir of the École Française de Rome, 2016).

[18] On these Italian economists, see M. E. L. Guidi and L. Michelini (eds), *Marginalismo e socialismo nell'Italia liberale, 1870–1925* (2001).

[19] Rossetti Agresti, *David Lubin*, p. 197.

to examine how the transnational horizons of the new organization reshaped the intrastate rural class conflicts and the sectorial power struggles that pitted agriculture against industry. Testing the dualism 'state v society' in the case of the major New Deal farm programmes, Jess Gilbert and Carolyn Howe have demonstrated that 'the state helps constitute class relations, which also permeate state institutions',[20] and agricultural policies can be analysed as resulting from the dynamic interplay of state institutional capacities and social class capacities.

To this end, the present article intends to explore the institution-building process that led to the founding of the IIA during the first decade of the twentieth century. Its principal source will be the reports of the advocacy campaigns launched by Pantaleoni, De Viti de Marco and Montemartini, the three leading figures in 'the little band of workers through whom Lubin's dynamic force found expression'.[21] Their initiative was largely encouraged by Luzzatti, who was convinced that the support of civil society and agricultural groups would be crucial in both forging a coalition favourable to the project, and persuading those governments who were initially sceptical of permanent forms of international cooperation. Parallel to traditional diplomatic channels, several Italian economists were called to serve as mediators and help the committee charged with preparing the programme of the May 1905 conference through the collection of materials on the local, regional and national forms of organization in the primary sector.[22] During spring of 1905, two 'scientific ambassadors' were sent to the most important European countries to meet with civil servants, politicians, leaders of agrarian associations, and other key players in public and academic debates: the free trade activist Edoardo Giretti was sent to France, while the agricultural economist Giovanni Lorenzoni visited Austria, Hungary, Germany, and finally the Netherlands.

Their reports will be used here to reconstruct the steps preceding the birth of the IIA, with a specific focus on the mobilization of societal forces in several national contexts and the potential effects of the new organization on different group interests. First, the article will propose a transnational approach to the debates on the place of agriculturalists in ongoing economic and social transformations. Second, it will investigate the role of agrarian associations in the emergence of new institutional tools for the primary sector. Thirdly, it will analyse how the IIA emerged as an intergovernmental knowledge organization and consequently excluded other alternative models.

I

Giovanni Lorenzoni was charged with winning friends for the Italian initiative in Central Europe and, from early March to mid-April 1905, travelled to Vienna, Budapest, Berlin, and then Westphalia, Rhineland, Hesse, and Bavaria, with a short stay in the Netherlands and The Hague.[23] He was already a formidable expert on the German agricultural environment

[20] J. Gilbert and C. Howe, 'Beyond "State vs. Society": Theories of the state and New Deal agricultural policies', *American Sociological Rev.* 56 (1991), p. 218.

[21] Rossetti Agresti, *David Lubin*, p. 196.

[22] The monograph presented to the May 1905 international conference collects studies of the following countries: Italy, France, United Kingdom, United States of America, Austria, Germany, and the Netherlands. See *L'iniziativa del Re d'Italia e l'Istituto Internazionale d'Agricoltura. Studi e documenti* (1905).

[23] Lorenzoni was the author of the studies of Austria, Germany, and the Netherlands, *ibid.*, pp. 401–82.

having published a two-volume monograph on agricultural cooperation in 1901–02, prepared during his studies at universities of Vienna and Berlin where he specialized in political economy.[24] This work was based on extensive fieldwork and, throughout his entire scientific career, Lorenzoni attributed great importance to observational study, combining the old tradition of travel journals with the new analytical perspectives opened up by the social sciences. Therefore, the reports, which he regularly sent to the 'Group of Three' – Pantaleoni, De Viti de Marco and Montemartini – and to Luzzatti from March to April 1905, are extremely rich and detailed.

This unique source offers a global perspective on the debates that preceded and finally culminated in the creation of the IIA. When Lorenzoni left Rome on 5 March, knowledge of the Italian project outside Italy still relied largely on Lubin's efforts and seemed, in fact, to have hit an impasse on both the national and international levels. A *Note to Diplomatic Agents* enclosed with the king's letter asked local representations

> to explain our ideas clearly to the Government to which you are accredited, and to invite it to send its delegates to a preliminary conference which will be held in Rome next May in order to decide on the fundamental principles of the new Institution.[25]

However, no steps to prepare for the May 1905 conference had been undertaken in the month after the official letter of Victor Emanuel III to Prime Minister Giolitti 'on the proposal for an International Chamber of Agriculture' was made public on 9 February.

Furthermore, whilst diplomatic etiquette demanded a positive response to the invitation of the king of Italy, the lack of enthusiasm for the conference quickly became clear: no comparable international organizations existed at the time, and other countries reaffirmed their preference for commercial sovereignty in the agricultural domain. As mediators, the Italian experts had to demonstrate the potential of the new organization, and, from this standpoint, the Central European region assigned to Lorenzoni was a strategic battlefield. Here, the agricultural organizations were puzzled by the project and contacted their Italian counterparts for additional details.[26] At the same time, the local agrarian elites were suspicious of the idea initially formulated by Lubin. Some considered that a 'European Union against America would have been much more popular than that of a Union with American farmers'.[27]

Lorenzoni arrived in Vienna on 9 March 1905 after visiting Rovereto and Trento, two towns of Trentino that was at that time part of the County of Tyrol, a crown land in the western half of the Austro-Hungarian Empire. His stay in Trentino convinced him that a major international effort to regulate agricultural markets had to be undertaken. The organi-

[24] G. Lorenzoni, *La cooperazione agraria nella Germania moderna. Saggio descrittivo e teorico* (2 vols, 1901–02). Giovanni Lorenzoni was born in 1873, in Fondo, a village of the Trentino region, and was an Italian citizen of the Austro-Hungarian Empire. Cf. V. Gioia and S. Spalletti (eds), *Etica ed economia. La vita, le opere e il pensiero di Giovanni Lorenzoni* (2005).

[25] *Proclamation*, p. 8.

[26] Istituto veneto di scienze, lettere ed arti, Archivio di Luigi Luzzatti (subsequently IVSLA, ALL), Sezione 1: Corrispondenza. Serie 3: Fascicoli annuali, UA 40 (1905), Letter of the Director of the Internationale landwirtschaftliche Vereinigung für Stand und Bildung der Getreidepreise to Enea Cavalieri, 28 Feb. 1905.

[27] IVSLA, ALL, Sezione 2: Atti. Agricoltura, UA 148/2, Reports by G. Lorenzoni, 30 Mar.–3 Apr. 1905, p. 7 (author's translation).

zation of the primary sector in this region was already sophisticated, but local organizations were powerless in the face of challenges that could only be overcome through concerted international efforts.[28]

The existence of common challenges had thus become evident, and Austria was a strategic starting point because its political system placed representatives of agricultural interests in a solid position of power within the parliamentary assembly. However, as soon as Lorenzoni arrived in Vienna, he realized that there was a sense of general mistrust towards the Italian initiative, which had been infused with the ideas of Lubin. While the official statement, authored by Montemartini and Pantaleoni, had failed to reach people, the American businessman was actively promoting the project and, in the absence of plausible alternative voices, debate had come to focus on the two-chamber model that Lubin had identified as the optimal solution for ensuring dialogue between the state and the farmers:

> But why not combine these two? Yes; that is better, but how can it be done? By two Houses; – the Lower House, elected by the farmers, and the Upper House, appointed by the governments, or elected by the Lower House.
>
> In fact it seemed to me that the two Houses were necessary; this it would, for instance, permit Denmark to have three delegates to thirty delegates of Austria, so long as in the Upper House both Denmark and Austria had the same number. This would give equity in representation, and this, it seemed to me, could not be more effectively by any other way.[29]

Despite the attempt to combine the nominal equality of states with the demographic weight of each regional group, the two-chamber model was seen as evidence of the influence of the USA on the project, as Alfred von Hohenblum-Simic, director of the Österreichische Zentralstelle zur Wahrung der land- und forstwirtschaftlichen Interessen beim Abschluss von Handelsverträgen (Austrian Central Office for the Preservation of Agricultural and Forestry Interests in Commercial Treaties), explained to Lorenzoni.[30] The Austrian federation had been founded as a temporary union in 1898 with the mission of lobbying the government to implement protectionist policies for agricultural products. In 1903, agricultural member associations decided to transform the union into a permanent representative body that would be in close contact with the public authorities at the local, regional and national levels. Because of its effectiveness, Austrian agrarian groups had envisaged developing this model at the world scale, and advanced this as an alternative proposal for the new international organization.

The Austrians believed that as the Zentrallstelle had made it possible to overcome the fragmentation of regional councils, the IIA would be able to pursue and build on the networks of the international congresses of agriculture. Funded by both public and private capital, the new body would be equipped with a permanent committee and executive council and based in Rome for its technical offices. It would have been governed by an itinerant 'Agricultural

[28] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento della missione affidata al Prof. Lorenzoni in prò del progettato Istituto internazionale d'Agricoltura', pp. 1–2.

[29] FAO, DLA, Part. 1. Sect. 1, doc. 13, p. 3.

[30] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento', p. 19.

Parliament' comprised a single chamber to which two thirds of the delegates would be selected by agricultural associations and a third appointed by the member states.[31]

During his trips to Vienna and then Budapest, Lorenzoni presented and discussed the Italian proposal with representatives from the agricultural lobbies and agrarian parties of the Austro-Hungarian Empire. Although the initiative gradually began to attract wider interest, there was still no guarantee of these groups' support. It was necessary to obtain a more explicit commitment, and the opportunity was offered by the meeting organized in Vienna on 19 March 1905, to which Austrian, Hungarian, German, Italian, but also French and Spanish delegates had all been invited. In the reports he sent to Rome, Lorenzoni emphasized the importance of this meeting for the future of the project and requested the presence of a well-known and influential figure – such as Maffeo Pantaleoni or Antonio De Viti de Marco – at the meeting and where he could present the project of the IIA on behalf of the official committee preparing the May international conference.

The representatives of the most important European countries would meet then, but it was impossible to ascertain in advance whether the meeting would be a success. The absence of Henry Saigner, Secretary of the CIA and 'alter ego of Jules Méline', confirmed the lack of enthusiasm on the part of the French towards an initiative that could eventually undermine their hegemonic position in the networks of the international congresses of agriculture. At the same time, German, Austrian, and Hungarian delegates seemed to seek an alternative to the Italian proposal and organized a separate meeting on the eve of 19 March with the following very specific agenda:

> The meeting was intended to serve as a platform for discussing the most-favoured nation clause. They would like farmers from all (if possible), or at least the main European states, to take a consistent stand on this issue, setting the stage, in their words, for a European union of agrarian states that could resist transatlantic competition by bolstering its defences against overseas powers.[32]

Rather than to coordinate efforts in favour of an international organization defending the interests of agriculture, they were in fact devising a joint strategy to counter competition from American products that had induced the decline of European agricultural prices. Nevertheless, Lorenzoni was still hoping to use the next day's meeting to reach the broadest possible agreement and discuss the programme of the conference scheduled for the following May. He was fully supported in this approach by the deputy Scipione Borghese, who travelled to Vienna for this meeting as a representative of both the Italian government and the Società degli agricoltori italiani (Italian Society of Agriculturalists).[33]

This dual delegation aimed to overcome the hesitations of the other countries by stressing the full commitment of Italy and its most prominent agrarian associations in the international initiative for the creation of the IIA. On 19 March in Vienna, Lorenzoni and Borghese were

[31] Cf. 'Progetto degli agrari austriaci', in *L'iniziativa*, pp. 456–8.

[32] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento', p. 28 (author's translation).

[33] Cf. 'Consiglio d'amministrazione', *Bollettino quindicinale della Società degli agricoltori italiani* (subsequently *Boll. SAI*), no. 9 (15 May 1905), p. 287, and S. Rogari, *Proprietà fondiaria e modernizzazione. La Società degli agricoltori italiani (1895–1920)* (1994).

criticized for both the increasingly diplomatic nature of the project and the exclusion of the agriculturalists' voice from the May conference. Since the project aimed to protect agriculturalists against the power of the industrial, transport and commercial groups, German and Austrian agrarian associations requested the right to participate in debates on the institutional framework and the aims of the new international organization for the primary sector, rather than doing so through their governments. Thus, they were demanding the right to choose their own representatives to the Rome conference and, in the future, to the governing bodies.

As Borghese confirmed, the Italian Preparatory Committee, too, hoped that many, if not most, of the delegates would be single-handedly appointed by the organizations of the agriculturalists. In addition, this mixed form of representation had already been mentioned in the *Note to Diplomatic Agents* circulated with the letter from Victor-Emmanuel III:

> The formation of an International Chamber of Agriculture, consisting of representatives elected by the great agricultural Associations, and of delegates appointed by the different Governments, seems to offer a simple and natural means of attaining the desired end.[34]

This explicit commitment was crucial in helping to garner the support of the participants to the Viennese meeting and secure two outcomes, as Lorenzoni explained in his report.[35] First, the misgivings of the German and the Austrian critics were mollified, especially of 'those individuals, parties, and other organizations which are of the greatest importance, without which nothing can succeed, but with which anything can easily succeed'.[36] Second, the autonomous and leading role of Italy in the international initiative was finally recognized, and it became clear that 'this issue is now exclusively the concern of HM the King, the Italian government, and the committee, not Lubin'.[37]

Italy was thus able to claim a pivotal role in the project but was also forced to intensify its preparatory work, especially in response to pressure from the big Austrian and German agrarian organizations, which quickly formalized and submitted their proposals to the Italian Committee in charge of preparatory work for the international conference.[38] The German organization Bund der Landwirte (Agricultural League), for example, used the aforementioned Austrian project as a starting point but went even further in its own proposals, where government representatives were relegated to merely consultative roles within a chamber entirely controlled by the delegates of the professional associations. Moreover, it proposed setting up a system in which the number of country representatives would be proportional to the population of each country, which would be classified as either small, medium, or large.

Another, similar meeting took place on 28 March in Berlin, a week after Lorenzoni arrived in the city. The agrarian associations did not make any substantially new proposals but, on the other hand, the German government began to hesitate. In fact, it feared that organizations led by big landholders would eventually use the new international body to exert pressure and to

[34] *Proclamation*, p. 6.

[35] Cf. 'Per l'Istituto internazionale d'agricoltura. Un'adunanza di agricoltori a Vienna', *Giornale di agricoltura della domenica* (subsequently *G. agr. dom.*), no. 13 (26 Mar. 1905), p. 98.

[36] FAO, Records of the International Institute of Agriculture and the International Forestry Centre (subsequently IIA/CIS), A 3, Reports by G. Lorenzoni, 19–22 Mar. 1905, p. 1 (author's translation).

[37] Ibid., p. 7 (author's translation).

[38] *L'iniziativa*, pp. 456–62.

increase their influence on a national scale. In a private conversation with Lorenzoni, Prussian Minister of Agriculture Victor von Podbielski proposed turning the May 1905 conference into a preliminary meeting where professional delegates would be charged with proposing a work programme, to be subject to government review at a future diplomatic conference.[39]

The key question during the preparatory stage had thus become who, and in what capacity, would be able to participate in both the institution-building and the decision-making processes of the new organization. Giovanni Montemartini, secretary of the Committee preparing the programme of the Rome conference, attempted to mediate in the situation by proposing that a preliminary meeting between the delegates of the associations and unions be held just prior to the diplomatic conference. It would have provided an official channel to the representatives of the rural classes for submitting proposals, thereby indirectly contributing to the design of the IIA.[40] However, this solution was rejected, and Eugenio Faina, the President of the Committee, decided to impose a compromise that made each country responsible for permitting the participation of its non-governmental representatives in the conference:

> In the spirit of the royal letter which had been communicated to foreign Governments, it is desired that 'the important participation of agriculturalists' be carried out within the new organization 'in accordance with the decision of the Governments'. However, stipulating mandatory provisions herein to be applicable to all member States would offend the legitimate sensibilities of Governments and would render the reaching of any agreement impossible.
>
> In order to avoid this problem while maintaining the character of the Institute, which has increased its popularity among farmers across the world, the Italian Government is of the opinion that each State shall be represented in the General Conference of the Institute by a single Delegation, selected in the manner of its own choosing, and that voting shall be performed by delegations rather than individual delegates.[41]

In view of the wide variety of institutional contexts and regional farming systems, this solution underscored the diplomatic nature of the meetings and transferred the appointment of the representatives from the various rural classes to each country's government. The agrarian associations and unions were unable to impose an inclusive governance for the IIA. Nevertheless, they introduced crucial questions into public debate on the twentieth-century regulation of social and economic conflicts: what role should be delegated to interest groups in the decision-making that concerned them? Which formal mechanisms could guarantee their participation and ensure consensus without compromising state autonomy in policy-making? Even if ineffective, the models proposed for the IIA could thus be interpreted as an anticipation of the tripartite structure which the International Labour Organization (ILO) adopted in 1919, bringing the representatives of the workers and the employers together with those of governments.[42]

[39] FAO, IIA/CIS, A 3, Reports by G. Lorenzoni, 19–22 Mar. 1905, pp. 32–3.

[40] Ibid., 30 Mar.–3 Apr. 1905.

[41] *Conférence Internationale d'Agriculture*, p. 22 (author's translation).

[42] M. Louis, *Qu'est-ce qu'une bonne représentation? L'Organisation internationale du travail de 1919 à nos jours* (2016).

II

The agrarian associations of the major countries played a role in lobbying their governments and overcoming misgivings towards the Italian initiative. Each new association, union or other organization adhering to the project of the IIA increased the snowball effect, resonating both at the local and national levels and even in other countries, as Lorenzoni noted in his reports. The powerful German Bund der Landwirte was one of the main protagonists influencing agricultural debate in Central Europe. Its support was thus essential to ensuring the success of the Italian initiative. Despite the fact that the Bund was also interested in the idea of internationally coordinated action to defend the interests of the primary sector, it had its own vision for the implementation of the project. As was explained before, this organization proposed that only delegates elected by agrarian associations should be allowed to take part in the proposed institute in order to safeguard the autonomy of the economic actors from government interference. At the same time, the Bund was wary of free trade, which it judged as dangerous as interventionism or socialism: while calling for international initiatives, it believed that these initiatives had to be compatible with existing protectionist barriers.[43]

For this reason, the Bund der Landwirte proposed that the IIA would pursue the mission of the already existing Internationale landwirtschaftliche Vereinigung für Stand und Bildung der Getreidepreise (International Agricultural Union for Fixing the Price of Cereals), based in Berlin and led by the German economist Gustav Ruhland. This office was actually 'the first attempt to establish a national statistical database at the European level to help agriculturalists better navigate the grain market'.[44] Rationalizing the information systems and cereal stock management, it aimed to create 'a great Union of all wheat producers in order to raise the price of this product to the level where customs duties would be completely useless'.[45]

The crisis of European wheat producers caused by competition from American grain imports was a recurring topic of debate at the international congresses of agriculture. In the late 1880s, Ruhland had identified speculation on international markets and pressure from other economic sectors, rather than competition among agriculturalists from different countries, as the root causes of this crisis. Therefore, he insisted that it was necessary to defend producers against the power of American firms and businessmen.[46] Thanks to his rigid protectionist stance, he became the 'little agrarian god'[47] and used his economic expertise to support the political battles of the Bund der Landwirte.

Ruhland was convinced of the necessity of collecting data and regulating prices in order to resist the increasing power of commercial groups and commodity exchanges over the dynamics of agricultural prices. For this reason, the German branch of the Internationale landwirtschaftliche Vereinigung published regular reports and brought delegates from wheat cooperatives together twice a year to discuss the state and the outlook of the grain markets. Nevertheless, the capacity of these organizations to effect change was limited, and coordinated

[43] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento', p. 50.

[44] FAO, IIA/CIS, A 3, Reports by G. Lorenzoni, 19–22 Mar. 1905, p. 4 (author's translation).

[45] Ibid., 30 Mar.–3 Apr. 1905, p. 35 (author's translation).

[46] E. Laur, 'International agricultural problems', *J. Farm Economics* 6 (1924), pp. 196–211.

[47] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento', p. 26 (author's translation).

international action was viewed as indispensable in compensating for the shortcomings and limitations of national protectionist policies. Certainly, this project would not be possible without interstate agreements, but Ruhland held that a non-governmental alliance among farmers from different countries would also need to be developed.

A number of recent academic works examine how the German approach became a model for modernizing agriculture in the second half of the nineteenth century and the years before the First World War.[48] Here, a vast network of organizations combined centralization with locally based initiatives, and promoted political manipulation, economic assistance and technical rationalization driven by practical sciences.[49] Agrarian groups thus aimed to defend the place of the primary sector within the increasingly industry-driven national development path.[50] This also enabled them to orient public policies towards measures that were innovative in terms of their technical and scientific results, but conservative in terms of social justice.[51]

Drawing comparisons with France, Nathalie Jas has demonstrated how German Agricultural Experimental Stations began to be used to generate data and to monitor the economic actors connected to primary sector. Their achievements were well known, and other countries tried to adopt this model in order to capitalize on new scientific and technological inputs for developing agriculture.[52] From this vantage point, the actions of the German office of the Internationale landwirtschaftliche Vereinigung could be understood as an attempt to expand the organization-based approach: if experimental stations helped farms to optimize their productive potential, then economic and statistical offices could further efforts to govern the agricultural markets. Consequently, the big German agrarian unions viewed the project of the IIA as an opportunity to adapt and expand this approach of 'regulated modernization' to world agriculture.

The Internationale landwirtschaftliche Vereinigung also had branches in other countries, but it had proved difficult for the organization to develop beyond Germany, where its principal strength was the institutional and financial support afforded by the Bund der Landwirte. The fragmentation of the Internationale landwirtschaftliche Vereinigung into individual national branches was considered the main factor undermining the efficiency of the organization. In France, for example, the Comité permanent de la vente du blé (Permanent Committee for the Sale of Wheat) chose to maintain its independence, both in terms of funding and work

[48] See, for instance; N. Jas, *Au carrefour de la chimie et de l'agriculture. Les sciences agronomiques en France et en Allemagne, 1850–1914* (2001), and id., 'Déqualifier le paysan, introniser l'agronome, France 1840–1914', *Écologie et Politique* 31 (2005), pp. 45–55; J. Harwood, 'Research and extension in political context: Rural unrest and the origins of the Prussian Chambers of Agriculture', in N. Vivier (ed.), *The state and rural societies. Policy and education in Europe. 1750–2000* (2009), pp. 135–57; M. Malatesta, *I signori della terra. L'organizzazione degli interessi agrari padani (1860–1914)* (1989); T. W. Guinnane, 'State support for the German Cooperative Movement, 1860–1914', *Central European Hist.* 45 (2012), pp. 208–32.

[49] See the definition of 'practical sciences' in J. Harwood, *Technology's dilemma. Agricultural colleges between science and practice in Germany, 1860–1934* (2005), pp. 18–19.

[50] S.-A. Marin, 'Secteur économique mondialisé ou exception culturelle? Les ambiguïtés de l'agriculture allemande à la fin du XIXe siècle', *Relations internationales* 124 (2005), pp. 3–16.

[51] H. J. Puhle, 'Agrarian movements in German politics (19th and 20th c.)', in P. Villani (ed.), *Trasformazioni delle società rurali nei paesi dell'Europa occidentale e mediterranea (secolo XIX–XX). Bilancio degli studi e prospettive di ricerca* (1986), pp. 159–88.

[52] Jas, *Au carrefour.*

programmes.[53] It is therefore not surprising that, in 1905, the French Comité autonomously expressed its desire to join the project of the IIA and even tried to sway branches in other countries, as attested by its proposal for a preliminary meeting to prepare for the participation of the Internationale landwirtschaftliche Vereinigung at the Rome Conference.[54]

From this point of view, the Italian initiative seemed to constitute an appropriate platform to create a global system for controlling grain prices and establish a permanent organ focusing on truly international questions. Gustav Roesicke, President of the Bund der Landwirte, suggested that the IIA extend the mission of Ruhland's office, because 'it's easier to develop and grow what already exists rather than to create something new *ex nihilo*. This Union could serve as the backbone for a great future construction'.[55] At the same time, this solution would have recognized the leading role of Ruhland, who considered himself to be the true father of the idea of a global farmers' organization and accused Lubin of plagiarizing his idea of a large-scale system for regulating grain prices.[56]

Although Lorenzoni formally rejected the suspicion of plagiarism, tensions ran high between Ruhland and Lubin, who were both present at the meeting in Vienna on 19 March 1905.[57] Despite this conflict, Roesicke has shown that German associations approached the Italian proposal with interest and Lubin tried to rally his rival behind the new project. He observed:

> Every economist of note will freely admit that Capital is concentrating, is organizing. He will also admit that Labor is organizing, is concentrating, and then must come the conclusion, that the unorganized cannot overcome the aggressive efforts of the organized. Hence it follows that unless Agriculture becomes effectively organized it must become the sport and the prey of the organized.
>
> Realizing all this agriculturalists everywhere are making every effort at effective organization, but without avail. For how can that be effectively organized in a local way, or even through national organization when the factors which govern it are international?[58]

Ruhland was widely recognized for his technical expertise. The Italian Preparatory Committee invited him to put forwards proposals for the future statistical service to be created within the IIA.[59] Lorenzoni nevertheless advised caution towards a person who held strongly protectionist views and who had been accused of using his position to speculate in agricultural prices. As he wrote in his travel journal after visiting the headquarters of the Internationale

[53] On the Union internationale des cours du blé, created in Versailles in 1900, cf. *L'iniziativa*, pp. 511–12, more in general on cereal markets see F. G. von Graevenitz, 'L'Europe comme modèle de l'Office du Blé? Les origines et les conséquences nationales de l'organisation internationale des marchés agricoles (1927–1939)', in A. Chatriot, E. Leblanc and E. Lynch (eds), *Organiser les marchés agricoles. Le temps des fondateurs, des années 1930 aux années 1950* (2012), pp. 51–86.

[54] FAO, IIA/CIS, A 3, Reports by G. Lorenzoni, 30 Mar.–3 Apr. 1905, p. 54.

[55] Ibid., 19–22 Mar. 1905, p. 4 (author's translation).

[56] *L'iniziativa*, p. 511. Lubin presented the project for the global union for the first time at the 1896 international congress of agriculture in Budapest, at which Ruhland was also promoting his own project for an information and regulatory system at the global level.

[57] Rossetti Agresti, *David Lubin*, p. 203.

[58] FAO, DLA, Part. 1. Sect. 1, doc. 13, p. 4.

[59] G. Del Vecchio, 'L'Unione agricola internazionale e le proposte del prof. Ruhland', in *L'iniziativa*, pp. 569–87.

landwirtschaftliche Vereinigung in Berlin, 'make full use of Ruhland for his technical skills, but don't become involved with him'.[60]

Whereas the participation of the agriculturalists in the governance of the IIA was the subject of lively discussion, the collection of data and the communication of specialized knowledge – on agricultural law, statistics, crop techniques, economic and agricultural sciences – turned out to be potential areas of consensus for creating the new organization.[61] Thanks to its transnational networks, the office directed by Ruhland thus became a model, as both economic actors and the governments agreed on the need to provide new analytical tools that would account for the internationalization of agricultural markets. During his travels, Lorenzoni met several individuals who explained to him how information systems had emerged as strategic assets, making it possible to take the international sphere into consideration and improve the effect of national policies on the primary sector. For example, the President of the Bund der Landwirte proposed using the projected institute to extend the economic service, which some countries provided, through diplomatic and consular representations, to stimulate global trade and foreign investment.[62] Moreover, representing the Austrian Statistical Bureau, Walter Schiff emphasized comparative studies as a possible domain that could be enhanced through the consistent and rapid circulation of data on agricultural production and markets.[63]

There was, nevertheless, no reason to limit the system to commodity markets, as the entire primary sector could benefit from a comprehensive system of data collection and circulation. Member of the aforementioned 'Group of the Three' and Director of the Office of Labour at the Italian Ministry of Agriculture, Industry, and Commerce, Giovanni Montemartini, for example, suggested the inclusion of migration in the agenda of the May 1905 international conference. In his meeting with Lorenzoni, Austrian economist Eugen von Philippovich also emphasized the opportunities provided by data collection on migratory circulations. He believed that a global labour exchange would make it possible to control the supply and demand of labour, to stress seasonal complementarities rather than economic competition among the different continents, and to prevent the proletarianization of rural classes in their countries of origin as well as their host countries.[64] Here, the IIA was envisioned as a centre for expert knowledge-production, serving to organize and better regulate the various import and export markets within the primary sector.

The use of a coordinated information system in order to benefit from opportunities and mitigate the negative consequences (frauds, adulterations, animal and plant diseases, etc.) of more intense economic global activity also emerged as a potential point of consensus for the project of the IIA. Dispatched to Paris with the same mission as Lorenzoni, Edoardo Giretti saw the function of providing statistics as possible ground for reconciling the Italian diplomatic initiative with the French response to it.[65] On the one hand, proponents of free trade had a favourable view of the project but were concerned about the potential hegemony

[60] FAO, IIA/CIS, A 3, Reports by G. Lorenzoni, 19–22 Mar. 1905, p. 36 (author's translation).

[61] Société des Agriculteurs Italiens, *Les Sociétés agricoles et l'Institut International d'Agriculture* (1905).

[62] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento', p. 40.

[63] Ibid., p. 13.

[64] Ibid., p. 11.

[65] FAO, IIA/CIS, A 3, Reports by E. Giretti. On this individual see *Dizionario biografico degli italiani*, 56 (2001), pp. 502–7.

of conservative agrarian forces within the new organization. On the other, protectionists emphasized the need for national sovereignty on import duties but were not clearly opposed to the initiative, even if some of them were concerned about German arguments for the creation of a European customs union.[66]

The 'powerful and conservative'[67] Société des agriculteurs de France (French Society of Agriculturalists) also ended up joining the IIA project. Despite initial scepticism, the production and circulation of statistical data served as a starting point for discussion. In the end, the Italian initiative encountered favourable circumstances, since the transnational knowledge networks were emerging as a key justification for the specialized institutions, as the President of the French association Melchior de Vogüé wrote to Raffaele Cappelli, his counterpart at the Società degli agricoltori italiani:

> It is completely clear that the creation of a proper office, at a propitious place in Europe, whose function would be to periodically communicate data on agricultural production, labour conditions, and plant and animal diseases, would render a great service to agriculture; although the city of Rome may not appear to be, at first glance, ideally positioned geographically to serve as this organization's headquarters, it may attract the greatest support thanks to the advantages it would bestow upon the new institution in the form of the kind and generous patronage of the King of Italy.[68]

Creating a global centre recognized as a legitimate source of authority on data production and dissemination also became issue of primary importance. The large German agrarian organizations unsuccessfully attempted to use this opportunity to relaunch Ruhland's protectionist programme. The French protagonists defended the pre-existing specialized networks of the Congrès internationaux d'agriculture, in which they maintained a hegemonic position.[69] Former minister Jules Méline, chairman of the CIA, actually proposed transforming the IIA into a permanent office, taking on the function of the international congresses, as 'this would amount to no less than endowing global agriculture with a central organization, a sort of permanent committee charged with lobbying for agricultural interests in the various governments'.[70] Thus, paradoxically, the Italian proposal was able to gather the support of these countries and to position itself as the third option in the power struggle between France and Germany.

Although the countries' positions differed greatly on the role of state delegates and agriculturalists' representatives in any future organization, emphasis on the regular production of

[66] FAO, IIA/CIS, A 3, Reports by E. Giretti, pp. 1–4. Henry Sagnier, vice-president of the CIA expressed anxiety about proposals for a European customs union, while the former minister Hippolyte Gomot was not opposed to the idea of a tariff union. For a comparison between the German and French protectionism, see R. Aldenhoff-Hübinger, 'Deux pays, deux politiques agricoles? Le protectionnisme en France et Allemagne (1880–1914)', *Histoire et Sociétés Rurales* 23 (2005), pp. 65–87.

[67] P. Barral, *Les agrariens français de Méline à Pisani* (1968), p. 107 (author's translation).

[68] See the entire letter addressed to Raffaele Cappelli by Melchior de Vogüé, Président de la Société des Agriculteurs de France, in Societé des Agriculteurs Italiens, *Les Sociétés agricoles*, pp. 29–34 (author's translation).

[69] IVSLA, ALL, Sezione 1. Serie 1: Fascicoli per corrispondenti, UA 3376 (Rocquigny Robert, de), Letter 23 Mar. 1905 addressed to the assistant of Luzzatti.

[70] J. M., 'L'Institut international agricole', *La République française*, 13 Feb. 1905 (author's translation).

statistics, technical information and common standards in order to support the growing interactions among farming systems at the global level seemed to be a less controversial foundation for sustainable international cooperation, but the paper by Federico D'Onofrio shows how even this could provoke conflict. Whereas the position of professional actors seemed compromised, Lubin tried to defend his initial idea and transform the International Chamber of Agriculture into an International Commerce Commission, endowed with statistical tools and arbitration capacity. In a letter to Luzzatti, he explained that his model was the US Interstate Commerce Commission:

> As you know, each State in the United States has sovereign power, and the United States has only certain and prescribed powers. In the case of interstate matters questions arose which, before the Commission, could not be determined by a State or by the United States, and this brought about the Commission.[71]

Whereas pressure from governments and big agrarian associations prior to the May 1905 Conference was the most ostentatiously visible feature of the preparatory phase, greater emphasis on the creation of a sophisticated data and information system reflected the influence of a *nébuleuse réformatrice* drawn from a variety of ideological backgrounds.[72] These experts and political figures were inspired by the common search for modern instruments that would help them observe social reality in order to design programmes to modernise the agrarian economy. Building on the tradition of enquiries, statistics and surveys, they intended to turn the increasingly internationalized primary sector into a laboratory where the intense production and regular dissemination of statistical data was understood in terms of a new relationship between the state and civil society, an essential tool of market regulation, and a precondition for economic and social policies.[73]

III

Cooperatives had expanded throughout the second half of the nineteenth century and had developed into a crucial tool to organize agriculturalists, defend their interests and strengthen their voice in markets from the most local to the global. Thus, the Italian proposal of February 1905 could not be ignored by the cooperative movement in either its national or nascent international dimensions. In this section we explain how the movement received the proposal, how it argued for the direct representation of non-governmental interests and its eventual exclusion from direct participation. In response it established its own international institution, the Internationaler Bund der landwirtschaftlichen Genossenschaften (or Fédération internationale des coopératives Agricoles, the International Federation of Agricultural Cooperatives).

[71] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/3, Letter of D. Lubin to L. Luzzatti, 22 Apr. 1905.

[72] On the *nébuleuse réformatrice*, see n. 15.

[73] A. Desrosières, 'Historiciser l'action publique: l'État, le marché et les statistiques', in P. Laborier and D. Trom (eds), *Historicités de l'action publique* (2003), p. 213, on the Italian case see F. D'Onofrio, *Observing agriculture in early twentieth-century Italy. Agricultural economists and statistics* (2016), and in general N. Vivier (ed.), *The golden age of state enquiries. Rural enquiries in the nineteenth century, from fact gathering to political instrument* (2014).

The cooperative world was one with which Lorenzoni was already very familiar through the research he had conducted while studying political economics in Vienna with Carl Menger and Eugen von Philippovich and in Berlin with Max Sering. His monograph on the agricultural cooperative movements in Germany was the outcome of detailed observation and analysis of areas where the economically oriented associations were subject to the competing influence of public authorities, unions bringing together small and medium peasants, and the lobbies of the big landholders. In his book, Lorenzoni proposed a framework for a theory of agricultural cooperation, where cooperatives were interpreted both as defensive tools against market failures and the unequal distribution of wealth, and as an offensive and class-based form of association, allowing social groups to organize their interests and influence the market mechanisms.[74]

Under pressure from the Bund der Landwirte, Lorenzoni was aware of the risks of turning the IIA into a 'green lobby', controlled by small number of big agrarian groups demanding economic modernization but actually working to preserve the social hierarchy in the primary sector. Hence, he considered that the participation of the agricultural cooperative movement was crucial to defend a more democratic vision for the international project. He attached great importance to the voice of cooperative federations as the means to gain support from local movements, backed by small and medium peasants. Their involvement was expected to limit the influence of big landholders and help overcome the hesitations of the central government, as can be seen from the weight he gave to the views of the Italian Lega nazionale delle Cooperative, the American Federation of Labor, and the German cooperative federation.[75]

For this reason, Lorenzoni travelled throughout Germany to meet with leaders of the German cooperative movement – both secular and religious – in Westphalia, Rhineland, Hesse, and Bavaria.[76] This mission was crucial from both a German and international perspective. Following the sixth congress of the International Cooperative Alliance (ICA) held in Budapest in 1904, German organizations had taken control of the agricultural branch of the international cooperative movement from its British leadership, who were more interested in consumer and worker cooperatives. Rivalry between the British and German ICA members, which was at the same time a fight between the primary and the other economic sectors, finally pushed the agricultural branch to split from the larger body, with guidance from the Reichsverband der deutschen landwirtschaftlichen Genossenschaften (Imperial League of the Agricultural Cooperatives), the Darmstadt-based German federation led by Wilhelm Haas.[77]

The IIA's initiative capitalized on this internal conflict within the international cooperative movement, which created a window of opportunity for establishing a new international

[74] Lorenzoni, *La cooperazione*, and the debate based on the book review by G. Valenti, 'Cooperazione di classe!', *Giornale degli Economisti*, serie 2ª, no. 25 (Oct. 1902), pp. 358–75, and G. Montemartini, 'Cooperazione di classe', *ibid*., no. 26 (Jan. 1903), pp. 63–76.

[75] The project of the German cooperative was, for example, republished in the journal of the Italian cooperative movement, *La Cooperazione Italiana*, 27 May 1905.

[76] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, 'Relazione sul compimento', p. 33.

[77] On Haas and his role in the German agricultural cooperative movement, see T. Sonnemann, 'Haas, Wilhelm', *Neue Deutsche Biographie*, 7, S. 378 f, and D. Peal, 'Self-help and the state: Rural cooperatives in Imperial Germany', *Central European Hist*. 21 (1988), pp. 244–66.

specialized alliance for the agricultural sector, as Lorenzoni explained in his reports.[78] In the months preceding the May 1905 conference in Rome, the leaders of the German federation developed a plan for a cooperative service to be created within the IIA.[79] This would centre its efforts on the production of updated information (data processing, technical and legislative data on various countries' experiences, etc.) in order to support the development of a global network of cooperatives. At the same time, it would work on a number of transnational issues of concern to agricultural cooperatives including

(1) credit: with the aim of facilitating the interactions among the central bodies responsible for credit cooperatives in each country in order to encourage access to capital, facilitate public aid applications, and, finally, build a cooperative financial system at the global level;

(2) collective supply: setting up international societies that would operate on the international markets of the agricultural inputs to combat industrial and commercial power groups, and negotiate agreements directly with input suppliers and traders;

(3) domestic and international markets: fostering international exchanges and complementarities based on each agricultural region's specialization, conducting sales directly or through cooperative networks, fighting against speculation, fraud, and adulteration;

(4) production: exploring new technical solutions and economic frameworks that could transform cooperatives into instruments for modernizing both agriculture and rural life.

In order to promote this model within the preparatory debates of the new organization, the cooperative leader Haas was included in the German delegation and took part in the work of the international conference that opened in Rome on 28 May 1905. During the discussions, he openly attacked the idea of making the IIA a solely intergovernmental body because 'as the goal of cooperatives is to do business, he didn't see how this goal could be achieved by involving the state'.[80] He also participated in parallel meetings intending to lobby and influence the negotiations within the conference, but, in the end, the 1905 convention creating the IIA was a disappointment for the cooperative movement. Fearing the power of the big agrarian lobbies, every form of direct participation of the agriculturalists in the governance of the IIA was excluded. However, the Società degli agricoltori italiani proposed the establishment of an office within the IIA representing all the agricultural cooperative associations and organizations, but even this initiative was abandoned after the international congress of agriculture was held in Vienna in May 1907.[81] The major German and Austrian organizations opposed the proposal, as became clear during the special session at Vienna dedicated to the relationship between the IIA and the movement of the international congresses. In their opinion, limited available resources and the absence of non-governmental coordination would condemn the Office to a subordinate position without the capacity to influence the decisions of the IIA.

[78] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/2, Reports by G. Lorenzoni, 19–22 Mar. 1905, p. 41.

[79] *L'iniziativa*, pp. 464–5.

[80] *Conférence Internationale d'Agriculture*, p. 228 (author's translation).

[81] See the fourth session of the Congress on 24 May 1907 in *VIII. Internationaler landwirtschaftlicher Kongress Wien, 21–25 Mai 1907. Organisation – Bericht über die Kongressberatungen Exkursionsbericht. Band I* (1907), pp. 202–11.

Amongst the tasks of the IIA agreed in 1905 was the duty to 'collect and publish information which might be useful in the various countries in the organization of works connected with agricultural cooperation, insurance, and credit',[82] but agriculturalists needed to complement the exchange of ideas with the exchange of commodities and traffic. Thus, with the support of the German and Italian federations, an autonomous project aiming at the creation of an international federation of agricultural cooperatives was launched in the weeks following the May 1905 conference.[83] The German cooperatives were especially interested in playing a leading role in promoting such an initiative, and the project was discussed during their congress, held in Strasbourg in August 1905. The following year, on 20 April 1906, the Internationaler Bund der landwirtschaftlichen Genossenschaften was founded in Lucerne (Switzerland) at a meeting chaired by Haas and attended by delegates of the German Reichsverband der deutschen landwirtschaftlichen Genossenschaften, the Italian Federazione italiana dei Consorzi agrari (Italian Federation of Agricultural Cooperatives), the Austrian Allgemeinen verband landwirtschaftlicher Genossenschaften (General Union of Agricultural Cooperatives), and the Sektion Schweiz des internationalen Bundes (Swiss Section of the International Federation).[84] The Internationaler Bund intended to enhance the connections and defend the common interests of the agricultural cooperative movement beyond national borders.

Despite the hopes of those who remained committed to the idea of an international chamber of agricultural representatives, the new confederation focused on economic issues and preferred to view its relationship with the IIA as one of total separation and even deliberate ignorance.[85] At the same time, whilst the Internationaler Bund presented itself as an alliance going beyond national federations, it was dominated by the leagues of agricultural cooperatives from Central Europe. In 1907–08, the Dutch Coöperatieve Boerenleenbank (Farmers' Cooperative Loan Bank), the Savez srpskih zelmjoradničkih zadruga (Central Association of Serbian Agricultural Cooperatives), and the Hungarian Országos Központi Hitelszövetkezet (National Central Credit Union) joined the federation.[86] Whilst Bulgarian, French, Danish, and Finnish federations also joined the Internationaler Bund in the following years, its German leadership was never contested and this served to affirm the strength of their national cooperative model in both promoting economic efficiency and swaying government decisions. The German hegemonic position within the agricultural cooperative movement aroused apprehension. The Frenchman Alfred Paisant, for example, understood the combination of agricultural associations to be an attempt to create a sort of 'European Zollverein' (European customs union) seeking to expand over the whole continent the common trade and tariff area already in place between the German states.[87]

[82] Article 9 of the convention signed on 7 June 1905, in Hobson, *International Institute of Agriculture*, p. 328.

[83] IVSLA, ALL, Sezione 1. Serie 1, UA 3264, Letter of G. Raineri to L. Luzzatti, 22 Sept. 1905.

[84] See in the *G. agr. dom*., the following articles: 'Movimento cooperativo agrario in Germania (echi del congresso di Strasburgo)', no. 36 (3 Sept. 1905), p. 281; 'Inizio di efficaci rapporti fra i cooperatori agrari italiani e tedeschi', no. 12 (25 Mar. 1906), pp. 89–90; 'Lega internazionale delle Federazioni agrarie cooperative', no. 17 (29 Apr. 1906), p. 129; 'Per la Lega internazionale delle Cooperative', no. 45 (11 Nov. 1906), p. 361.

[85] A. Agresti, 'Un patto di Federazioni agrarie', *La Rivista Verde* 5 (30 May 1906), pp. 6–7.

[86] Voir 'Il Convegno della Lega internazionale delle cooperative agrarie', *G. agr. dom*. 27 (27 Sept. 1908), pp. 335–6.

[87] A. Paisant, 'Mouvement coopératif international agricole au moment actuel', *Bulletin des séances de la Société nationale d'Agriculture de France* 67 (1907), pp. 168–76.

The eighth international congress of agriculture, held in Vienna on 21–25 May 1907, gave the Internationaler Bund the opportunity to organize its first general assembly.[88] By doing so, it attempted to reaffirm its independence from the rest of the international cooperative movement, which was going to meet at the seventh congress of the ICA, planned for 23–25 September 1907 in Cremona (Italy). Agreeing with the approaches that sought a direct participation of the agriculturalists within the IIA, at the 1905 conference Luigi Luzzatti had defended the idea that 'a world-wide alliance of cooperative societies would do more than all the laws on the statute books to prevent the adulteration of foods, the formation of trusts, and artificial speculation in the staples of agriculture'.[89] Through the 1907 ICA meeting, he was trying to relaunch the idea of an international alliance of agricultural cooperatives that would operate in harmony and serve as the principal interlocutor of the IIA (whose official inauguration in May 1908 would conclude the three-year preparatory phase). By bringing together in Cremona representatives of the cooperative movements from different countries, Luzzatti hoped to create a joint programme and transform the IIA into a 'cosy tent' for the cooperatives of the primary sector.[90]

Pursuing this suggestion, the economist Vincenzo Magaldi presented an action plan to be promoted by the IIA in the areas of cooperation, insurance, and agricultural credit. The aim was to achieve the double objectives of realizing 'the international organization of production [and] helping cooperative production to conquer for itself the world's markets'.[91] This mission had to complete the federative model promoted by the Internationaler Bund and integrate a more generalized organizational trend, because 'in the more advanced European countries cooperation already evinces a tendency to unite its several branches in an international federation or league'.[92] The establishment of a common organization beyond national borders was intended to serve as both an information service charged with providing regular commercial data and as a central office governing supply and demand in the different markets, monitoring stocks and prices, and preventing the emergence of power positions. At the same time the idea was to encourage mutual knowledge of local initiatives, facilitate the circulation of information and models on the global scale, organize collective forms of regulation on the markets of inputs, credit, insurance, staple foods and agro-industrial raw materials.

Priority was given to technical and economic aspects, but Luzzatti's attempt at the 1907 ACI congress was not successful in winning over the cooperatives of the primary sector, and the interest of agricultural associations in the IIA waned in Italy and elsewhere. In 1905, the Italian mediators were able to build consensus on the initiative within and outside the

[88] See 'Internationaler Bundestag der Landwirtschaftlichen Genossenschaften, Wien 1907', in *VIII. Internationaler landwirtschaftlicher Kongress*, pp. 803–4.

[89] L. Luzzatti, 'The International Institute of Agriculture', *North American Review* 182 (no. 594) (1906), p. 655.

[90] V. Camanni, 'Le questioni agrarie ai Congressi cooperativi di Cremona', *Boll. SAI* 21 (15 Nov. 1907), pp. 916–22. Luzzatti proposed the IIA for the second congress of the Internationaler Bund that was finally held on 23–24 Sept. 1908 in Piacenza, where the Federazione italiana dei Consorzi agrari had its headquarters. During the 1905 conference, Luzzatti talked of the IIA as a 'tente hospitalière' for the agricultural cooperative movement, see *Conférence Internationale d'Agriculture*, p. 222.

[91] Report prepared by Vincenzo Magaldi (author), Luigi Luzzatti, Marco Besso, and Giovanni Raineri (9 June 1907), published in French as *Coopération, assurance et crédit agricoles et l'Institut international d'agriculture* (1909), p. 6. The English text quoted here is the translation published in 'International Co-operative Alliance', *Sacramento Union*, 26 Jan. 1908, p. 5.

[92] Ibid., p. 7.

country: many voices had responded to the letter written by the king Victor Emmanuel III and many agriculturalists' unions had tried to make their voices heard in the debates before and during the 1905 international conference. However, delays and the direction taken by the project had dampened this initial burst of enthusiasm. Moreover, with the beginning of IIA activities between May and November 1908, it was clear that agrarian unions and cooperative associations had to abandon any hope of participating directly in the new institution, as was explained by Louis Dop, the future French Vice President, during the first General Assembly:

> Private associations, labour unions, and cooperatives will thus have to contact their respective governments directly, and it is only through government involvement and mediation that these private organizations will be able to communicate with the Institute. These private organizations' relationship with their government is an issue of *domestic politics*, in which the Institute should not become involved. We recognize the governments, and it is only with them and through them that we will be able to and must be in contact with these private organizations. Any other approach would be improper and would violate the 1905 Convention.[93]

The following year, the report by the Austrian delegate Victor de Pozzi reaffirmed the separate missions of the Internationaler Bund and the IIA.[94] The first focused on the economic mission and provided services enhancing the role of cooperatives in the international markets, where the other was oriented towards data gathering and publication, describing the results of the cooperatives rather than supporting their activities. Although collaboration seemed possible between these two distinct and complementary missions, the IIA was in fact imposing the governmental approach onto the method of observing the transnational dynamics of the primary sector. The conflict over the role of professional concerns in the governance of the IIA was therefore transferred to the production and the circulation of data. In the end, even communication remained difficult between the IIA and the unions representing the interests of the agriculturalists. It is therefore important to avoid overestimating the importance of this fracture between the public and the private spheres in the government and in the primary sector at different levels. In fact, the apparent communication gap between the IIA and agrarian associations turned out to be more of a perception than reality. The issue of the representation and participation of agriculturalists in the IIA continued to remain a recurring theme in its four decade-long history. Moreover, if the Internationaler Bund was unable to survive the First World War,[95] the Commission internationale permanente des Associations agricoles (CIPA) was founded in Rome in 1925 and finally crystallized the relationship between national agrarian associations and the IIA.

[93] *Institut international d'agriculture. Assemblée générale. Première session – Novembre 1908. Procès-verbaux* (1908), pp. 30–1 (author's translation).

[94] IIA, *Comité permanent. Procès-verbaux 1909*, Minute no. 35 of 10 Dec. 1909, 'Annexe I. Rapport de Mr le Chevalier Victor de Pozzi, Délégué de l'Autriche sur la question n. 4 du programme de l'Assemblée générale', *Rapports de l'Institut international d'Agriculture avec les fédérations nationales et internationales des coopératives agricoles*, pp. 514–18.

[95] IVSLA, ALL, Sezione 2. Agricoltura, UA 148/1, 'Mémorandum concernant une collaboration effective internationale pour la coopération agricole' (1 May 1924), by the Finnish economist, politician and cooperative movement activist Hannes Gebhard.

IV

The convention of 7 June 1905 was signed by delegates from forty countries. It established a 'permanent international institute of agriculture, having its seat in Rome [as] a government institution, in which each adhering power shall be represented by delegates of its choice'.[96] The mission of expert knowledge production was thus given preference over the initial goal of establishing a global chamber drawing together representatives of the rural classes. According to Raffaele Cappelli, who played a key role in the preparatory phase as president of Società degli agricoltori italiani, this initial compromise was necessary to earn the support of all governments and create the IIA.[97] Nevertheless, he considered that the idea of the agriculturalists' participation had to be reintroduced in the future in order to make the new organization effective. Thus, soon after being elected president of the IIA in March 1910, Cappelli wrote to Luigi Luzzatti – who became Prime Minister at the end of the same month – to remind him of the initial project they had shared in 1905 and ask for his help so that 'the Institute would be completed outside the Institute'[98] through the creation of an international office of agricultural associations.

The idea of creating the IIA as a knowledge institution was the most consensual one and prevented the new organization from infringing upon national sovereignty. Therefore, this model prevailed over the alternative models canvassed at the time, and it emerged as a key aspect of primary sector governance. At the same time, the founding of the IIA brought out two main challenges of twentieth-century projects for economic regulation. First, the increasing impact of international events on governments required the coordination and standardization of information systems, but the design of common technical frameworks was not neutral because it could serve different goals and group interests. Second, although organization and participation emerged as crucial tools to involve non-governmental actors in the public programmes for the agricultural modernization, new forms of representations were also necessary to articulate and negotiate the interests of the different economic and social groups.

While Gilbert and Howe have demonstrated the close interdependence of state and society in building modern agricultural policies, this article has revealed the connections between the two and revised the existing narratives on the origins of the IIA from the point of view of the agricultural associations and unions. This new perspective demonstrates that the birth of the first intergovernmental organization of the primary sector arose out of debates where different models were proposed and discussed, rather than from the isolated initiative of two 'great men'. It has also been a conflictual rather than a consensual history, where both the governments and agricultural unions mobilized the economic role and the demographic weight of the rural worlds to promote and defend their alternative views of international cooperation.

Finally, it has been shown how there was a trans-European history before global history emerged, in which the young Italian nation was able to forge new forms of soft power and create a common ground in opposition to defensive French protectionism and aggressive

[96] Articles 1 and 2 of the convention signed on 7 June 1905, in Hobson, *International Institute of Agriculture*, p. 327.

[97] See 'Resoconto dell'assemblea generale ordinaria dei giorni 21–24 Febbraio 1906', *Boll. SAI* 5 (15 Mar. 1906), pp. 146–52.

[98] IVSLA, ALL, Sezione 1. Serie 1, UA 798, Letter of R. Cappelli to L. Luzzatti, 1 June 1910 (author's translation).



FIGURE 1: Detail from the group photo of the participants at the third General Assembly (14–20 May 1911), taken in front of the building of the IIA at Villa Borghese (Rome). In the first row, from left to right: Giovanni Raineri (1), Director then President of the Federazione italiana dei Consorzi agrari; Raffaele Cappelli (2), President of the IIA; David J. Foster (3), chairman of the US delegation at the General Assembly, with his wife Mabel Allen Foster (4); Louis Dop (5), Vice President of the IIA. Behind them, there are the Hungarian delegate Edmond de Miklós de Miklósvár (6), the US delegate David Lubin (7) in the centre, and Hugo Thiel (8, with the white beard and the boater), Director at the German Ministry of Agriculture. Giovanni Lorenzoni (9, without a hat), Chief of the Bureau of Economic and Social Institutions then Secretary General of the IIA, 1912–17 is at the top right [Source: David Lubin Memorial Library].

German protectionism.[99] This article has shown that, whilst global food concerns passed from the IIA to the FAO after 1945, the history of the IIA anticipated the trans-European debates on the regulation of market dynamics and schemes for the governance of the rural change, which became one of the pillars of the Common Agricultural Policy in the second half of the twentieth century.[100]

[99] Aldenhoff-Hübinger, 'Deux pays'.

[100] Clavin, *Securing*, pp. 336–7.

Agricultural numbers: the statistics of the International Institute of Agriculture in the Interwar period

by Federico D'Onofrio

Abstract:
This article examines the statistics produced by the International Institute of Agriculture in connection with the economic conferences that were held under the auspices of the League of Nations in Genoa (1922) and Geneva (1927). Established in 1905 in Rome, the International Institute of Agriculture formed an important institutional framework for the exchange of knowledge on agriculture in the first half of the twentieth century. By examining the Institute's reports and enquiries and the planning for the world census of agriculture (1930), the article argues that the Institute held a particular vision of the relationship between agriculture and industry that differed greatly from the perspective of the Anglophone experts of the League of Nations. It will be shown that whilst the League addressed the issue of famine and food shortages, the Institute focused on stabilizing farmers' income.

There is a growing body of literature on the League of Nations (hereafter LoN) that discusses how the League and other international organizations accumulated expert knowledge on questions of food, famine and agriculture in the 1930s, and how their accumulation of expertise prepared the way for the development programmes of the United Nations' agencies after 1945. Focusing on the League of Nations and its experts, who were mostly drawn from the British Empire, can give a false impression of unanimity around issues that were highly controversial at the time, such as the place agriculture should have in the economy after the devastation of the First World War.[1] This article discusses the emergence of a different approach to the problems of agriculture in the interwar period, namely an agrarianist approach that was based on the belief that agriculturalists all over the world shared common interests that were in

[1] This is the case with Ruth Jachertz and Alexander Nützenadel, 'Coping with hunger? Visions of a global food system, 1930–1960', *J. Global Hist.* 6 (2011) and S. Amrith and P. Clavin, 'Feeding the World: Connecting Europe and Asia, 1930–1945', in M. Hilton and R. Mitter (eds), *Transnationalism and Contemporary Global History* (*Past and Present*, Supplement 8, 2013), while Amalia Ribi Forclaz, 'Agriculture, American expertise, and the quest for global data. Leon Estabrook and the First World Agricultural Census of 1930', *J. Global Hist.* 11 (2016), pp. 44–65, rightly focused on the IIA. The role of the League in the economic diplomacy of the interwar period has been the subject in particular of Patricia Clavin, *Securing the world economy. The reinvention of the League of Nations, 1920–1946* (2013) and ead., *The failure of economic diplomacy* (1996).

competition with the interests of industrialists. In 1920s and 1930s, the International Institute of Agriculture (IIA) tried to give voice to agrarianist ideas in the 'international civil society' by creating its own economic expertise in cooperation/competition to the League and the International Labour Organization (ILO).[2]

Exploring the statistical publications and reports of the IIA produced between the wars allows us to observe the emergence of a global vision of the world as divided between agricultural and industrial nations and the application to the world agricultural economy of ideas of core and periphery. This vision, combined with a strong sense that the international division of labour privileged industrialists and industrial countries whilst the terms of trade were worsening for agriculture, outlived the international organizations of the interwar years. Development theorists, especially the South American structuralists such as the Argentinian Raul Prebisch and his group at the United Nations Economic Commission for Latin America and Caribbean, made the structural difference between commodity exporters and industrial exporters a cornerstone of their approach to development – an idea that originated, for Prebisch, in the debates of the 1930s. This divide also shaped accounts of the period for a long time, something recent studies in global economy have questioned.[3]

A study of the emergence of such a vision is of obvious interest for historians of economic doctrines and of statistics, but it is also crucial for historians in general. Given the importance of agricultural issues in the economic diplomacy of the *entre-deux-guerres*, it is essential to know what kinds of information was available to negotiators, policy-makers, and the educated public of the 1920s and 1930s and how it shaped their world view.

I

Established in Rome in 1905 and inaugurated in 1908, the IIA offered the main institutional framework for the exchange of knowledge on agriculture in the first half of the twentieth century. Its activities covered a wide variety of topics, ranging from circulating warnings of plant and animal diseases to the collection of harvest statistics, data on the activity of cooperatives and farm incomes. The collection and publication of statistics, though, had been the most crucial of the tasks assigned to the IIA on its foundation in 1905. Article 9 of the convention signed by Italy and the other member states on 7 June 1905 contains the following:

> The institute, confining its operations within an international sphere, shall
> a) Collect, study, and publish as promptly as possible statistical, technical, or economic information concerning farming, both vegetable and animal products, the commerce in agricultural products, and the prices prevailing in the various markets.[4]

[2] On the competition between the LoN and the IIA, see Luciano Tosi, *Alle origini della FAO: Le relazioni tra l'Istituto Internazionale di Agricoltura e la Società delle Nazioni* (At the origins of the FAO: the relationships between the International Institute of Agriculture and the League of Nations) (1989); on the IIA–ILO cooperation, see Ribi Forclaz elsewhere in this issue.

[3] Edgar J. Dosman, *The life and times of Raul Prebisch, 1901–1986* (2008), p. 38; Steven C. Topik and Allen Wells, 'Commodity chains in a global economy', in Emily S. Rosenberg (ed.), *A world connecting, 1870–1945* (2012), p. 686.

[4] United States of America, *Convention between the United States and other powers for the creation of an International Institute of Agriculture: signed at Rome, 7 June 1905* (1908), p. 8.

The IIA became fully functional only in 1909, and for the few years that preceded the war it published the *Bulletin of agricultural statistics* (after 1914 the *Bulletin of agricultural and commercial statistics*) and the *International yearbook of agricultural statistics*. The Great War did not interrupt the publication, but it heavily affected the reliability of data. The correspondence of the Institute during the war years makes frequent reference to the difficulties encountered in securing official statistical publications.[5] Even the Italian government – which hosted the IIA and was therefore usually benevolent toward its requests – refused to disclose current data from the Bureau of Agricultural Statistics, claiming they were war secrets.[6]

The statistics of the interwar years therefore have a broader significance than those of the pre-War period. The Institute certainly reacted to the competition of the recently founded League of Nations, but it is clear that the leadership of the IIA also saw the growth of an 'international society' as a great opportunity to foster its statutory goals: the international promotion of the agricultural classes. The IIA was, from its very foundation, meant to become the voice of the agricultural classes. According to article 9 of the founding *convention,* the Institute should:

> Submit to the approval of the governments, if there is occasion for it, measure for the protection of the common interests of the farmers and for the improvement of their condition, after having *utilized all the necessary sources of information*, such as the wishes expressed by the *international or other agricultural congresses or congresses of sciences applied to agriculture, agricultural societies, academies, learned bodies*, etc.[7]

In the context of the 'agrarianist moment' that Europe was experiencing with the emergence of peasant parties and 'ruralist' conservative regimes, the IIA had the ambition of bringing the point of view of agriculturalists to the international economic conferences that were redrawing economic relationships in the world.[8] Crucially, despite the stress the League of Nations placed on the neutrality of statistical facts, only business people could provide some of the essential information on topics such as tariffs, agricultural prices, agricultural credit, and other aspects of the business cycle. As it was the case in other sectors of the world economy, providing data to the LoN and IIA became an element in the negotiating strategies of the associations of agriculturalists.

The *Bulletin of agricultural and commercial statistics*, the 1927 publication *Agricultural problems in their international aspect*, the 1928 Enquête, and the extremely ambitious First

[5] FAO, IIA, R3, IIA, Correspondance avec le prof. Laur, Brougg, Union des Paysans Suisses, servant d'intermédiaire entre l'IIA et certains Pays pendant la guerre.

[6] In a letter to the IIA, Giuseppe Zattini, the head of the Italian Bureau of Agricultural Statistics, claimed that the data were simply not available, despite the update prepared in 1916, FAO, IIA, R3, Tutino, Letter to van Missenhoven, 13 Sept. 1917.

[7] United States of America, *Convention ... 7 June 1905*, p. 9 (author's italics).

[8] I have tried to sketch the meaning of an 'agrarianist moment' for Italian agriculturalists in my 'The micro-foundations of Italian agrarianism: Italian agricultural economists and Fascism', *Agricultural Hist*. 91 (2017). An approach to Fascist ruralism can be found in L. Fernández Prieto, J. Pan-Montojo and M. Cabo (eds), *Agriculture in the age of Fascism: authoritarian technocracy and rural modernization, 1922–1945* (2014), while on the importance of agrarianism in different European (especially central European) contexts, see Helga Schultz and Angela Harre (eds), *Bauerngesellschaften auf dem Weg in die Moderne: Agrarismus in Ostmitteleuropa, 1880 bis 1960* (2010).

World Agricultural Census of 1930, are the main documents of this strategy. Consistent with this mission, the IIA involved agricultural associations and their in-house experts in the collection of data meant to prove the different effects of economic downturns on agricultural and industrial groups, with a central concern being the deteriorating terms of trade between agriculture and industry.

The first peculiarity of the statistics of the IIA is that there was such close cooperation. In contrast with the idea expressed by Roser Cussó that 'international expertise is only made possible by the agreement of the governments … and by the governments' active contribution (connections between governments and experts in the committees, authorization to the sharing of statistics by the ministries, etc.)', we will demonstrate in this article the active contribution of agrarian organizations.[9] It is true that the statistics of agricultural yield and output published by the IIA in the *Annuaire de statistique agricole* were based on data published by individual national statistical offices and aggregated figures preliminarily approved by states, but the IIA also published more sophisticated sectorial data and qualitative reports that were made possible by the contribution of non-state actors, especially agricultural associations, university research centres and agricultural banks. Besides state-sanctioned data and international aggregates, therefore, we will stress the presence of *stakeholder data* produced by agriculturalists for agriculturalists which the Institute circulated internationally. It should always be remembered that the interests of the member states did not necessarily coincide with that of the rural elites that governed the associations.[10]

The contribution of associations, research centres, and private companies was particularly important for fine-grained sectoral data. How much interwar data on prices, costs and business differed from post-Second World War data on GDP, inflation, and output has not been sufficiently stressed. In the 1920s and early 1930s, the 'Keynesian revolution' in statistics was about to begin: the aggregate national data of LoN was its spearhead.[11] Reflecting on the change that occurred in the 1940s, the economic historian Walt Whitman Rostow identified the 'temptation and dilemma' that faced statisticians after the end of the 1930s:

> The temptation has been to plunge in and exploit the data that are easily accessible and capable of organization for purposes of international comparison. The dilemma is that these data do not easily permit statistical analysts, on an international basis, to get hold of sectors and sub-sectors.[12]

Data on national output collected by the IIA from national statistical institutes could be made to fit easily into the developing 'Keynesian paradigm'. But the Institute was also involved in

[9] Roser Cussó, 'The statistical activity of the economic and financial organization of the League of Nations', *Histoire et Mesure* 27 (2012), p. 114.

[10] Federico D'Onofrio, *Observing agriculture in early twentieth-century Italy* (2016), ch. 5 and 'Les statistiques agricoles …', in Danielle Fraboulet, Clotilde Druelle-Korn, and Pierre Vernus (eds), *Les organisations patronales et la sphère publique* (2013), discusses the concept of *stakeholder statistics*. For a theoretical approach to the problem of the relationship between producers and the state in agriculture see the introductory paragraph to Jess Gilbert and Carolyn Howe, 'Beyond "state vs. society": Theories of the state and New Deal agricultural policies', *American Sociological Rev.* 56 (1991).

[11] I use the term in the way it is employed by J. Adam Tooze, *Statistics and the German state, 1900–1945: the making of modern economic knowledge* (2001), pp. 13f.

[12] Walt W. Rostow, *The stages of economic growth: a non-communist manifesto* (sec. edn, 1971), p. xi–xii.

the investigation of agricultural economic facts, at a very disaggregate level, that did not fit the new paradigm, and for which the role of experts and the contribution of business organizations was crucial.

Hence, the study of the statistics gathered and published by the IIA offers a valuable starting point for the examination of different topics: the role of international organizations and of experts (*techniciens*) within them;[13] the conflicting expert knowledge held by international organizations on agriculture and food; the experts' approach to the agricultural crisis, with the growing awareness of a latent conflict between agriculturalists and industrialists; the emergence of the world economy as a statistical whole, divided between core and peripheral countries. The following sections are meant to show this by describing how the IIA prepared for the economic conferences of 1922 and 1927; showing the contradictions in the IIA's strategy between its technocratic ambitions and political role; explaining the role of national and international associations of agriculturalists in the collection of data and finally revealing how the data of the IIA contributed to structure perceptions of the world economy, especially after 1929.

II

The involvement of the International Institute for Agriculture in the world economic conferences of 1922, 1927 and 1933 was an important success for its leadership. According to Adam Tooze, the British Prime Minister Lloyd-George proposed the Genoa conference of 1922 in order to relaunch the economies of the war victors by reintegrating the Soviet Union and, above all, Germany into the world economy. The task of restarting the economy after the post-war slump seemed to require the assistance of 'international experts' who would complement the activity of the experts already present in the national delegations.[14] For this reason delegations from the three international organizations of the post-war order, the League of Nations, the ILO and the IIA, attended the conference. The result was 'an unmitigated disaster'.[15]

In fact, the International Institute of Agriculture was invited to the Genoa conference as a result of its lobbying.[16] The Italian government, which organized the conference in Genoa, only agreed to invite the IIA at the last moment – which was not surprising given the hasty organization of the conference.[17] Although the conference was scheduled for April 1922, the official invitation only came in March. From the documents in the IIA archive, it is clear that the Italian government was perplexed by the proposal that the IIA should send a delegation to the conference. There were no specifically agricultural questions to be discussed – or so the Italian Ministry of Foreign Affairs believed. Edoardo Pantano, a veteran of Italian agricultural associations, and President of the IIA, decisively parried this objection in a letter to the Italian Prime Minister, Facta:

[13] Clavin discusses this term in *Securing the world economy*, p. 15.

[14] The expression 'tecnici internazionali' can be found in FAO, IIA, C1, Anonymous, Le tre grandi istituzioni internazionali alla conferenza di Genova.

[15] J. Adam Tooze, *The deluge: the Great War and the remaking of global order, 1916–1931* (2014), p. 428ff.; on the conference, see Carole Fink, *The Genoa Conference: European diplomacy, 1921–1922* (1993).

[16] FAO, IIA, C3, IIA, Conference internationale de Gênes, various letters.

[17] Carole Fink, 'Italy and the Genoa Conference of 1922', *International Hist. Rev.* 8 (1986), pp. 41–55.

> The programme of [the conference of] Genoa is the plan of the economic reconstruction of the world. All financial, monetary, banking additions to the economic fabric that will be discussed [at the conference] rest upon the basis of production and exchange of goods. … Agriculture has a place of the utmost importance in production and exchange.

The presence of the IIA would be helpful for all governments because the Institute possessed 'an experience that no government, and no other institution can equal'.[18] Pantano described the expertise accumulated by the IIA in the eight years it had been publishing data on production, trade, prices of foodstuff, livestock and agricultural commodities alongside information on the legislation concerning agriculture and studies concerning agricultural techniques and technical improvements.

Statistical data clearly had a primary role in answering the kind of questions that Pantano expected the IIA would address in Genoa: the trends in the production of specific crops, the international trade of agricultural commodities, the situation of agricultural credit, and then topics that were contentious matters within many countries, such as agrarian reforms, the intensification of cultivation and so on.

The hopes harboured by the leadership of the IIA were to be largely disappointed. When Umberto Ricci, the chief of the statistical service of the IIA, landed in Genoa together with the rest of the delegation, he discovered that international organizations had only a very small role in the conference, and amongst them, the League of Nations had a clear primacy. The French and the British delegations had no time for Ricci and his collaborators. The whole conference programme depended on the 'London report of experts', where the only reference to agriculture was made in connection with the Russian situation, and in the end, 'political questions completely and continuously overshadowed all others'.[19] The IIA, therefore, fought a defensive battle, with the support of Albert Thomas of the International Labour Organization. The delegation managed to obtain agreement that the IIA would participate in the implementation of those points in the experts' report that concerned import and export duties.[20] To his great satisfaction Ricci also managed to block a proposal that the LoN should take over the compilation of all trade statistics. The final compromise made the LoN responsible for world economic statistics 'with the assistance and collaboration of other international organizations'. It fell short of the Institute's initial ambitions, but it was perceived as a significant victory.[21]

As a result, the IIA and the LoN began their painful cooperation and the data on agricultural production and trade that the IIA collected from 61 states began appearing in the League's *Statistical Yearbook*. Thirty-two crops were monitored including colonial and industrial crops such as rubber.[22]

The statistical work that preceded the International Economic Conference held in Geneva in 1927 was much more substantial than that undertaken before Genoa and the support of

[18] FAO IIA, C3, Pantano, Letter to Luigi Facta from Rome, 20 Mar. 1922.

[19] Wilson Harris, 'The Genoa Conference', *J. British Institute of International Affairs* 1 (1922), p. 152.

[20] The IIA and ILO delegation were both staying at Hotel Mackenzie, as a sign of the 'very best relations' between Pantano and Thomas, FAO, IIA, C3, Pantano, letter to Poggi from Genoa, 7 Apr. 1922.

[21] FAO IIA, C3, Ricci, Rapport sur la participation de l'Institut International d'Agriculture à la Conference Economique Internationale de Gênes.

[22] Tosi, *Alle origini della FAO* on such cooperation.

the Italian government for the Institute was more unequivocal as well.[23] Before the actual conference could take place – according to the proposal of the French delegation – the League's Council asked a 'Preparatory Committee' of experts to 'investigate the economic difficulties which stand in the way of the revival of general prosperity and of ascertaining the best means of overcoming these difficulties and of preventing disputes', because – this was a widely shared conviction – 'economic peace will largely contribute to security among nations'.[24] In the inaugural speech of the eighth General Assembly of the League of Nations in 1927, the Chilean delegate Enrique Villegas boasted that the '*documentación preparatoria*' (preparatory documentation) prepared by the IIA for the Economic Conference formed a '*conjunto de trabajos*' (set of works) on the world economic situation was 'so rich and up-to-date that it was rewarded with the unanimous applause of the most competent economists'. Villegas attributed the merit of this success to the participation of different international organizations beside the Secretariat of the League: the ILO, the International Chamber of Commerce and the IIA.[25]

Although the IIA as such was not invited directly to contribute to the preparatory committee – a cause of disappointment to Giuseppe De Michelis, the IIA president – Carlos Brebbia, agricultural attaché to the Embassy of the Argentinian Republic in Rome and permanent delegate of Argentina to the IIA, was included among its members. It is important to notice that at that time Argentina was not a member of the LoN, but it was one of the key economic actors in the Americas and a crucial exporter of agricultural commodities. Through its membership of the IIA, the Argentinian elite had an unprecedented opportunity to expound in an international forum the point of view of exporters of agricultural commodities. Brebbia managed to nominate Carlo Dragoni, Secretary General of the Institute, among the experts assisting the first commission of the preparatory committee (on agriculture).

The preparatory committee was charged with investigating two topics: the revenue and expenses of agriculturalists. The institute had relatively reliable data on the output of the 32 crops it monitored, but the committee was interested in a broader assessment of the agriculturalists' revenue:

> statistics of production are of primary importance, but by themselves they do not give the whole picture. It is also necessary to estimate values from two points of view: (i) what is the producer obtaining for his produce by reference to other wholesale prices? (ii) what has the consumer to pay by reference to the same standard?[26]

The experts decided to concentrate on 22 products in eight geographic zones (in addition to the 'World' zone), and survey the price of these crops in five originating markets (Buenos

[23] Mussolini directly complained to the League of Nations about the lack of mention of the IIA in the documents that prepared the conference (letter to the League's secretary general, 4 Dec. 1925, published in L. Sommer, 'Die Vorgeschichte der Wirtschaftskonferenz (Genf 1927), Anlage', *Weltswirtschaftliches Archiv*, 28 (1928), p. 10.

[24] Preparatory Committee for the International Economic Conference, 'Report on the work of the first session of the committee', *Official Journal of the League of Nations* (1926), p. 819.

[25] Archivio Nacional de la Administración de la Republica de Chile RR. Exteriores v2637, Ministerio de Relaciones Exteriores – República de Chile, Memoria de la delegación de Chile a la VIII Asamblea de la Sociedad de las Naciones, pp. 12–13.

[26] Preparatory Committee for the International Economic Conference, 'Report on the work of the first session of the committee', p. 822.

Aires, Melbourne, Cape Town, Calcutta, New York) and four destination markets (London, Hamburg, Marseille, Kobe).

The investigation of input costs encompassed 'successive links in the chain which connects production on the one hand with ultimate consumption on the other' in four areas:
'(a) the costs of production, including questions of rent, fiscal burdens, cost of equipment, interest on capital charges and cost of labour;
(b) producers' organizations and the nature and extent of their effect on markets and prices
(c) the trading costs involved in transit from producer to wholesaler, from wholesaler to retailer and from retailer to ultimate consumer;
(d) the effect and growth of co-operative organizations shortening the marketing process'. Points (b) and (d) reflect the importance attributed to producers' cooperatives and other organizations such as the Canadian Wheat Pool in lowering the costs of inputs and marketing for small-scale farms. The question raised by point (a) was more complicated and the committee had to rely upon the scanty data available to the IIA and the ILO (for the cost of labour).[27]

In sum, the expert committee was supposed to frame world agriculture as a budget with gross production (revenue) on one side, and expenses on the other. Was agriculture a profitable business? A tentative answer came with the IIA's first ambitious summary of world agriculture – *Agricultural Problems in their International Aspects* – that it prepared for the conference in Geneva.[28] Data on production and prices were routinely published by many governments and, therefore, approximately 60 countries were in a position to provide their data to the IIA. The data on the cost of inputs, however, were more difficult to gather, since the IIA had to rely on a complex infrastructure put in place by national statistical offices and by farmers' associations. Hence, the report included this kind of data only for a handful of countries and only for Germany was the data collected exhaustive.

The IIA report, though, pursued two contradictory goals. This contradiction is characteristic of most agricultural debates ever since. On the one hand, the IIA and LoN were concerned with scarcity: the Russian famine of 1921 sparked the first humanitarian relief effort in the United States and scared the world.[29] The foreword to the IIA volume stated that: 'The object is to describe the methods which may be employed for assisting materially and effectively all efforts designed to bring about an advance in the quantity and quality of agricultural production combined with a lowering of prices'.[30] On the other hand, the IIA's statutory task was the defence of the agricultural classes. Agriculturalists were obviously interested in keeping agricultural prices relatively high. The IIA report acknowledged that output prices had gone up, but data on input costs revealed that agriculturalists experienced persistent difficulties. Agricultural prices were on a much higher level than in the pre-war period, but their price increase fell short of the price increase of industrial products. Credit was also tight. As a result,

[27] Ibid., pp. 822–3.

[28] International Institute of Agriculture, *Agricultural problems in their international aspect* (1927).

[29] On the American relief effort, see Bertrand M. Patenaude, *The big show in Bololand: the American relief expedition to Soviet Russia in the famine of 1921* (2002). The archive of the IIA shows the Institute's relative powerlessness when faced with famine, see for instance the pathetic indifference to the Chinese famine of 1921, in FAO, IIA, R8, IIA, Famine en Chine.

[30] International Institute of Agriculture, *Agricultural problems*, p. 7.

even if 1925 was a relatively good year for most agriculturalists compared with the heavy losses of the post-war slump, deflationary policies and protectionism were already hurting many countries. This problem was known internationally as the *Preisschere*, the divergence between agricultural and industrial prices.[31]

The report made apparent the existence of imbalances between demand and supply, between agricultural and industrialized countries, by insisting on the diverging trend in prices.[32] It also focused on the export or import surplus of the different areas of the world. It was a plastic representation of the contrast between the point of view of producers and the point of view of consumer countries, stressed by Ruth Jachertz and Alexander Nutzenadel.[33] The outcome of the conference reflected these tensions. The agrarian block of the so-called 'European periphery' (Poland, Hungary, Bulgaria, Romania, and Greece) came into conflict with the industrial nations of north-western Europe and their protectionist policies. We will see that the IIA, under the leadership of Giuseppe De Michelis, tried to play this card in its competition with the LoN, presenting itself as the champion of agriculturalists and agricultural nations against the industrial interests vested in the League. As the champion of agriculturalists, the IIA was included in the consultative committee that was to supervise the implementation of the recommendations of the Economic Conference. The committee had 35 members, including representatives of the ILO, the IIA and the International Chamber of Commerce.[34]

III

In 1924, while the Institute was preparing for Geneva, the IIA leadership began discussing an ambitious project that would enable it to describe the relationships between supply and demand of agricultural commodities and between exporting and importing countries. There were many statisticians and economists working on supply and demand curves and on the estimation of the mutual relationships between prices, supply and demand, in this period, but this problem defied forecasters.[35] Concretely the IIA ambition was to survey the entire world's agriculture and provide statisticians with a reliable basis for their estimates of agricultural production. The World Agricultural Census of 1930 was a gigantic effort to coordinate the collection of data on farm size and yields over most of the World and thus provide an indispensable framework for estimates of world production.

Funds came from the International Education Board (IEB) of the Rockefeller foundation. The Rockefeller foundation during the interwar period financed many projects led by European academics and the League of Nations, mostly through the IEB and the (separate) Social Science

[31] Friederich Aereboe, *Agrarkrisis und Landwirtschaftliche Betriebsorganisation* (1926).

[32] International Institute of Agriculture, *Agricultural problems,* p. 7.

[33] Jachertz and Nützenadel, 'Coping with hunger?', p. 103.

[34] Archivio Nacional de la Administración de la Republica de Chile RR. Exteriores v2637, Ministerio de Relaciones Exteriores – República de Chile, Memoria de la delegación de Chile a la VIII Asamblea de la Sociedad de las Naciones, p. 65.

[35] This kind of study was the main field of application for Henry Schultz, *Statistical laws of demand and supply, with special application to sugar* (1928) and culminated with Ragnar Frisch, *Pitfalls in the statistical construction of demand and supply curves* (1933).

Research Council.[36] It is important to notice that while the United States was not a member of the League of Nations, it was a member of the IIA, which probably explains why Hobson, the American delegate to the IIA, managed to involve the Department of Agriculture in this project. The IIA's project seemed a perfect fit with the ambitious 'technocratic' agenda that dominated the USA in the 1920s.[37] Preparations for the census began in earnest in 1925, when the designated leader of the census, the American Leon M. Estabrook, finally came to Rome.

Estabrook is a significant figure. As an employee of the US Department of Agriculture he had travelled to Argentina and Paraguay (on 'loan' from the department) where he assisted the local governments in setting up offices of agricultural statistics.[38] He was therefore an example of that expanding class of American experts who assisted American and European governments with the more or less explicit support of the US government. In the same years, for instance, the so-called Kemmerer commission visited Chile, Ecuador, and Bolivia (and later on Poland, Danzig, and Latvia) to advise governments on financial and monetary issues.[39] Agricultural statistics, like public finance, was an exportable practice whose essential institutions could be replicated (albeit with different degrees of perfection) in different countries.

The recognition of these international careers, as Estabrook's own story indicates, was not to be taken for granted. There was no easily recognized international curriculum in the US civil service. Estabrook initially resisted the idea of moving to Rome and when he gave in and moved to Italy, he ceaselessly complained about the food and olive oil. The interaction between the American experts and the Europeans who controlled the IIA proved difficult from the start. Although the IIA was forced to accept American money, they still wanted to run the census according to their own priorities. De Michelis, the president of the IIA since 1925, summoned a Council of Statisticians, which would supervise the project and Estabrook's work. The members of the Council were all Europeans. Alongside the representative of Italy, France, and Britain, the victors of the war, there were three representatives of the agrarian states of central and eastern Europe (a Czech, a Bulgarian, and a Latvian).[40] The clash between the Europeans and the Americans culminated in December 1925. The British delegate and the Italian statistician Rodolfo Benini had their own forms approved by the IIA permanent assembly instead of Estabrook's whilst the latter was in the USA. It took the Americans' threat to withdraw the funds for the census before Estabrook's plans were reinstated and Benini's discarded.[41]

[36] On the importance of the SSRC, see Donald Fisher, *Fundamental development of the social sciences: Rockefeller philanthropy and the United States Social Science Research Council* (1993).

[37] Nick Cullather, *The hungry world: America's Cold War battle against poverty in Asia* (2011), ch. 1, describes the pervasive role of calories during the Hoover administration.

[38] Leon M. Estabrook, *Agricultural survey of South America: Argentina and Paraguay* (1926) testifies of this activity; Estabrook kept extensive records of his missions to Latin America in his unpublished memoirs *Life of an American*, National Agricultural Library, Washington, DC, Estabrook MSS, box 1–3, pp. 1101–1500 of the original pagination.

[39] The Frank W. Fetter Papers in the David M. Rubenstein Rare Book and Manuscript Library document the activity of the commission in Guatemala, Ecuador, Chile, Bolivia, Poland, Latvia, Danzig and China; some details on the setting up Argentina's central bank may be found in Dosman, *Raúl Prebisch*, p. 95.

[40] FAO IIA D2, Commission international pour le recensement agricole, Michelis, Mesures pour la préparation du recensement agricole mondial: note du Président Rome, 10 Dec. 1925. This committee was eventually enlarged to include more countries.

[41] Ribi Forclaz, 'Agriculture' offers a thorough account of this struggle.

As pointed out by Amalia Ribi Forclaz in her article, the main points of dissention between Estabrook and the Italians in the IIA concerned the basic units of the survey. Estabrook did not share the Italians' interest in municipalities and believed that geological and topographical information would have needlessly encumbered data collection. He wanted, instead, to collect data from farms – as it was usual for US and British agricultural statistics – rather than municipalities and he was interested in larger-scale operations rather than very small farms. Moreover, Estabrook maintained that only the most commonly traded crops and large commercial farms should be included in the survey, while most of the Europeans were interested in the socially crucial small-scale producers and in regionally important crops.

Despite the fact that the compromise solution reached in 1926 followed Estabrook's prescriptions, Benini's plan is interesting in that it was much closer to the overall conception and desiderata of the IIA European leadership than the project that Estabrook eventually implemented. Benini's plan for the census reproduced European statistical practices and closely followed the British and Italian approaches to agricultural statistics. The Italian statistician proposed to distinguish two groups of countries. 'Statistically advanced' countries would collect data from individual farmers, asking every farmer great an area he or she had under each crop, what the average productivity of land was, and how much livestock he or she owned. This was, in essence, the British way of gathering agricultural statistics, but it was costly and required a large number of data collectors.[42] Only a few countries could afford this method.

For all the others, Benini recommended that they follow the Italian example, which he deemed a good middle way. Instead of collecting data by farm, national statistical institutes would draw on data from municipalities or aggregations thereof.[43] Municipalities were small enough for local officials to be able to assess the area under crop and the average rates, but still large enough for the IIA to process the returns. Benini expected only 700,000 'fiches' from municipalities covering the entire world.

In Benini's mind municipalities also had another great advantage. The problem of economic statistics was that large-scale administrative divisions imposed artificial borders on a phenomenon, such as agriculture, that depended so much on natural factors and thus defied borders. Benini claimed that beyond artificial administrative borders imposed by humans, 'the "homo sapiens" in the noblest sense of the word, …, the human being as the real truth-seeker', should be paying attention to the real relationships between production factors and environmental conditions.[44] Municipalities represented the best compromise between administrative borders and geographical units, a common concern at the time, discussed for instance by the great German statistician Mayr.[45] What is interesting in Benini's ideas, though, is not

[42] See for instance, Patrick G. Craigie, 'Memorandum on the methods employed in the collection of the annual agricultural statistics of Great Britain', *Bulletin de l'Institut international de statistique, partie II* (1903).

[43] On municipalities in Italian statistics, Giovanni Favero, *Le misure del regno: Direzione di statistica e municipi nell'Italia liberale* (2001).

[44] FAO, IIA D2, Commission internationale pour le recensement agricole, Benini, Recensement agricole général 1930: Considérations et propositions, p. 2.

[45] Mayr had proposed using 'natural regions' rather than administrative divisions. This question is discussed in Émil M. Levasseur, 'La statistique graphique', in *Jubilee Volume of the Statistical Society of London* (1885), and for Italian agricultural statistics in Ghino Valenti, 'Per l'ordinamento della statistica agraria in Italia', *Bollettino Ufficiale del Ministero dell'Agricoltura, Industria e Commercio*, II (1907).

the minimal unit (*unité minimale*) of his statistics, but the expectations he had for the 'big picture'. The census would reveal the interconnectedness of the world rather than its division into nation states. For this reason, it seemed important to him that data were not reported by nations but by smaller territorial units. What he expected to find out, then, was the relationship between the different areas of the world in environmental and economic terms. He wanted to verify von Thünen's model in reality. The Prussian economist had stated that returns per unit of land decreased according to the distance from market centres and deduced that agricultural activities would follow a specific geographical patterns with low-intensity activities (such as forestry and meat production) prevailing in remote regions and high-intensity activities (such as diary and garden farming) prevailing in areas closer to the markets. Benini expected the census to 'describe the areas of influence of the most important urban centres, and how they are characterized by different varieties and intensity [of land use]'. It would then be possible to distinguish between areas that depended on imports and areas that were ready to export:

> [to] distinguish, by representing them with coloured cartograms, the regions where the harvest is sufficient to satisfy the needs of the locals from those were harvest are insufficient, and those where there are food surpluses ready for export.

This enabled intervention, namely:

> [to] signal those districts where agricultural yields can be improved by applying the most modern means, and those districts where land can by tilled and reclaimed according to the ability of a given area to absorb the natural increase of population or migration flows that could possibly be directed toward it.[46]

Benini thus identified land reclamation and new settlements on underexploited land as the only true way to ensure an increase in food production while creating new sources of revenue to farmers. He did not distinguish the *mise en valeur* of colonial land and the 'internal colonization' of latifundia and reclaimed land. Benini was certainly sensitive to the plans of the Italian government in the motherland and in the colonies, which favoured food self-sufficiency and land reclamation, but it is important to stress that similar ideals inspired the policies of most European countries and their colonies.[47] Benini's plan seemed to offer a solid statistical basis for controlled trade and migrations between areas of the world with a surplus of production and those with a deficit.

Having successfully reclaimed control of the census programme, Estabrook succeeded in involving an enormous number of countries. He claimed that only Liberia, Persia, Afghanistan, Bolivia, and Paraguay had not joined the project and that the census would cover 98 per cent of the world's population and 92 per cent of the world's surface.[48] He finally returned to the States

[46] FAO, IIA D2, Commission internationale pour le recensement agricole, Benini, Recensement agricole général 1930: Considérations et propositions, p. 4: (author's translation).

[47] For a survey of the impressive spread of internal colonization, see Jan G. Smit, 'Laendliche Neusiedlung in Mitteleuropa vom Ende des 19. Jahrhunderts bis zur Gegenwart als nationalpolitisches Instrument. Ziele, zeitgenoessische Stellungnahmen und Ergebnisse', *Erdkunde* 40 (1986).

[48] FAO, IIA R15, Correspondance avec le Directeur du Bureau pour le Recensement agricole mondial de 1930, Leon M. Estabrook, *Annual report of the director of the World Agricultural Census 1929, Rome 29 Sept. 1929*, p. 1.

from Rome at the end of 1929 to find that he had been completely sidelined in the hierarchy of the USDA by his former ally, Hobson: a sign of how fragile the career of international experts still was at that time.[49]

Once the preliminary work was done, and everything had been arranged, the IIA statistical office carried out the processing of data for the year 1930 and then supervised the printing process. In the end, only 37 countries and dominions (out of 200 countries and colonies) provided data for publication. The census reinforced the image of a highly differentiated rural world, with some countries dominated by small properties and high yields per hectare and others where large estates and low yields prevailed.[50]

The census was the closest the IIA came to the technocratic spirit that pervaded the League of Nations. It reflected to a great extent the ideals of the early 1920s and the increasing competition between the IIA and the League. The tension between the two institutions, though, together with the growing frustration that the Italian Fascist government felt with the Anglo-French domination of the League, led the IIA (which acted in coordination with Italian diplomats) to differentiate itself from the League by developing in a different direction.[51] In Geneva, at the meetings of the Economic Consultative Committee of the League, De Michelis and the leadership of the Institute tried to reinforce the already existing ties with the representatives of the associations of agriculturalists, such as Ernst Laur and Louis de Vogüé of the Commission International d'Agriculture (CIA), an institution that had played a part in the birth of the IIA, as described by Niccolò Mignemi elsewhere in this issue.

An episode that reveals De Michelis' attitude to the '*burocrazia tecnica*' of the League happened in 1927. Returning to Rome with the impressions he had received from the meetings of the Consultative Economic Committee of the League still vivid, David Ferguson, the chief of the Bureau of Economic and Social Studies of IIA presented a plan for the complete reorganization of his office. He wanted to transform it into a research centre on the business cycle and development. The new Bureau of Economic and Social Studies would publish 'index numbers recording cyclical movements, general price trends, production and consumption, demand and supply, circulation and credit conditions, purchasing power in agriculture and in industry, trade movements' and alongside these figures it would provide 'the economic barometers of agriculture, the influences of temperature and raindrops on agriculture'. For this task, Ferguson wanted to hire 20 new '*redacteurs*' and forecasted '*des dépenses considerables*'. De Michelis and Guido Ruata, the IIA Secretary General, though, did not let Ferguson develop his department towards the statistical elephantiasis that Keynes said characterized the League of Nations.[52] They were very clear in pointing out that the project was not realistic, not even for the 'technical Bureaucracy of the League on Nations', and in any case it did not respond to the mission of the IIA. The IIA had not been established as a research centre, but as 'a centre for the creation of a world-wide public opinion on issues

[49] Ribi Forclaz, 'Agriculture', p. 63.

[50] IIA, *First World Agricultural Census*, vols 1–4, Rome (1939).

[51] FAO IIA, I17, Paulucci di Calboli Barone, Giacomo, L'attività economica della Società delle Nazioni.

[52] J. M. Keynes concluded his review of J. Tinbergen's volume on the world economic crisis published by the League by warning: 'It is a strange reflection that his book looks likely, as far as 1939 is concerned, to be the principal activity and *raison d'être* of the League of Nations', J. M. Keynes, 'Professor Tinbergen's method', *Economic J.* 49 (1939), p. 568.

concerning agricultural laws and policies that only a unanimous international action can achieve.' Although the IIA was mostly known for its publications – De Michelis claimed – the latter were only means to an end, namely the representation of the interests of agriculturalists.[53]

IV

De Michelis' plans for the Bureau of Economic and Social Studies differed greatly from Ferguson's proposal for turning the Bureau into a research institution on the business cycle. De Michelis is the crucial figure in this story. After studying Medicine in Lausanne and Law in Geneva, he had been nominated the Italian commissioner for emigration and internal colonization. As such, he worked in close contact with the ILO and was member of the board of ILO between 1920 and 1936. His international experience and contacts combined with his practical experience of managing social change that made him useful to the Italian Fascist regime that came to power in 1922. In 1925 he became president of the IIA (the statutes of the IIA reserved this position for Italians).[54] An example of De Michelis' approach to the international aspect of agricultural problems is the *Enquête Agricole* that the IIA launched in 1928. This enquiry, just like Ferguson's plan, answered the desiderata of the Consultative Economic Committee of the LoN. The proposal was originally Ferguson's but this time De Michelis approved the plan of the British statistician. The reason probably lay in the different political functions that the enquiry could serve (and in the much smaller cost). For the enquiry, the IIA could rely on a network of newly established organs: the Commission Internationale Permanente des Associations Agricoles (CIPA), the Commission International de Coordination Agricole (CICA), the Conseil International Scientifique Agricole (CISA) and the Comité Economique Agricole (CEAg). In these committees and councils, techno-scientific expertise overlapped with the representation of business interests.

The goal of CIPA was to organize and coordinate, under the umbrella of the IIA, national associations of agriculturalists. It represented, therefore, the most advanced attempt by the IIA at providing representation to the interests of agriculturalists. In this task, the IIA competed with the Commission Internationale d'Agriculture headed by de Vogüé, which emanated from the most conservative organizations of French agriculturalists and landlords, the Société des agriculteurs de France.[55] Another committee, the CICA, Commission internationale de coordination pour l'agriculture, was created as an external institution that included representatives of the Institute and of the CIA led by de Vogüé.

The Conseil International Scientifique Agricole, in contrast, was a committee of agricultural experts from all over the world chosen by the Institute on the nomination of the national delegates. CISA and CIPA were both involved in the enquiry of 1928, the results of which were

[53] FAO, IIA R20, David Ferguson, L'organisation du bureau des études économiques et sociales and Ruata's rebuff.

[54] Stefano Gallo, *Il Commissariato per le migrazioni e la colonizzazione interna (1930–1940): per una storia della politica migratoria del fascismo* (2015) on De Michelis as Italian commissioner for emigration.

[55] On the rue d'Athènes, Pierre Barral, *Les agrariens francais de Meline a Pisani* (1968).

presented in October 1929 at the first meeting of another consultative committee of the IIA, the Comité Economique Agricole (CEAg).

The members of the CEAg, in turn, had been chosen from amongst the members of CISA with the specific goal of coordinating the activity of the IIA with that of the LoN.[56] In his letter to the German *Ministerialdirektor* Gustav Beyer Fehling, De Michelis revealed that he wanted the German Andreas Hermes, the Swiss Ernst Laur, and the French Jules Gautier to represent their respective countries in the CEAg. Hermes, Laur and Gautier present interestingly similar profiles. The three of them had contributed to the documentation of the world economic conference of 1927: they were agricultural experts of international renown and leaders of the agrarian movement in their respective countries. Moreover, Hermes had worked for three years, between 1911 and 1914, for the IIA in the agricultural economics section, and Laur was engaged, alongside de Vogüé, in the CIA. Again, the CEAg combined representation of agricultural interests and technical expertise. But the relationship with the League of Nation complicated the issue and De Michelis rapidly – and unsuccessfully – tried to get rid of both Hermes and Gautier when they expressed their support for the creation of an agricultural committee of the League.[57]

This plethora of committees was partially meant to replicate the inclusive governance of the ILO, which included representatives of trade unions and employers alongside representatives of the member states. As stressed by Mignemi, according the statutes of the IIA, only the member states were officially represented in the permanent committee. The committees of associations and experts (CIPA, CISA and CEAg), therefore, were meant to overcome the lack of a statutory representation of associations.[58]

The *enquête* was intended to record the complaints and desiderata of agriculturalists worldwide. On 14 September 1928, De Michelis wrote that the enquiry would present in Geneva 'the economic situation of agriculture … as it is judged by farmers themselves'.[59] The questions prepared by Ferguson concerned the main crops, the problem of custom duties, the index numbers of agricultural production compared to industrial production, and a general assessment of the economic situation of agriculture. The questionnaire finally asked the associations to suggest remedies for the economic crisis. The CIPA managed to involve associations

[56] Interestingly, the 18 countries invited to the CEAg were, other than the European great powers, either European agricultural countries (Romania, Latvia, Spain, Denmark) or agricultural countries of the world 'periphery' (Australia, Brazil, Canada), FAO, IIA D5, Comité économique agricole, 1928–1935, Michelis, letter to the ministers of Germany, Australia, Brazil, Canada, Spain, France, Great Britain, Italy, Romania, Switzerland, Poland and Latvia, 8 Jan. 1929.

[57] FAO IIA D5, Comité économique agricole, 1928–1935, Michelis, Letter to Gustav Beyer-Fehling, Rome 4 Feb. 1929 and letters to Beyer-Fehling and Maurice Lesage, 28 June 1929. On Hermes, leader of the Farmers Union of Germany, one of the founder of the Christian Democratic Union and a student of agricultural economy, see Heide Barmeyer, *Andreas Hermes und die Organisationen der deutschen Landwirtschaft*: *Christliche Bauernvereine, Reichslandbund, Grüne Front, Reichsnährstand, 1928–1933* (1971); Hermes was replaced by the Nazis, FAO, IIA D5, Comité économique agricole, 1928–1935, Letter from the Reichminister for food and agriculture to the President of the International Institute of Agriculture, 27 Dec. 1934; on Laur, Werner Baumann, *Bauernstand und Bürgerblock: Ernst Laur und der Schweizerische Bauernverband, 1897–1918* (1993); Jules Gautier was a member of the Conseil d'Etat (sec. de travaux publics) and the president of the National Confederation of Agricultural Associations.

[58] Constitution of the ILO, art. 3, par. 1.

[59] FAO, IIA R28, Enquete agricole 1928 (author's translation).

from 24 countries (Norway, Denmark, the Netherlands, England, Scotland, the Irish Free State, Belgium, France, Spain, Italy, Switzerland, Hungary, Austria, Romania, Poland, Latvia, Algeria, Tunisia, South African Union, Canada, Brazil, Dutch East Indies, Philippines, and Germany).

The answers received from these associations and those received from the agricultural experts of the CISA look extremely similar. It was generally lamented that agricultural prices had grown much less than industrial prices and that profits therefore had decreased dramatically, while interest rates were spiking.[60] The *Preisschere* (price gap) emerged once again as the main cause of the agricultural crisis. The secretary general of the IIA, Brizi, concluded:

> We can confirm that the main cause of the adverse economic conditions is that the prices of agricultural products dropped much more decidedly – and therefore became much closer to their pre-war level – than the price of the products that the agricultural classes have to buy.[61]

The *enquête* of 1928 and the creation of the CEAg clearly reveal the strategy of De Michelis. The baroque proliferation of committees and councils (CIPA, CICA, CISA, and CEAg) was clearly meant to balance the LoN, which was perceived as too remote from the interests of agriculturalists and agricultural nations. Perhaps at the suggestion of the Italian government, the IIA was creating its own network of experts in order to create a common front of agriculturalists and agricultural countries against the spirit of the League of Nations. But paradoxically this strategy needed the LoN, and it only had a meaning insofar as the consultative organs of the League offered the IIA the necessary audience. The aim was therefore to make the IIA the supplier of agricultural information to the League and prevent the League from developing its own research capacity in the field.

V

The importance of these statistical projects of the IIA, regardless of the specific strategies that they reveal, should not be underestimated. They provided the first framework for understanding the global imbalances in supply and demand. The United Nations FAO, which absorbed the IIA at the end of the 1940s, still carries out agricultural censuses. The IIA reports of the 1920s anticipated many of the topics that dominated the 1930s and beyond: worsening terms of trade for agricultural goods, their oversupply, the rationale for protectionist policies and industrialization, and the resilience of small farms.

And yet, the approach of the IIA differed significantly from the post-World War II experience of the FAO. The initiatives of the IIA needed the support of governments, but they rested on an ideal of engaging with the representatives of the agriculturalists that disappeared almost completely from the intergovernmental practices of the United Nations. The statistical practice of the IIA was shaped by the interests of the associations of agriculturalists. Agricultural

[60] Giovanni Federico, 'Not Guilty? Agriculture in the 1920s and the Great Depression', *JEcHist.* 65 (2005) denies the significance of the *Preisschere* for the general economic crisis of 1929, but believes that credit might have had an effect.

[61] FAO Archive D5 comité économique agricole, 1928-1935, Brizi, IIA, Comité économique agricole, Ière Session, 1–3 Octobre 1929, Enquetes complémentaires sur les conditions générales de l'Agriculture et documentation ordinaire de l'Institut, partie IIème, p. 16.

organizations were indispensable to the collection of micro data on costs and income, and the Institute actively sought the involvement of the agricultural elites of the different member countries. Nevertheless, we would probably mislead if we interpreted the mobilization of the expertise of interest groups by interwar international organizations as the beginning of an international civil society.

Giuseppe De Michelis and Edoardo Pantano wanted to replicate in international organizations 'the system of brokerage between interest groups, somehow incorporated in a permanent fashion, in the decision-making process of the state', the system that Charles S. Maier called 'corporatism'.[62] The ILO – the relationship between the ILO and the Fascist regime was much better than that between the LoN and Italy before the invasion of Ethiopia – probably represents a precedent for De Michelis' ideas.[63] The ILO, however, had a tripartite structure that was meant to institutionalize class struggle and involved representatives of employers and employees alongside state representatives, while the governance of the IIA completely ignored social conflicts within agriculture.

The kind of corporatist representation of agricultural interests attempted by the leadership of the IIA during the 1920s and early 1930s rested on the conservative mobilization of the agricultural classes that began, with all its ambiguities, in the late nineteenth century. It presupposed a shared interest among the agricultural classes, thus transforming a spatial difference (urban/rural) into an economic difference (industrial/agricultural). Social scientists, especially agricultural economists, were the main proponents of such essentializing discourse.[64] The denial of internal conflict within agriculture was combined with the pugnacious role that De Michelis envisaged for the IIA as the representative of agricultural producers in the world arena.

Because of its institutional structure and deep ideological tenets, the IIA expressed an understanding of the world agricultural system that contrasted dramatically with the approach eventually developed at the League of Nations by experts from the British Empire. The scientific effort of the technical agencies of the LoN, which would eventually dominate the FAO in the post-war years, focused on famine, nutritional need and the underproduction of food. The IIA insisted instead on the threat of low prices of agricultural commodities for the welfare of farmers.[65] It was the purchasing power of the farmers that worried the IIA. The two

[62] Charles S. Maier, *Recasting bourgeois Europe: Stabilization in France, Germany, and Italy in the decade after World War I* (1975), pp. 580ff.

[63] According to Stefano Gallo, 'Dictatorship and international organizations. the ILO as a "test ground" for Fascism', in Sandrine Kott and Joëlle Droux (eds), *Globalizing social rights. the International Labour Organization and beyond* (2013), the ILO remained a site of ideological 'experimentation' for socialists, not immune to flirting with Italian corporatist ideology; this was perhaps the case with the Belgian Henri de Man, who would later head a collaborationist government in Belgium, and was one of the candidates for the succession to Thomas, see Michel Brélaz, *Henri de Man: une autre idée du socialisme* (1985), pp. 605ff.

[64] Pierre Cornu and Jean-Luc Mayaud, 'Introduction. Le temps retrouvé de l'agrarisme? Réflexion critique sur l'historicité et l'actualité d'un paradigme', in Pierre Cornu and Jean-Luc Mayaud (eds), *Au nom de la Terre: agrarisme et agrariens, en France et en Europe, du 19e siècle à nos jours: actes du 23e colloque de l'Association des ruralistes français* (2007), p. 14.

[65] Amrith and Clavin, 'Feeding the World', p. 30. The IIA repeatedly reiterated its concern for 'the reduction in purchasing power, an inevitable result of the fall in agricultural prices', for instance in its *Memorandum on the World Crisis in relations to the agriculture of the European States, with particular reference to unemployment*, 1931: http://biblio-archive.unog.ch/Dateien/CouncilMSD/C-323-M-148-1931-VII_EN.pdf

approaches only coincided in projects for intensifying land use and expanding the supply of land to land-hungry farmers.

Moreover, as noticed by Clavin and Amrith in 2013, the defence of the 'agricultural classes' was not politically neutral. The claims of the agricultural classes, whenever they were articulated without reference to class distinctions between owners, tenants, smallholders, etc., were often combined with nationalist arguments against the post-war order established at Versailles and the League. It is not surprising therefore that the relationship between the IIA and League deteriorated so quickly. Paradoxically, though, notwithstanding the fierce battle that the IIA fought to preserve its independence from the LoN, the inclusion of the Institute's data in the League's *Yearbook* was crucial for their dissemination.

Thanks to this inclusion, the Institute's data on production and trade became ubiquitous in discussions of the economic crisis of 1929 and of the agrarian crisis. They contributed to a vision of a global food system according to the geography of production, production costs and exports that remained influential far beyond the existence of the Institute itself. In particular, the IIA data gave rise to a taxonomy of world nations that was repeated by different authors with small differences.[66] This taxonomy insisted on the existence of an industrial core and of different peripheries: a European periphery consisting of the south, central and eastern Europe, the land-abundant agricultural giants (Argentina, Canada, Australia, Brazil, Russia) and a dependent periphery of famine-ridden countries (China, many African colonies, and, increasingly so, India). As Benini's project made clear, regions where land was abundant and productivity per hectare low, had to be developed and populated with people coming from the over-populated regions of the world.

On the one hand this was a vision from the periphery: it stressed how painful the new world was for agriculturalists and for agricultural countries, and how much they suffered from protectionism and trade unbalances. In this sense, the role of Argentina – a leading country in agricultural production, which was greatly hit by the increasing autarky in the core countries – was remarkable. The economist and central banker Raul Prebisch was, alongside his future friend Carlos Brebbia of the IIA, among the experts who drafted the preparatory document for the World Economic and Monetary Conference held in London in 1933.[67] In their draft, the experts focused on the problems of the transmission of the cycle from the industrial core to the agricultural periphery. Predominantly agricultural countries suffered from the same *Preisschere* (a widening gap between industrial inputs and agricultural outputs) that affected agriculturalists within nations. Through Prebisch, among others, the taxonomic legacy of the IIA made its way into the development debates of the second half of the twentieth century, and contributed to shape a durable image of the world, sometimes in competition with policies drawing on the expertise of the UN FAO.

On the other hand, though, the vision fostered by the leadership of the IIA and their allies in the organizations of agriculturalists was fraught with contradictions. Statistics alone were

[66] For instance, Vladimir P. Timoshenko, *World agriculture and the depression* (1933), Mario Bandini, *Agricoltura e crisi* [Agriculture and crisis] (1937).

[67] Prebisch declared that he met Brebbia during the preparations for the conference, Julio González del Solar, 'Conversaciones con Raúl Prebisch' (1983) [www.facso.uchile.cl/publicaciones/moebio/25/mallorquin.htm].

not sufficient to regulate the contrasting interests of nations. The contradictions, though, ran deep in the Institute's governance, where the representation of agriculturalists was always subordinate to the prominence of the states. There was no possible united front of agriculturalists and agricultural countries, and the Italian government, for all its support of the IIA initiatives and all its alleged agrarianism, raised custom duties against wheat imports in 1925. Soon after Mussolini launched the battle to increase the domestic production of wheat and reduce the scale of wheat imports. The clearest demonstration of how the agrarianists were unable to coordinate diverging national interests came after the World Economic and Monetary Conference held in London in 1933. In the margin of the conference, the major grain producing countries signed an agreement that established production quotas and tariff coordination, but the agreement was never implemented and the signatories preferred to resort to protectionism and internal price support.

VI

During the interwar years, the IIA, backed by the diplomacy of Italy and of other countries, tried to find a new role for itself in competition with the League of Nations. This strategy needed the LoN as the international arena in which the IIA could advance its agrarianist agenda. The IIA though became quickly irrelevant over the course of the 1930s as its leadership became more radically fascist and, in particular, after Italy left the LoN in 1937.

Theodor Porter has shown how 'the pursuit of objectivity' has been a crucial but controversial driver in the history of the quantification of social facts.[68] Critical historians have sometimes interpreted the pursuit of objectivity as 'objectifying, technocratic reason'.[69] The story told in this article shows that objectivity was not a clear-cut criterion for economic expertise in the interwar years. The League distinguished between 'political' and 'technical' affairs, the former referring to the intergovernmental negotiations and the latter to 'objective' expertise. But Clavin stressed the limits and ultimate speciousness of this distinction. Governments, on the one hand, tried to shape League's reports in order to impede criticism of them. The League's institutions, on the other hand, often attempted to 'conceal the political significance of issues it wanted to subject to international examination' by declaring them to be merely technical issues.[70]

As we saw, the IIA reacted to the concealed political agenda of the LoN, with a political agenda of its own, which informed its statistics. Aware that it could not compete with the League in terms of general economic expertise, the IIA came to specialize in methodologically more conservative types of expertise. While still providing up-to-date statistics of production and trade, it deliberately rejected the opportunity to develop its capability in the analysis of the business cycle – an essential area of expertise for the League. In terms of economic analysis, the *Bulletin of agricultural and commercial statistics* of the IIA never advanced beyond some very rough descriptive treatment of the data. Under the guidance of De Michelis, the IIA decided, instead, to focus on a different task, which combined technical expertise and an openly

[68] Theodore M. Porter, *Trust in numbers: the pursuit of objectivity in science and public life* (1995).

[69] Tooze, *Statistics and the German state*, p. 285.

[70] Clavin, *Securing the world economy*, p. 15.

political stance, blurring the distinction between 'technical' and 'political'. To De Michelis, the *enquête* of 1928, which summarized the point of view of the associations of agriculturalists, was more important for the IIA than economic analysis. Posing as the representative of agrarian interests required different criteria of 'objectivity.'

The League of Nations contributed to shaping the world institutions that came into existence after the Second War World largely because of the ability of its economic and financial experts to be innovative and scientifically challenging. Hindered by a narrow conception of its mission, the old Institute rapidly sank into oblivion in the post-War world and it was superseded, both in institutional and policy terms, by the FAO.

The global agricultural crisis and British diplomacy in the League of Nations in 1931*

by Madeleine Lynch Dungy

Abstract

This article examines the genesis and ultimate failure of a lending programme sponsored by the League of Nations to help farmers in central and eastern Europe. This project had strong initial support from several different groups of British officials, for whom it advanced a policy of European engagement. Its short history reveals the complex ways in which the global agricultural crisis influenced British foreign policy during the critical watershed year of 1931. The precipitous decline in world crop prices starting in 1929 gave a strong boost to the movement for empire unity and simultaneously prompted new calls in the League for solidarity between European food producers and consumers. These competing demands decisively constrained efforts to preserve Britain's role in European economic and security politics during the onset of the Great Depression.

1931 was a critical turning point in British policy towards Europe. During the 1920s, British leaders had used the League of Nations to promote political stabilization and economic recovery in continental Europe. Yet when a proposal for an Austro-German customs union in March 1931 unleashed a diplomatic firestorm in Europe that destabilized the League system, the British cabinet deliberately adopted a 'passive' stance. Tensions over the customs union unsettled already-skittish financial markets, leading to a massive banking crisis that spread across central Europe and then reached Britain in the summer of 1931. In a context of skyrocketing unemployment and general disillusionment with government inaction, divisions over the proper response to the weakening pound helped bring down the Labour government in August. This marked the beginning of the 14-year period of the all-party National Government. In September, after having spearheaded the effort to reconstruct the international gold standard, the Bank of England took the pound off gold. The National Government then abandoned Britain's long campaign to promote trade liberalization in Europe and introduced a general tariff as the foundation for a broader system of imperial protectionism.

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While historians have extensively studied the reorientation of British foreign policy in 1931, they have not systematically examined the impact of the global agricultural crisis on this process.[1] This article shows that concern for struggling farmers in the United Kingdom and the Empire was a crucial factor in British diplomacy in Europe in 1930–31. One of the key last-ditch efforts to preserve Britain's role in continental economic and security politics before the fall of the Labour government was a programme of multilateral agricultural cooperation, the International Agricultural Mortgage Credit Company (hereafter, IAMCC). This was a lending scheme sponsored by the League of Nations targeting famers in central and eastern Europe. This article will trace its genesis and ultimate defeat.

The IAMCC was not, in the first instance, a British project. It was intended to funnel idle capital from France to cash-strapped farmers in central and eastern Europe. It was a response to a request for assistance submitted to the League by a group of central and east European leaders. Although they did not initiate the IAMCC, several different groups of British officials strongly supported it in 1930 and 1931 as part of a broader strategy of European engagement. Leaders in the Bank of England and the Treasury were eager to encourage French capital exports and to bolster confidence in European financial markets in order to reduce pressure on the pound. Arthur Henderson, the Foreign Secretary, hoped to neutralize geopolitical tensions in the Danube basin where it was believed the Germans were trying to create a sphere of influence though food imports from the region. These financial and political objectives became particularly urgent after the announcement of the plan for an Austro-German customs union in March 1931. Advocates of empire unity nevertheless continued to oppose strenuously the IAMCC on the grounds that British money and influence should be used preferentially to help farmers in the United Kingdom and the British Empire.

The precipitous decline in world crop prices starting in 1929 placed new demands on British foreign policy. It gave a strong boost to the movement for empire unity and simultaneously prompted new calls in the League for solidarity between European food producers and consumers. The IAMCC's brief history reveals how these competing demands shaped British diplomacy in the League during the pivotal year of 1931. It also demonstrates the complex relationship that developed between international organizations and agriculture during the Great Depression. Crisis conditions motivated international institutions that were not specifically constructed to deal with agricultural questions, such as the League Financial Committee, to attempt to help farmers. This produced somewhat strained collaborations with established networks of agricultural experts, such as the International Institute of Agriculture.

[1] See notably, D. Kaiser, *Economic diplomacy and the origins of the Second World War* (1980), pp. 81–99; R. Boyce, *British capitalism at the crossroads, 1919–1932: a study in politics, economics, and international relations* (1988), pp. 241–369; P. Williamson, *National crisis and National Government: British Politics, the Economy, and Empire, 1926–1932* (1992); Z. Steiner, *The Lights that failed: European international history, 1919–1933* (2005), pp. 685–796; P. Cohrs, *The unfinished peace after World War I: America, Britain and the stabilisation of Europe, 1919–1932* (2008), pp. 572–602; R. Boyce, 'The Significance of 1931 for British Imperial and International History', *Histoire@Politique* 11 (2010) [www.histoire-politique.fr].

I

In the 1920s, British officials had used the League to promote security cooperation, financial reconstruction, and trade liberalization in Europe. After the war, London-based financial institutions and networks of expertise were at the heart of the movement to reconstruct the international gold standard. London bankers and British financial officials helped to broker a series of League-sponsored loans to the governments of Austria, Hungary, Greece, Bulgaria, Estonia, and the free city of Danzig in order to restore currency stability in central and eastern Europe. Officials in the Board of Trade had also used the League to promote liberal commercial norms through a series of multilateral treaties.[2] In the second half of the 1920s, the Foreign Office supported a formal but limited British security commitment in Europe. As a signatory to the 1925 Locarno Treaties, Britain guaranteed Germany's western borders. Austen Chamberlain, the British Foreign Secretary from 1924 to 1929, embraced these treaties as the basis for a new Concert of Europe. Chamberlain's successor, Arthur Henderson, was an enthusiastic champion of League-led disarmament but had to balance his ambitions to deepen Britain's engagement in European security politics with a growing movement in favour of empire unity.[3]

During and after the First World War, Britain had introduced a limited system of imperial tariff preferences; UK revenue tariffs on 'luxury' food items such as dried fruit were applied at a reduced rate to products from the Empire. Conservatives subsequently pushed for a more comprehensive imperial preference regime, but this would have required the introduction of unpopular tariffs on British food imports. The conservatives lost an election focused on this issue in 1923 due in part to voter opposition to 'food taxes'. In the late 1920s, persistent unemployment and declining world crop prices helped increase support in the UK and the Dominions for general tariff protection and for imperial preference.[4]

In the late 1920s, as the cause of empire unity gained ground in Britain, the movement in favour of European economic solidarity developed momentum on the Continent. In 1929, the French Minister of Foreign Affairs, Aristide Briand, attempted to rally advocates of European economic unity around a common programme. He called for the formation of 'some sort of federal link' among European states under League auspices, to begin in the economic domain.[5]

[2] A. Orde, *British policy and the European reconstruction after the First World War* (1990), pp. 108–145, 266–315; Y. Cassis, *Capitals of capital: the rise and fall of international financial centres, 1780–2009* (trans., Jacqueline Collier, 2006), pp. 161–7; Boyce 'Significance of 1931'.

[3] R. Grayson, *Austen Chamberlain and the commitment to Europe: British foreign policy, 1924–29* (1997), pp. 84–93; A. Henderson, *Consolidating world peace* (1931); D. Carlton, *MacDonald versus Henderson: The foreign policy of the second Labour Government* (1970), pp. 73–99.

[4] I. Drummond, *British economic policy and the Empire, 1919–1939* (1972), pp. 51–70; Boyce, *British capitalism*, pp. 87–9; J. O'Brien, 'F. L. McDougall and the origins of the FAO', *Australian J. Politics and Hist.* 46 (2000), pp. 165–8; F. Trentmann, *Free trade nation: Commerce, consumption, and civil society in modern Britain* (2008), pp. 222–7.

[5] On debates about the formation of European substructures within the League of Nations, see notably: S. Schirmann (ed.), *Organisations internationales et architechtures européennes, 1929–1939* (2003); P. Clavin, 'Europe and the League of Nations', in Robert Gerwarth (ed.), *Twisted Paths: Europe 1914–1945* (2006), pp. 325–54; J. Bariéty (ed.), *Aristide Briand, la Société des Nations et l'Europe, 1919–1932* (2007); M. Schulz, 'Der Briand-Plan und der Völkerbund als Verhandlungsarena für die

The reception of the 'Briand Plan' in Whitehall was generally negative. Many officials worried it would encourage regional alignments in other parts of the globe that would threaten the cohesion of the British Empire. Even those who supported a strong British role in European affairs were sceptical of the scheme, fearing it would weaken the authority of the League. Although he sympathized with these concerns, Henderson could not afford to dismiss the Briand Plan outright. Henderson was deeply committed to League disarmament – he was named the president of the Disarmament Conference in 1931 – and Briand was an important supporter of this cause. Henderson privately informed Briand that Britain would be unable to participate in a European trade system and supported Briand's face-saving move to form a new League study committee, the Commission of Enquiry for European Union. It was presided over by Briand himself and became known as the Briand Committee.[6]

II

In the summer of 1930, the movement to establish a European economic sub-structure within the League was revived by advocates of international agricultural cooperation in central and eastern Europe. They attempted to use the Briand Committee to devise a multilateral aid programme for Europe's struggling farmers.

By 1929 farmers throughout the world faced sharply declining commodity prices and tighter credit conditions. The average price of agricultural exports declined by 20 per cent between 1929 and 1930 and a further 25 per cent between 1930 and 1931.[7] The price of agricultural goods fell much more rapidly than the price of manufactured goods. For example, in Romania, between 1929 and 1933 the price of imports declined by 34 per cent while the price of exports declined by 60 per cent, which meant that Romania would have to increase its export sales by 25 per cent to maintain the same quantity of imports.[8] Because interest rates in the world's largest gold repositories – the USA and France – spiked just as crop prices began to plummet, servicing international debts became extremely expensive for agricultural exporters. For example, from 1928 to 1931–32, the cost of debt service as a share of export earnings increased in Yugoslavia from 18.1 per cent to 36 per cent and in Romania from 14.6 per cent to 36 per cent.[9] Additionally, agricultural exporters faced mounting trade barriers. In Europe, in 1931 tariffs on agricultural

Note 5 *continued*
europäische Einigung zwischen den Kriegen', *Europäische Geschichte Online* (2010), www.ieg-ego.eu/schulzm-2010a-de; A.-I. Richard, 'Competition and complementarity: civil society networks and the question of decentralizing the League of Nations', *J. Global Hist.* 7 (2012), pp. 233–56; J.-M. Guieu, 'The debate about a European institutional order among international scholars in the 1920s and its legacy', *Contemporary European Hist.* 21 (2012), pp. 319–37.

[6] R. Boyce, *The great interwar crisis and the collapse of globalization* (2009), pp. 252, 269–70; id., 'The Briand Plan and the crisis of British Liberalism', in A. Fleury (ed.), *Le Plan Briand d'Union fédérale européenne* (1998), pp. 121–44; Steiner, *Lights that failed,* pp. 585–7; C. Schwarte, *Le Plan Briand d'Union Européenne: De sa genèse au Quai d'Orsay à son échec dans la diplomatie des grandes puissances Européennes (1929–1931)* (2014), pp. 439–49.

[7] D. Rothermund, *The global impact of the Great Depression* (1996), pp. 38–47; B. Eichengreen, *Golden fetters: the gold standard and the Great Depression* (1992), p. 228.

[8] I. Berend, *Decades of crisis: Central and Eastern Europe before World War II* (1998), p. 256.

[9] D. Aldcroft and S. Morewood, *Economic change in Eastern Europe since 1918* (1995), p. 56.

goods were on average twice as high as they had been in 1927 while tariffs on wheat were five times as high.[10]

The agricultural crisis that began in 1929 was global in the sense that declining prices were rapidly communicated through commodity markets connecting farmers across the world. Indeed, cliometric historians have emphasized the development of integrated and expansive commodity markets in the nineteenth century as the primary evidence that this was an era of 'globalization'.[11] This article demonstrates that the agricultural crisis was also global in the sense that it produced new tensions between and within large supra-national political structures, such as the League of Nations and the British Empire.[12]

In 1929 and 1930, declining crop prices helped strengthen support for imperial preference in the UK and the Dominions. The question of tariff preferences dominated the London Imperial Conference held in the autumn of 1930 and produced considerable tension in the Labour cabinet. At the Imperial Conference, the Canadian Prime Minister presented a proposal to extend greatly existing imperial preferences by introducing a general tariff increase of ten per cent on non-imperial imports. There was a fairly strong consensus against this scheme among Labour leaders – on grounds that it would impose an unacceptable burden on UK food budgets – but there was sharp disagreement over how categorical the Cabinet refusal should be. The Secretary of State for the Dominions, James Henry Thomas, wanted to offer a constructive alternative; he favoured a quota for UK imports of imperial wheat or at least a firm commitment to preserve existing tariff preferences for several years. In contrast, the Chancellor of the Exchequer, Philip Snowden, strenuously opposed both the Canadian preference scheme and Thomas's counterproposals. The Prime Minister, Ramsay MacDonald, eventually persuaded Snowden and Thomas to agree to a middle course: they would maintain current preferences until the question could be revisited at a subsequent imperial conference in Ottawa, planned for the autumn of 1931.[13]

At the same time as Dominion leaders were working to build support for imperial preference in the summer of 1930, there were also new plans afoot to introduce intra-European tariff preferences on agricultural goods. A series of conferences were convened across central and eastern Europe to discuss collective responses to the agricultural crisis. The largest, the Warsaw Conference, gathered representatives from Bulgaria, Estonia, Latvia, Hungary, Poland, Czechoslovakia, Romania and Yugoslavia in August. It submitted a list of resolutions in favour of international economic cooperation to the League Assembly of September 1930. These resolutions proposed a special derogation from existing most-favoured-nation treaty commitments in order to allow West European governments to accord agricultural exporters from central and eastern Europe preferential tariff reductions. They also recommended the

[10] G. Federico, *Feeding the world: an economic history of agriculture, 1800–2000* (2010), p. 194.

[11] See for example K. O'Rourke and J. Williamson, 'When did globalization begin?' *European Rev. Economic Hist.* 6 (2002), pp. 23–50.

[12] John Darwin proposes a model of global history that includes both economic 'connectedness' and the confrontation of large structures of political power in *After Tamerlane: the global history of Empire since 1405* (2007).

[13] Williamson, *National crisis and national government,* pp. 82–3; Boyce, *British capitalism,* pp. 272–5; Drummond, *British economic policy and the empire,* pp. 67–9; A. Howe, *Free Trade and Liberal England, 1846–1946* (1997), pp. 293–4.

creation of cooperative systems of grain storage and marketing in order to stabilize prices as well as an international lending programme.[14]

Labour leaders criticized both the proposal for tariff preferences on European agricultural goods and the negative response it provoked from India and the Dominions. In the League Assembly, the delegations from India and the Dominions issued a joint protest against the proposal for European tariff preferences. In her report on the Assembly to the General Meeting of Chatham House, Mary Hamilton, a Labour MP who was on the British League delegation, declared that the proposal for European tariff preferences:

> brought the representatives of the Dominions to their feet in a protest as striking as it was naive. It struck them as abominable that we should even discuss regional agreements; it was not a matter within the competence of the Committee at all. They protested against it vigorously … while reiterating in emphatic terms the unconditional right of Australia, Canada, New Zealand, and so on, to take what steps they thought necessary for the protection of the primary and of the secondary products in their own countries.[15]

Hamilton was MP for Blackburn, a declining textile-manufacturing centre that faced catastrophic unemployment in 1930–31. Along with the Chancellor, Philip Snowden, also a former Blackburn MP, she belonged to the wing of the Labour party that opposed the extension of tariff preferences on imperial agricultural imports an unacceptable 'food tax' on Britain's urban poor.[16]

Against charges of hypocrisy from Hamilton and other Labour leaders, representatives from India and the Dominions argued that European and imperial tariff preferences were not analogous. They insisted that this type of discrimination was acceptable within a bounded imperial framework, but could not be permitted in the League, which must remain firmly committed to the principle of universal commercial equity. Jehangir Cooverji Coyajee, a member of the Indian delegation to the League Assembly recalled that 'the proposals of the Warsaw Conference were of great interest to India as well as to other overseas-countries which are mainly agricultural in interests'. He conceded that 'most' of the proposals were 'indisputably of a sound character', but insisted that 'it is obvious that the first and most important criticism has to be levelled against the utilization of the League's machinery and instrumentality for forwarding them'. In sum, Coyajee argued that Europeans should be encouraged to create a preferential regional trade system, but they must do it outside the framework of the League.[17]

[14] On the agrarian conferences in Central and Eastern Europe in summer and autumn of 1930: Anon, 'The International Wheat Conferences during 1930–1931', *Wheat Studies of the Food Research Institute* 7 (1931), pp. 441–3; DGH, 'The European agrarian bloc', *Bulletin of International News* 7 (1930), pp. 3–11; S. Schirmann, *Crise, cooperation économique et financière entre États européens, 1929–1933* (2000), pp. 109–13; the Foreign Office followed these conferences very closely. See File 7399 in TNA, FO 371/14936.

[15] H. Dalton and M. Hamilton, 'The Eleventh Assembly of the League of Nations' *J. Royal Institute of International Affairs,* 9 (1930), p. 709; see also TNA FO 371/1495, League of Nations Eleventh Assembly. Report of the Delegates of the United Kingdom to the Secretary of State for Foreign Affairs, 31 Dec. 1930.

[16] Anon, 'International Wheat Conferences', pp. 444–5; Drummond, *British economic policy and the empire,* pp. 67–9.

[17] J. C. Coyajee, *India and the League of Nations* (1932), pp. 114–16; on the conflict between imperial and European plans for agricultural preferences, see Schirmann, *Crise, cooperation économique et financière,* pp. 97–9.

However, many Europeans strongly preferred to pursue a programme of regional agricultural tariff preferences under League auspices for geopolitical reasons. As of 1930, Germany was the only state that had shown a willingness to grant substantial preferential tariff reductions on agricultural exports from central and eastern Europe. In 1930 German trade officials had begun to explore the possibility of bilateral preference agreements as part of a new strategy of power-projection in central and eastern Europe driven by the Foreign Minister Julius Curtius and the Chancellor Heinrich Brüning. This new strategy was partly a response to the agricultural crisis. The sharp decline in crop prices had given Germany, as the largest food importer in continental Europe, a powerful new source of leverage over its eastern neighbours. Advocates of a more aggressive German foreign policy believed this circumstance must be fully exploited.[18] In 1931, Brüning told his cabinet, 'the strongest weapon at the disposition of Germany in its foreign relations is the fact that we are an importer of agricultural products. This weapon must be kept sharpened'.[19] Curtius and Brüning made little effort to disguise their aim of using food imports to expand Germany's political influence to the East. On the contrary, they were engaging in a strategy of deliberate nationalist grandstanding in order to distract a German public unhappy with Brüning's policies of domestic fiscal austerity and with the recent Young Plan reparations settlement.[20]

Although they opposed the principle of League-sponsored tariff preferences on European agricultural goods, Foreign Office leaders were also alarmed by the prospect of unchecked German commercial expansion to the East. This problem preoccupied Robert Vansittart, who was officially the top career bureaucrat in the Foreign Office as Permanent Under-Secretary. In May 1931 he wrote a long memorandum analysing the interconnections between economic policy and security on the Continent. In it, he specifically highlighted the growing danger of German 'economic imperialism' for European political stability:

> Germany, deprived by the Peace Treaty of her military weapons, is now busy perfecting her economic arm, so that it may serve her, when the moment comes, as a spearhead of attack in the slow campaign for the peaceful domination of Europe.[21]

Vansittart also expressed concern that the formation of an 'agrarian bloc' in central and eastern Europe in 1930–31 would exacerbate rather than defuse geopolitical tensions in the region. He declared:

> The world-wide depression of agriculture … is encouraging a new defensive grouping in Europe of the agrarian countries and those that have failed to industrialise themselves. It is

[18] H. Sundhaussen, 'Die Weltwirtschaftskrise im Donau-Balkan-Raum und ihre Bedeutung für den Wandel der deutschen Außenpolitik unter Brüning', in W. Benz and H. Graml (eds), 'Aspekte deutscher Aussenpolitik im 20. Jahrhundert', special issue, *Schriftenreihe der Vierteljahrsheft für Zeitgeschichte* (1976), pp. 121–64; Kaiser, *Economic diplomacy*, pp. 17–56; M. Schulz, *Deutschland, der Völkerbund und die Frage der europäischen Wirtschaftsordnung, 1925–1933* (1997), pp. 174–306; Schwarte, *Plan Briand,* 479–91.

[19] Quoted in Sundhaussen, 'Weltwirtschaftskrise im Donau-Balkan-Raum', p. 137.

[20] D. J. Carlton, *MacDonald versus Henderson: the foreign policy of the second Labour Government* (1970), pp. 64–6; Rödder, *Stresemanns Erbe: Julius Curtius und die deutsche Außenpolitik, 1929–1931* (1996), pp. 42–68.

[21] Boyce, *British capitalism,* pp. 328–9; TNA, CAB 22/221, Robert Vansittart, 'An aspect of international relations in 1931', 14 May, 1931.

> too soon to say whether this 'huddling' will work in favour of international co-operation, or only produce another line of cleavage confusing the already existing political affinities. It is, however, a movement capable of political repercussions and to be watched.[22]

In this context, the provision of international debt relief offered a potential means to canalize the movement in favour of European agrarian solidarity and to bring it under League control whilst countering German influence in the Danube basin. In September 1930, the League Financial Committee announced that it would begin work on an international agricultural credit scheme at its January 1931 meeting.[23]

III

While Arthur Henderson and the Europhiles in the Foreign Office supported an international lending programme targeting farmers in central and eastern Europe for its geopolitical advantages, League collaborators from the Bank of England and the British Treasury supported it because they were eager to encourage French capital exports. They blamed tight French monetary policy for gold shortages in London. They argued that by virtue of an undervalued franc and high interest rates, the Bank of France had accumulated an outsized share of the world's gold supply, without effecting a corresponding expansion of currency and credit. They attempted to promote French foreign lending in order to counteract restrictive French monetary policy. French and British Treasury officials met in the winter of 1930–31 to consider a range of cooperative interventions to help alleviate capital shortages in London. They discussed the proposal from the Warsaw Conference for a programme of international agricultural credit and agreed to support it. This agreement was one of the few positive results of the Franco-British Treasury meetings, as French monetary officials were generally sceptical of the British claims that the accumulation of gold in Paris was evidence of negligence rather than virtuous French policies.[24]

In 1930–31, French reserve policy was also under scrutiny in Geneva. In 1929, the League Financial Committee had formed a Gold Delegation to study whether a shortage of monetary gold, resulting either from misguided national reserve policies or from an insufficient physical gold supply, might be causing deflation in the world economy. The Gold Delegation provided British advocates of international credit expansion a new platform to promote their views in Geneva, although they formed a minority within its ranks. In 1930–31 several members of the Financial Committee praised the proposal for a League programme of European agricultural credit as a realization of the recommendations of the Gold Delegation.[25]

[22] Ibid.

[23] Archives of the League of Nations, Geneva [LON], F/39ème Session/PV9, Comité Financier. Procès-verbal de la 8ème séance, 9 Sept. 1930.

[24] K. Mouré, *The gold standard illusion: France, the Bank of France, and the international gold standard, 1914–1939* (2002), pp. 183–6; Boyce, *British capitalism,* pp. 294–9; Centre des archives économiques et financières, Savigny-le-Temple, B 64341, Reunion chez M. Germain-Martin, 6 Jan. 1931; Note pour le Ministre, 13 Jan. 1931; Principales contreparties à demander à la Grande Bretagne, 10 Jan. 1931; TNA, Prem 1/105, Agricultural Credits Scheme, 16 May 1931.

[25] P. Clavin and J. W. Wessels, 'Another golden idol? The League of Nations' Gold Delegation and the Great Depression, 1929–1932', *International Hist. Rev.* 26 (2004), pp. 765–95; LON, F/40ème Session/PV3, Comité Financier. 40ème Session. Procès-verbal de la troisème

Officials in the League Secretariat also welcomed the opportunity to develop the Financial Committee's role as an agent of international cooperation. The Financial Committee was a consultative body answerable to the League Council and supported logistically by the Secretariat. It was a small group of officials and experts who met roughly three times a year to facilitate international cooperation in the field of financial and monetary policy. In the 1920s, the Financial Committee registered impressive practical achievements. It worked with private banking networks to help negotiate a series of international loans to stabilize currencies in central and eastern Europe.[26] The Financial Committee's decision to take up the question of agricultural credit in 1930 represented a bid to extend its competence from macro-economic stabilization to international development. In an article from November 1930, Arthur Salter, the British head of the Secretariat's Economic and Financial Section, singled out the Financial Committee's agricultural credit initiative as an example of the direction that the League's future economic work might take. More generally, the onset of the depression stimulated a new interest in the League Secretariat in alleviating poverty through development.[27]

This expansion of the Financial Committee's remit to cover international development entailed a modification of its working methods and its networks of collaborators. When it organized currency-stabilization interventions in the 1920s, the Financial Committee recruited ad hoc committees of bankers and experts. They devised customized loans to advance specific fiscal and monetary policy objectives in a single country and then established a supervisory structure to monitor compliance. In response to the request from the Warsaw Conference for international debt relief for farmers, the Financial Committee devised a novel formula: a private company under League patronage would provide sustained access to international financial markets and promote long-term legislative reforms favouring foreign investment and mortgage-lending. To implement this plan, the Financial Committee drew upon its network of collaborators in banking and financial circles as well as new partners including the International Institute of Agriculture (hereafter, IIA) and experts in the field of agricultural mortgage credit. The IIA had worked with other League bodies previously but not with the Financial Committee.[28]

Note 25 *continued*
séance, 16 Jan. 1931; LON, F/40ème Session/PV8, Comité Financier. 40ème Session. Procès-verbal de la 8ème séance, 19 Jan. 1931.

[26] Michel Fior, *Institution globale et marchés financiers: la Société des Nations face à la reconstruction de l'Europe, 1918–1931* (2008); Y. Decorzant, 'La Société des Nations et l'apparition d'un nouveau réseau d'expertise économique et financière, 1914–1923, *Critique internationale* 52 (2011), pp. 35–50; Y. Decorzant, *La Société des Nations et la naissance d'une conception de la regulation économique international* (2011); P. Clavin, *Securing the world economy: the reinvention of the League of Nations, 1920–1926* (2013), pp. 25–33; On the longer history of international financial advising and institutional tutelage, see M. Flandreau (ed.), *Money doctors: the experience of international financial advising, 1850–2000* (2003).

[27] A. Salter, 'World finance and economics: the next steps', *The Spectator,* 22 Nov. 1930, p. 24; Clavin, *Securing the world economy,* p. 72,

[28] J. Flores and Y. Decorzant, 'Public borrowing in harsh times: the League of Nations loans revisited' (working paper 12091, University of Geneva, Sept. 2012) [www.unige.ch/ses/dsec/repec/files/12091.pdf].

IV

After the Financial Committee announced in September 1930 that it would take up the proposal from the Warsaw Conference for a European agricultural credit programme, preparations began on several fronts. In November 1930 the Polish government hosted a second conference in Warsaw that focused specifically on the question of agricultural credit. Officials from the League Secretariat attended along with bankers and agricultural experts from central and eastern Europe. They drew up a lengthy memorandum describing the credit needs of farmers in central and eastern Europe and suggesting general parameters for an international intervention. They also circulated a survey to gather information about the current lending laws and practices in the region, on the recommendation of the League Secretariat. The results were submitted to the Financial Committee ahead of its January 1931 meeting.[29]

The experts assembled at Warsaw debated whether the League should focus on intermediate credit (six months to five years) or long-term credit (more than five years). They agreed that long-term loans would be easier to sell to foreign investors because they were more secure and standardized, but they would be inaccessible to many farmers in central and eastern Europe. Banks generally demanded a 'first mortgage' on land as collateral for long-term agricultural credit. This limited the pool of potential borrowers to farmers who could pledge a fairly large piece of land that had not already been offered as security for a prior loan. Moreover, the quality of cadastral surveys was highly uneven in this region, and it was often prohibitively expensive to measure land to be used as security. The Warsaw Conference ultimately recommended that the League provide intermediate rather than long-term credit, as it better corresponded to the timescale of most agricultural improvements, and it could be guaranteed by various types of moveable and immovable property. This would also mean that agricultural cooperatives could be eligible contract loans, in addition to individual farmers.[30]

Following the Warsaw Conference on agricultural credit, a group of officials from the League Secretariat met to define the broad outlines of an international agricultural credit bank. They determined that the Financial Committee should formally share responsibility for this project with the Briand Committee on European union. This would clearly establish the limited, regional scope of the project. The Secretariat's blueprint identified two key factors that would enable an international agricultural credit bank to provide loans at reduced rates. Firstly, it would help promote the standardization of credit and mortgage laws. Secondly, a demonstration of international solidarity would inspire confidence in lending markets and would improve the bargaining position of borrowers.[31]

After the Secretariat produced an initial sketch of a League agricultural credit bank, the Financial Committee met in January 1931 to flesh out the project's logistical features. Representatives from the Warsaw Conference as well as the IIA attended this meeting. The IIA reported that it had begun studying possibilities for international cooperation in the

[29] LON, Section Files, Jan Walré [de Bordes]/S 69 J. W. de Bordes, Note on the Warsaw Conference for Agricultural Credit, Nov. 1930.

[30] LON/Section Files, Alexander [Loveday]/S 80, Memorandum on the problem of agricultural credits for intermediate periods, 19 Nov. 1930.

[31] LON/ de Bordes/S 69, 'Procedure for the Agricultural Credits Question', nd.

domain of agricultural credit in 1925 and had held a conference of agricultural credit experts in 1926. It circulated two separate questionnaires to roughly four hundred credit institutions to gather information on local needs and lending laws. It then held further expert conferences to discuss the survey results. The president of the IIA, Giuseppe De Michelis, addressed the Financial Committee in January 1931. De Michelis recommended that the Financial Committee 'harmonize' its new agricultural credit initiative with the previous work of the IIA and noted that the IIA had already scheduled its own conference on agricultural credit for May 1931.[32] He reported that the IIA's previous research suggested it would be easiest to organize international credit on a long-term basis, by disbursing mortgage-backed loans through established national agricultural banks. This was the basic model that the IAMCC ultimately followed.[33]

While the core functional features of the IAMCC were based on recommendations from the IIA, it was the bankers in the Financial Committee, led by Otto Niemeyer, who ensured that the scheme had strong institutional support within the League. Niemeyer had been a senior official in the British Treasury before becoming an advisor to the Bank of England. He served on the Financial Committee from 1922 to 1937. He had played a central role in coordinating the League's currency-stabilization loans to central and eastern Europe in the 1920s.[34] He was a director of an agricultural mortgage-credit bank in the United Kingdom, but he approached the discussions concerning the IAMCC mainly from the perspective of international financial markets. He argued that the crucial question facing the Financial Committee was whether it would be possible devise a plan that would attract investors, and he endorsed the IIA's recommendations because he believed they offered the best means of doing so.[35] He declared:

> This is not an agricultural question at all, but a financial question … it is not a matter of considering whether it is connected with industry or agriculture or anything else, and if, therefore, we are to do practical work and attain results, the people we have to consult are the general financiers more than the agricultural credit people.[36]

In the end, the IAMCC was the fruit of collaboration between 'general financiers' and 'agricultural credit people'.

In January 1931 the Financial Committee appointed an Agricultural Credits Delegation, which was composed of members of the Financial Committee, representatives from the IIA, and private bankers from agricultural credit institutions. This delegation met in February 1931

[32] LON, F/40ème Session/PV2, Comité Financier. 40ème Session. Procès-verbal de la deuxième séance, 15 Jan. 1931.

[33] LON, F/40ème Session/PV3, 16 Jan. 1931.

[34] Orde, *British policy and European reconstruction,* pp. 310–11. While Niemeyer represents a thread of continuity between the early League loans and the IAMCC, there are also important discontinuities. The League's early currency-stabilization interventions were driven by central bankers who conceptualized the Financial Committee as a small, closed club of experts narrowly focused on monetary and fiscal policy, chief among them Montagu Norman of the Bank of England. Norman decried the diversification of the League's economic goals in the late 1920s. In 1930 he helped establish a new, independent 'gentleman's club' for central bankers: the Bank of International Settlements (P. Clavin, 'Men and markets: Global capital and the international economy', in G. Sluga and P. Clavin (eds), *Internationalisms: A twentieth century history* (2016), pp. 97–108).

[35] LON, F/40ème Session/PV3, 16 Jan. 1931.

[36] LON, F/40ème Session/PV8, 19 Jan. 1931.

to work out the practical nuts and bolts of the project. It drafted a founding charter for the IAMCC and a treaty defining the obligations of participating governments. It then submitted these documents for approval to the Agricultural Credits Sub-Committee of the Briand Committee, which had been formed to exercise political control over the work of the Financial Committee. More generally, resolving the agricultural crisis in Europe became a central focus for the Briand Committee after January 1931.[37]

The IAMCC was designed as a private, League-sponsored bank that would sell shares to West European banks and would then issue loans on the basis of this capital to farmers in central and eastern Europe. For the first five years, only European lenders would have access to IAMCC funds. Thereafter, overseas banks would be able to apply to use the IAMCC as well. It was planned to disburse IAMCC loans in central and eastern Europe through government-affiliated national agricultural credit banks.[38] These banks provided loans at relatively moderate interest rates but often on a very limited scale. Under pressure from the general international credit crunch beginning in 1928, the few banks that offered such loans were forced to curtail their lending just as agricultural prices began to drop. Growing numbers of farmers had to take out short-term loans from smaller lenders who often charged exorbitantly high interest rates, sometimes as high as 500 per cent per annum. The IAMCC aimed to arrest this trend.[39] It would directly inject new capital into national agricultural credit banks in central and eastern Europe. With a reserve of five million dollars, it would be authorized to issue loans totaling fifty million dollars.[40] The Financial Committee estimated that this sum would be sufficient to convert a substantial portion of the current high-interest agricultural loans in central and eastern Europe into new loans with a more moderate rate. When the Financial Committee first discussed the scheme in January 1931, Polish and Romanian representatives from the Warsaw Conference estimated that agricultural debts in the region totalled two hundred million dollars and that one half of these loans carried 'onerous' interest rates. They admitted that their estimates were probably low, but nevertheless their figures indicate that the IAMCC would have been large enough to make a significant impact on the rural economies of central and eastern Europe.[41]

Supporters of the IAMCC also hoped that it would encourage independent private foreign investment and would contribute to a broader shift towards 'productive' long-term international lending. Polish, Hungarian, and Czechoslovak agricultural credit banks had sold bonds on British, American, and – to a more limited extent – French markets in the 1920s.[42] It was hoped that the IAMCC might pave the way for new private bond issues. In the 1920s,

[37] LON, F/CA/1ère Session/PV1–PV12, Délégation du comité financier pour le crédit agricole, Première session, 9 Feb.–14 Feb., 1931; Schirmann, *Crise, cooperation économique et financière,* pp. 96–7; On the diverse efforts to address the agricultural crisis in the Briand Committee, see Schwarte, *Plan Briand*, pp. 474–536.

[38] *Convention for the creation of an international agricultural mortgage credit company* (1931).

[39] I. Berend, 'Agriculture' in M. C. Kaser and E. A. Radice (eds), *The economic history of Eastern Europe, 1919–1975* (5 vols, 1986), I, pp. 164–6; LON, F/CA/I, Le credit agricole dans certains pays de l'Europe centrale et orientale, 27 Jan. 1931.

[40] *Convention for the creation of an international agricultural mortgage credit company.*

[41] LON, F/CA/2, 'Indebtedness of agriculture in certain central and eastern European countries'; LON, F/40ème Session/ PV4, 16 Jan. 1931, Comité Financier. 40ème Session. Procès-verbal de la quatrième séance, 16 Jan. 1931.

[42] LON, F/CA/I, Le crédit agricole dans certains pays de l'Europe centrale et orientale, 27 Jan. 1931.

international currency-stabilization interventions in central and eastern Europe had helped stimulate large volumes of private foreign investment. However, much of it had been used to cover government budget shortfalls, debt service, and consumption, rather than improvements in production. This meant that in central and eastern Europe, countries' overall foreign debt burden had grown much more rapidly than their capacity for repayment. Banks and governments had increasingly relied on short-term loans to bridge this gap. In the spring and summer of 1931 worsening bank balance sheets and declining investor confidence sparked a widespread withdrawal of short-term loans in central Europe.[43] The IAMCC was too small in scale to counterbalance this movement directly. Nevertheless, it might have helped boost confidence in financial markets by demonstrating international political solidarity and by offering a new model of 'productive' foreign lending.

There was a tension between the IAMCC's aims to boost flagging investor confidence by quickly injecting capital into central and east European agricultural banks and to promote long-term legislative reforms that would facilitate productive foreign investment. There was considerable disagreement in the Agricultural Credits Delegation of the Financial Committee about whether governments should be required to demonstrate that their laws concerning credit and mortgages conformed to a defined set of international standards before their banks were given access to IAMCC funds. The Delegation considered conducting a thorough initial survey of property and credit legislation in prospective borrowing countries and establishing a detailed reform programme for each one. The main proponent of this approach was Eugène Regard. Regard was the vice-governor of Crédit Foncier de France, the bank informally slated to provide most of the capital for the IAMCC. Regard wanted to ensure that there were adequate cadastral surveys to provide a legally binding record of land ownership before the IAMCC began its work. However, the Delegation ultimately determined this would excessively delay the launch of the project. Instead, they authorized Regard and Angelo Di Nola, the general manager of the Istituto Italiano di Credito Fondiario, to draft a series of non-binding recommendations that would serve as guidelines for future legislative reform. Governments whose current legislation did not conform to these guidelines would be asked to guarantee directly the loans made through the IAMCC, to provide supplemental security.[44]

Otto Niemeyer had insisted that long-term, mortgage-backed loans would be the best means to raise capital quickly for national agricultural credit institutions in central and eastern Europe. This calculation reflected British financial officials' particular interest in encouraging French foreign investment. French investors were very familiar with agricultural mortgage credits, as French banks, such as the Crédit Foncier de France, had developed a substantial domestic market for this type of loan in the late nineteenth and early twentieth centuries.[45] However, French banks were particularly wary of investing in politically unstable environments. They

[43] M. Fior, *Institution globale et marchés financiers,* pp. 93–104; Eichengreen, *Golden fetters,* pp. 93–104; D. Aldcroft, 'Eastern Europe in an age of turbulence, 1919–1950', *EcHR* 41 (1988), pp. 597–8.

[44] LON, F/CA/1ère Session/PV2, Délégation du comité financier pour le crédit agricole, Première session, Procès-verbal provisoire de la deuxième séance, 9 Feb. 1931.

[45] The Crédit Foncier de France also played a central role in the development of mortgage-credit institutions throughout Europe in the nineteenth century (R. Cameron, *France and the economic development of Europe, 1800–1914* (1961), pp. 128–31).

had just been hit hard by the Soviet repudiation of tsarist Russia's sovereign debt and so political unrest of any kind caused alarm in Parisian financial circles.[46] In the late 1920s, there had been a great deal of turmoil in central and eastern Europe. Perhaps most shockingly, in 1929 King Alexander had established a royal dictatorship in Yugoslavia after a Montenegrin parliamentarian shot four of his colleagues during a session of the National Assembly. Across the region, the late 1920s witnessed the rise of new dictatorships and paramilitary organizations of varying political stripes. For the most part, these changes resulted in the consolidation of conservative authoritarian governments that were committed to servicing foreign debts, but the upheaval nevertheless caused much anxiety in international financial circles.[47] For Niemeyer and many other members of the Financial Committee, the purpose of a League programme of agricultural credit was not merely to aid indebted farmers but also to restore investor confidence in central and eastern Europe by locking governments in the region into a new programme of international economic supervision.

The IAMCC's exclusive focus on long-term credit did draw criticism when the finished plan was presented for approval to the Briand Committee in the spring of 1931. The criticism did not come from the countries that had initially gathered at the Warsaw Conferences in 1930; they gave the scheme their unqualified and enthusiastic approval. However, the leaders of the IIA were more sceptical. They suggested that credit, trade, and tariff policies affecting agricultural exporters should be addressed together. They recommended that long-term credit should be made available to cooperatives to facilitate the construction of processing and distribution infrastructure rather than reserved solely for individual farmers, as it was in the IAMCC. They also argued that farmers and cooperatives urgently needed access to short-term credit to support seasonal marketing activities.[48] The IIA leaders' recommendation for a more comprehensive approach to agricultural credit may have partly been a strategy to leverage their own broad network of organizational partners. As Niccolò Mignemi highlights in his contribution to this issue, many of the IIA's early collaborators had keenly hoped to cultivate ties to cooperative societies as part of a broader programme of associational outreach. Federico D'Onofrio's article emphasizes that the IIA did develop links to a wide range of agricultural marketing and credit institutions in the 1920s, partly in pursuit of a corporatist political ideal. D'Onofrio also observes that the IIA often simultaneously cooperated and competed with the League; IIA leaders eagerly sought to participate in League conferences and committees but also jealously guarded their independence. In 1931, they appeared reluctant to concede exclusive authority to the League Financial Committee to regulate international agricultural credit.

When the Financial Committee submitted the IAMCC statutes to the Briand Committee for final approval in May 1931, the IIA presented its own plan for a second International Short-Term Credit Bank, to be run out of the IIA headquarters in Rome. It asked the Briand Committee to 'give its moral support to this new initiative' by establishing a dedicated

[46] See K. Oosterlinck, *Hope springs eternal: French bondholders and the repudiation of Russian sovereign debt* (trans. A. Bulger, 2016).

[47] Berend, *Decades of crisis,* pp. 190–202; Anon, 'The two Europes', *The Economist,* 13 Sept. 1930, pp. 472–3.

[48] 'Appendix 20. Memoranda from the International Institute of Agriculture concerning points III(a) and III (c) of the agenda of the Commission of Enquiry at its May session,' in League of Nations Doc. C. 395.M.158.1931.VII, *Commission of Enquiry for European Union. Minutes of the third session of the commission* (25 June, 1931), pp. 194–211.

sub-committee to monitor its Short-Term Credit Bank. This would be an analogue to the Briand Committee's existing Agricultural Credits Sub-Committee, which supervised the Financial Committee's work on the IAMCC.[49] The Briand Committee did not fulfil the IIA's peculiar request to establish duplicate agricultural credit sub-committees. To do so would have established equivalence between the Financial Committee – which was an integral element of the League's institutional architecture – and the IIA, which was an independent institution. This was, presumably, the IIA's objective. IIA leaders had long demanded recognition as an official but autonomous affiliate of the League with exclusive authority over agricultural questions, analogous to the International Labour Organization. In 1932 the IIA was finally recognized as an official League advisory body, but the League's Economic and Financial Organization would also sponsor a growing number of independent initiatives in the field of food and agriculture in the 1930s.[50]

Outside the IIA, other critics of the IAMCC contested the very principle of expanding agricultural credit when crop prices were in free-fall. They suggested that new loans would merely encourage farmers to increase production and flood already glutted markets with more goods. This concern was voiced by agricultural exporters within Europe – notably by the Dutch – and outside of Europe – notably by the Indians.[51] Representatives from the prospective borrowing countries responded that longer and more affordable loans would enable their farmers to rationalize production and distribution procedures and thereby reduce pressure on global commodity markets while increasing local purchasing power. The Warsaw Conference's original memorandum on agricultural credit, which served as the basis for the Financial Committee's work, had emphasized that an excessive dependence on short-term credit prevented farmers in central and eastern Europe from adapting to changing market conditions by using new techniques and equipment. This report suggested that longer-term credit would enable farmers to buy new machines, use chemical fertilizers, introduce new land-management and irrigation systems, and engage in more rational crop and animal breeding.[52] In sum, they argued that farmers needed better credit facilities in order to support the type of specialization and innovation that Amalia Ribi Forclaz discusses in relation to rural education in her article in this issue.

[49] Ibid., p. 206.

[50] F. G. von Graevenitz, 'Internationalismus in der Zwischenkriegszeit: Deutschland und Frankreich in der globalen Agrarkrise' (unpublished PhD thesis, European University Institute, 2011), p. 412; E. Tollardo, *Fascist Italy and the League of Nations, 1922–1935* (2016), pp. 34–6, 223.

[51] LON/Loveday/S 80, Commission d'étude pour l'Union européenne. Procès-verbal provisoire de la deuxième séance, 20 April 1931; Coyajee, *India and the League of Nations*, p. 131.

[52] LON/Loveday/S 80, Memorandum on the problem of agricultural credits for intermediate periods, prepared by the agricultural credit experts of Bulgaria, Czechoslovakia, Estonia, Hungary, Latvia, Poland, Roumania, and Yugoslavia, met at Warsaw on 10–13 November 1930; Commission of Enquiry for European Union. Sub-commission for Agricultural Credits. Provisional Minutes. Third Meeting, April 21, 1931.

V

Many of the defenders of the IAMCC valued the project because it promised to provide immediate and tangible evidence of international unity, even in its early stages. Participating governments were asked to demonstrate mutual solidarity by contributing to a collective pool of capital to serve as the project's seed, the 'special reserve fund'. This was a fund of 25 million Swiss francs (five million dollars) that would guarantee the IAMCC's initial shares. The special reserve fund would be formed from government advances, which the IAMCC would gradually repay as it developed its own independent capital reserves. This would take the League into uncharted territory. Previous League loans had not been based on an international capital pool. The League had helped recruit lenders and underwriters but had not served as a direct intermediary.[53] In the case of the IAMCC, both 'lending states', where most of the shares were expected to be sold, and 'borrowing states', where most of the funds were expected to be lent, were asked to contribute to the special reserve fund. The 'lending states' were asked to provide substantially larger sums because states' participation in the special reserve fund was based on governments' contributions to the League budget, according to a five-tier graduated scale. Britain was in the highest category and was thus asked to contribute three million Swiss francs or £120,000. In its final report on the IAMCC to the League Council, the Financial Committee insisted that the simple act of creating the special reserve could buoy financial markets:

> the fact of Governments supplying the necessary funds for the creation of this special reserve and thereby manifesting a feeling of mutual solidarity and a general desire for collaboration is likely to have an effect on financial markets to which we attach the greatest significance.[54]

However, the reserve fund became a central obstacle to British participation in the IAMCC.

The demand for a British contribution to the reserve fund of £120,000 placed the Treasury in a difficult position. Treasury officials supported the IAMCC, but they were also extremely reluctant to approve any new expenditure. In the winter of 1930–31 gold reserves in London had declined rapidly, signalling dwindling confidence in the pound. In this context many Treasury officials, in particular, Frederick Leith-Ross, the deputy comptroller of finance, were keen to encourage international financial cooperation. They hoped an expansion of foreign lending would reduce pressure on the pound by facilitating the circulation of immobile gold reserves in continental Europe, especially in Paris.[55] As mentioned previously, French and British Treasury officials agreed during bilateral discussions to support a League programme of international agricultural credit in order to facilitate a freer flow of capital. When Leith-Ross assessed the draft statutes of the IAMCC in the spring of 1931, he affirmed that it was a 'very sound' scheme that 'offers the best chance' of encouraging international lending in Europe and minimizing 'excessive gold imports into France'.[56]

Although Treasury officials were eager to encourage French foreign lending, they were also

[53] Flores and Decorzant, 'Public borrowing in harsh times', pp. 10–14.

[54] League of Nations Doc. C.199(a).M.81(a).1931. II.A (1931), *International Agricultural Mortgage Credit Company. Report of the Financial Committee to the Council.*

[55] Boyce, *British capitalism, pp.* 291–303.

[56] TNA, FO 371/15713, F. Leith-Ross, Agricultural Credits, 23 Apr. 1931.

extremely reluctant to approve any new budget items, no matter how small. The Chancellor, Philip Snowden, responded to dwindling British gold reserves in winter 1930–31 by calling for aggressive fiscal retrenchment. This led to divisive debates in Parliament and in the Cabinet about 'spreading the burden' of retrenchment equitably across social classes.[57] Thus, although Treasury leaders enthusiastically supported the IAMCC, they anticipated considerable political opposition to a request for British funds for its reserve fund at a time of general belt-tightening. They also feared such a request would provoke demands for similar assistance from farmers in the United Kingdom and in the Dominions. Consequently, the Treasury and the Foreign Office agreed that British delegates in Geneva should support the IAMCC firmly but should also propose an amendment that would make contributions to the reserve fund obligatory only for prospective borrowing countries. Treasury leaders did indicate that they would later 'reconsider' British participation in the reserve fund if it 'appears that our refusal to contribute would destroy the whole scheme, and would involve too grave political disadvantages in comparison with the comparatively small sum at stake'.[58] When the Briand Committee's Subcommittee on Agricultural Credits met in April 1931 to discuss the IAMCC statutes, the British delegate, Walter Smith, tried unsuccessfully to persuade the other members to accept the Treasury's proposal to exempt lending countries from contributing to the reserve fund.[59]

Smith had been chosen to represent Britain on the Agricultural Credits Sub-Committee of the Briand Committee because he was intimately familiar with the plight of farmers in the UK. At this time Smith was one of the two MPs for Norwich and the Parliamentary Secretary to the Board of Trade. He had previously served from 1911 to 1923 as the president of the National Union of Agricultural Workers and had helped to negotiate the 1924 Agricultural Wages Act as the Parliamentary Secretary to the Ministry of Agriculture. Thanks largely to this legislation, British agricultural wage rates remained relatively stable in the 1920s, but after an initial post-war spike, crop prices declined. A report that the British Ministry of Agriculture submitted to the League in 1930 emphasized that British farmers faced a heavy debt burden. Moreover, the worldwide decline in crop prices starting in 1929 hit British farmers particularly hard as rising tariffs in continental Europe diverted agricultural exports to the unprotected the UK market.[60] The cash-strapped British government could only very partially satisfy requests for debt-relief assistance from domestic farmers. As Smith and the Chancellor anticipated, when the IAMCC treaty was presented to Parliament in the summer of 1931, there was considerable resistance to it. Although the Ministry of Agriculture approved of British participation in the project, Conservative backbenchers argued that British Treasury funds should be used to support farmers in the UK and the British Empire.[61]

[57] Williamson, *National crisis and national government,* p. 220.

[58] TNA, FO 371/15713, 23 Apr. 1931.

[59] LON, Loveday/S 80, Commission d'étude pour l'Union Européenne, Sous-commission pour le crédit agricole, Procès-verbal provisoire de la deuxième séance, 20 Apr. 1931.

[60] A. Howkins and N. 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; R. Perren, *Agriculture in Depression, 1870–1940* (1995), pp. 40–8; LON/de Bordes/S 69, The Present Situation in Agriculture in Great Britain, and its Causes, 16 June 1930.

[61] Hansard, *House of Commons Debates,* 253, 17 June, 1931, col. 1720–1; 254, 22 June, 1931, col. 21; 254, 23 June, 1931, col. 222–4; 256, 23 Sept. 1931, col. 1622.

Disagreement about the distribution of burdens and benefits in the IAMCC occasioned a novel debate about wealth and welfare in the League system. In the IAMCC negotiations, the distinction between 'lending countries' and 'borrowing countries' was often translated into a distinction between 'two Europes', an 'industrial Europe' and an 'agricultural Europe'. The French economic journalist Francis Delaisi had proposed the concept of 'two Europes' in his popular 1929 book, *Les deux Europes*. He argued that 'industrial Europe' should intensively promote trade, investment and infrastructural development in 'agricultural Europe'. This would raise standards of living across the Continent by expanding the rural market for manufactured goods. Throughout the project's genesis, supporters of the IAMCC made frequent and explicit reference to the 'two Europes' concept, and defended the project not merely in terms of its impact on financial markets but also in terms of its contribution to rural standards of living.[62] The Financial Committee's final report on the IAMCC to the League Council stated that:

> all measures aimed at raising the standard of living in those European countries where the standard is at present relatively low must help to increase the demand for the higher-value agricultural products, such as meat, milk, fruit, etc. The granting of credit … would therefore help, on the one hand, to bring about those changes in production, and, on the other, that increase in demand, which are alike necessary for a general improvement in agricultural conditions. They would also certainly have the effect of increasing the purchasing power of agriculturalists, and particularly their demand for industrial products.[63]

Thus although the IAMCC focused narrowly on raising farm incomes, its also occasioned broader discussions of rural economy that anticipated the evolution League economic institutions in the 1930s.

VI

While the IAMCC represented an important step in the long-run evolution of League models of rural development, it also had particular geopolitical significance in the spring of 1931. In March, shortly after the Financial Committee's Agricultural Credits Delegation completed its work, Austria and Germany announced a plan for a future customs union. This announcement unleashed a diplomatic firestorm, badly dented investor confidence across Europe, and made international financial cooperation more urgently necessary. In this context, the IAMCC emerged as the only constructive alternative to the Austro-German scheme that had relatively broad support in both British and French official circles. It was also the Briand Committee's 'first child' and its only project near fruition; it was thus a key test case for League-led European economic cooperation.[64]

[62] F. Delaisi, *Les deux Europes* (1929); see references to 'agricultural' and 'industrial' Europe in Anon, 'The two Europes'; League of Nations Doc., C.655.M.270 (1930), 'Report of the sub-committee appointed to examine the question of the negotiations concerning the trade of agricultural states of central and eastern Europe', *Second International Conference with a view to concerted economic action*.

[63] League of Nations Doc. C.199(a).M.81(a).1931.II.A (1931), *International Agricultural Mortgage Credit Company. Report of the Financial Committee to the Council*.

[64] League of Nations Doc. C. 295. M. 158. 1931.VII. *Commission of enquiry for European Union. Minutes of the third session of the commission*, 25 June 1931.

The proposal for an Austro-German customs union was widely perceived as the first step towards Austro-German political union, *Anschluss,* an action prohibited by multiple League treaties. The French government quickly developed a counter-proposal, the 'Constructive Plan', which aimed to boost economic performance in central and eastern Europe and reduce the appeal of exclusive bilateral agreements with Germany. The Constructive Plan proposed a system of European tariff preferences as well as a programme of international financial assistance, which included the IAMCC.[65]

Many officials in Whitehall argued that Britain should support at least some elements of the Constructive Plan in order to avoid a Franco-German diplomatic standoff. The leading advocate for an active British response was Philip Noel-Baker, Henderson's Parliamentary Private Secretary. Noel-Baker was a former staff member in the League Secretariat who had been heavily involved in League disarmament efforts throughout the 1920s. In April 1931, he argued that the Austro-German customs union had produced profound anxiety on the Continent and endangered the Foreign Office's entire European strategy focused on disarmament.[66] Noel-Baker insisted that Britain must cooperate actively with the other European powers to 'get rid of the agreement by means of some agreed alternative solution which Europe as a whole would accept'.[67] Instead, the Cabinet decided to pursue a minimal, 'passive' policy. Before leaving for Geneva to attend the May session of the League Council and the Briand Committee, Henderson was instructed merely to stall the customs-union project by demanding a review of its legal conformity with League treaties.[68] However, Henderson's meetings in Geneva firmly persuaded him that Britain must do more:

> I was deeply impressed by the importance, which all the Governments of central Europe attached to the matter. They all made it plain that it is by far the most important political issue, which has arisen in Europe since the war. Indeed, I reached the definite conclusion that if we can find some agreed solution of the problem which will satisfy all parties on the economic and political sides of the matter, then we should be justified in looking forward to a future of peace and closer international co-operation in Europe; but that if no such solution can be found, then we must expect international developments of a most dangerous kind.[69]

Henderson recommended that 'the whole weight of His Majesty's Government's influence' should be used to help the Briand committee devise a programme of cooperation 'both to liquidate the question of the Austro-German Customs Union and to mitigate the economic crisis which threatens the political stability of Europe'.[70]

In this context, Henderson enthusiastically supported the IAMCC as a counterproposal to the Austro-German customs union. British participation had remained uncertain until early May due to the Treasury's continued reluctance to contribute to the special reserve fund. However, when it was reported that 'the scheme will be wrecked' without a British financial

[65] TNA, T 188/19, Frederick Leith-Ross, Note of discussion with Monsieur Rueff on the 2nd May, 1931.

[66] TNA, T 188/19, Anonymous [Philip Noel-Baker], Proposals for a possible solution of the present conflict concerning the Austro-German Union, 18 Apr. 1931.

[67] TNA, T 188/19, 18 Apr. 1931.

[68] TNA, T 188/19, Record of an interdepartmental meeting held at the Foreign Office on April 23rd to consider the proposed Austro-German customs union.

[69] TNA, CAB/24/221, A. Henderson, 'The proposed Austro-German customs union', 3 June 1931.

[70] Ibid.

commitment, Treasury leaders swiftly lifted their opposition. In order to bolster confidence in the project, Henderson requested immediate Cabinet approval to sign the IAMCC treaty and to pledge full British political and financial support.[71] The Ministry of Agriculture and the Treasury both agreed to Henderson's request, but the Dominions Secretary, James Henry Thomas, refused. Thomas stated that he was 'much exercised' by the plans for the IAMCC: 'from the wider aspect of Imperial policy, the participation of the United Kingdom in a scheme designed, primarily at any rate, for the benefit of European countries, might have a very unfortunate political reaction in the Dominions'.[72]

Thomas argued that Britain could not sign the IAMCC treaty until his department had the opportunity to thoroughly review its implications for the planned Ottawa Imperial Conference and to consult the Dominions.[73] Henderson and leaders in the Foreign Office strenuously opposed Thomas's recommendations. They valued the IAMCC chiefly because it was ready to be implemented, and they believed that the May session of the Briand Committee was the most propitious moment to launch it.[74] In the memorandum that he wrote summarizing the scheme, Robert Vansittart argued that further delay would greatly reduce the IAMCC's political advantages, and it would not change the fact that Britain was faced with a difficult choice between European and imperial commitments:

> The question for decision, therefore, boils down to whether the urgent necessity of doing something for the depressed East European Countries and coming into line with France and other European countries, must be overruled by the necessity of refraining from an action which might and probably will, be held, rightly or wrongly, by the Dominions to be prejudicial to their agricultural exports and to the prospects of the Ottawa Conference.[75]

This comment highlights how clearly the IAMCC crystallized the new tensions between Britain's imperial and European policy priorities that resulted from the global agricultural crisis.

The Prime Minister, Ramsay MacDonald, was not persuaded by entreaties from the Foreign Office in favour of the IAMCC. He was annoyed that he only learned of the project at the last minute, and he refused to be rushed into a decision. He rebuked Henderson for attempting to proceed with the scheme without a full cabinet review. He declared, 'this matter surprises me … this is an issue of first class importance and should have been brought before the cabinet when Walter Smith reported. It cannot be decided between Departments'.[76] He did not authorize Henderson to sign the IAMCC treaty during the May session of the Briand Committee, but Henderson continued to plead for a rapid decision:

[71] TNA, FO 371/15731, The League of Nations Agricultural Mortgage Credit Scheme, 28 May 1931; TNA, PREM 1/105, Foreign Office to Treasury, 7 May 1931; Telegram, A. Henderson to P. Snowden, 14 May 1931.

[72] TNA, PREM 1/105, J. H. Thomas to R. MacDonald, 16 May 1931.

[73] Boyce, *British capitalism,* pp. 325–7.

[74] TNA, PREM 1/105, F. Leith-Ross to the Foreign Office, 8 May 1931; R. Vansittart, Memorandum, 15 May 1931.

[75] TNA, PREM 1/105, R. Vansittart, 15 May 1931

[76] TNA, PREM 1/105, R. MacDonald to the Foreign Office, 15 May 1931; also quoted in Boyce, *British capitalism,* p. 325. David Carlton notes that MacDonald was generally much less supportive of the League of Nations than Henderson (Carlton, *MacDonald versus Henderson,* 27–9).

> The scheme is the only constructive proposal yet evolved by the Committee of Enquiry for European Union for mitigating the economic crisis. It would create an unfortunate impression and might diminish the influence of His Majesty's Government in pressing other positive economic policies upon European States, and even, later on in urging the need for disarmament – if success of this first scheme were jeopardized by our refusal to make the small contribution required of us in order to bring it into operation.[77]

Henderson finally got cabinet approval to sign the IAMCC treaty on 11 June, but he still faced an uphill battle to secure Parliamentary ratification and approval for the British contribution to the special reserve fund. This task became increasingly difficult as central Europe and then Britain were engulfed in an escalating financial crisis in June and July.

The crisis had begun in May with the collapse of the Austrian banking behemoth, the Creditanstalt and it spread to German banks in June. Efforts to coordinate an international response to the central European banking crisis were continually hindered by unresolved tensions concerning the Austro-German customs union. Because London banks had heavily invested in Austria and especially Germany, the worsening financial conditions there also undermined confidence in the British financial system and in the pound. This produced divisions in the Labour government, as the Treasury and the Bank of England responded by demanding dramatic cuts to social spending as part of a coordinated international intervention to support the pound. On 23 August a group of Labour ministers led by Henderson resigned in protest. The following day MacDonald formed a new all-party National Government. Although the National Government was created with the goal of keeping the Britain on the gold standard, it nevertheless took the pound off gold on 21 September. After its mandate was consolidated in a general election in October, the National Government introduced a new ten per cent protective tariff on manufactured goods. It also began to discuss a tariff on agricultural imports in order to allow for the introduction of a broader system of imperial preference at the Ottawa Imperial Conference in 1932.

In the autumn of 1931, the Foreign Office vainly protested against the Cabinet's shift towards protectionism and imperial preference, which it interpreted as a retreat from Britain's diplomatic responsibilities on the Continent.[78] As the Europhiles in the Foreign Office increasingly focused on resisting the shift towards tariff protection, they gave up the fight to secure British participation in the IAMCC. In September, the Foreign Office announced to Parliament that it did not plan to submit the IAMCC treaty for ratification or to request the British contribution to the special reserve fund.[79] This effectively doomed the project. The IAMCC treaty included a provision stipulating that it would only take effect if sufficient contributions were secured to cover the full reserve fund before 31 December 1931. If this deadline was not met, an international conference would be convened to devise a new programme of implementation. The parliamentary schedules of many of the states responsible for supplying the largest contributions to the reserve fund did not allow for ratification of the IAMCC treaty

[77] TNA, FO 371/15731, Arthur Henderson, Cabinet Memorandum, 2 June 1931.

[78] Boyce, *British capitalism,* pp. 332–69; Kaiser, *Economic diplomacy,* pp. 82–6; Williamson, *National crisis and national government*, pp. 255–343.

[79] Hansard, *House of Commons Debates,* 256, 23 Sept. 1931, col. 1622; TNA, FO 371/13571, Draft Reply to Parliamentary Question number 19, 23 Sept. 1931.

before the December deadline. This meant that the required sum could not be secured without British ratification.[80] The 31 December deadline was originally included in the treaty order to give interested governments the flexibility to negotiate a reduction in the scale of the IAMCC if it became apparent they would only be able to support a smaller reserve fund. However, by January 1932, the devaluation of the British pound and the international banking crisis had thrown the European financial and monetary system into such extreme disarray that the Financial Committee decided instead to delay the project.[81]

VII

The history of the origins and genesis of the IAMCC reveals the complex ways in which the global agricultural crisis influenced British diplomacy in Europe during the crucial year of 1931. Geopolitical tensions heightened in the Danube Basin as German leaders sought to use food imports to gain influence there. Leaders in central and eastern Europe breathed new life into the movement for European economic unity within the League as they attempted to form a unified 'agrarian bloc'. The demands for League assistance for Europe's farmers helped produce a novel model of international financial cooperation: governments were asked to contribute directly to an international capital pool to be used to raise loans for foreign farmers. This redistributive mechanism was expected to yield broad benefits because it would bolster investor confidence and raise rural living standards. However, it proved difficult to muster political support for British participation in this type of international development experiment, as declining crop prices had also given a boost to advocates of empire unity.

The IAMCC assumed particular significance for many British officials because it represented a broader policy of political and economic engagement with Europe. Henderson valued the IAMCC because it offered a means to promote international cooperation in Europe and to prevent a Franco-German geopolitical standoff in the Danube Basin that would endanger the League disarmament process. This objective became more crucial after the announcement of plans for an Austro-German customs union in March 1931. Treasury officials supported the IAMCC as a confidence-boosting measure that would stimulate further lending from gold-rich France to gold-poor central and eastern Europe, although they were reticent to fund it directly. British ratification of the IAMCC treaty would have sent a signal to foreign observers that the factions in the Foreign Office and the Treasury that favoured political engagement with Europe and international cooperation in monetary and credit policy held sway in Whitehall. Conversely, its failure after strong initial British support signalled to the world that the advocates of national protectionism, imperial preference and beggar-thy-neighbour monetary policies were ascendant in the new National Government.

The IAMCC represented an intermediary phase in the evolution of the League's economic institutions. It was an attempt to orient the Financial Committee towards long-term

[80] LON, de Bordes/S 90, Jan Walre de Bordes to Otto Nieymeyer, 11 Nov. 1931.

[81] LON, F/41ème Session/PV1, Comité Financier. 40ème Session. Procès-verbal de la deuxième séance, 6 May, 1931; LON, F/44th Session /PV1; F/44th Session / PV1, Financial Committee, Forty-fourth Session. First Meeting, 11 Jan. 1932.

international development, and it signaled a heightened concern for the fate of farmers in the context of the global agricultural crisis. However, the IAMCC was only a narrow foray into rural development, as it focused very specifically on farm incomes. It was also rooted in a fairly traditional vision of international diplomacy as great powers jockeying for influence in Europe. In the course of the 1930s, in the face of deep and persistent distress in agricultural regions across the globe, League collaborators devised new institutions and concepts to address rural poverty as a problem of health and welfare as well as income. They increasingly approached farming as an element of 'rural life' that was integrally connected to various other forms of household economy and production. This change was accompanied by a broadening of the geographic purview of the League's economic work. Many advocates of imperial protectionism in the British Empire were disappointed with the results of the system of preferences introduced at Ottawa in 1932 and subsequently shifted their focus from the Empire to the League. In the 1930s, the League Secretariat did retain a particular interest in central and eastern Europe. However, as commercial relations in this region became increasingly politicized as a result of National Socialist economic expansion, the Secretariat sought to justify its continued engagement there using neutral concepts of health and welfare rather than trade and finance.[82] The IAMCC anticipated the League's evolution in 1930s towards new modes of 'bread and butter internationalism,' but it also reveals the extent to which agriculture influenced more traditional forms of diplomacy during the early Great Depression. [83]

[82] Clavin, *Securing the world economy,* pp. 159–98; A. Ribi Forclaz, 'A new target for international social reform: The International Labour Organisation and working and living conditions in agriculture in the inter-war years', *Contemporary European Hist.* 20 (2011), pp. 307–29; J. O'Brien, 'F.L. McDougall and the origins of the FAO', pp. 170–2; P. Clavin and K. K. Patel, 'The role of international organizations in Europeanization: The case of the League of Nations and the European Economic Community', in M. Conway and K. K. Patel (eds), *Europeanization in the twentieth century: historical approaches* (2010), pp. 111–18; S. Amrith and P. Clavin, 'Feeding the World: Connecting Europe and Asia, 1930–1945', in M. Hilton and R. Mitter (eds), *Transnationalism and Contemporary Global History* (*Past and Present*, Supplement 8, 2013), pp. 42–8.

[83] Clavin, *Securing the world economy,* p. 165.

Shaping the future of farming: the International Labour Organization and agricultural education, 1920s to 1950s*

by Amalia Ribi Forclaz

Abstract

In the interwar years agricultural education emerged as a pivotal issue in international debates about agricultural modernization and rural development. Against the backdrop of scientific and technological changes, reformers and experts viewed the professionalization of people working in agriculture as necessary for securing a viable rural economy whilst preserving its agricultural identity. International organizations and associations debated about practical versus theory-based education, the ruralization of the curriculum and the amount of knowledge that would be needed to create the modern farmer. As this article argues, the interwar international call for more widespread and systematic agricultural education catered for a variety of political, economic and social concerns. The article discusses international efforts to promote better agricultural education in the 1920s, the emergence of new organizations in the 1930s and how these efforts foreshadowed the rural development strategies of development agencies such as the Food and Agriculture Organization after the Second World War.

In the last twenty years or so, historians have described the period between the mid-nineteenth and the mid-twentieth century as one of greater internationalism, transnational cooperation and exchange that shaped and was shaped by nationalist ideas and politics.[1] Like many other social, economic and political issues, agriculture increasingly became the subject of international scientific and reformist attention.[2] From the late nineteenth century onwards, and against the backdrop of social and economic transformations of the rural countryside, scientific

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[1] See, for example, E. Rosenberg, 'Transnational currents in a shrinking world', in E. Rosenberg (ed.), *A world connecting, 1870–1945* (2012), pp. 815–995. G. Sluga, *Internationalism in the age of nationalism* (2013). M. Herren, 'Governmental internationalism and the beginning of a new world order in the late nineteenth century', in M. H. Geyer, J. Paulmann (eds), *The mechanics of internationalism. Culture, society, and politics from the 1840s to the First World War* (Oxford 2001), pp. 121–44.

[2] 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. G. Pecout and M. Pigenet (eds), *Campagnes et sociètès en Europe 1830–1930* (2005).

experts and agricultural interest groups regularly convened at international conferences and congresses to discuss subjects ranging from plant diseases and locust plagues, to questions of production and industrialization.[3] As outlined by the editors in the introduction to these essays, with the creation of international associations and institutions such as the Commission Internationale d'Agriculture (CIA) in Paris in 1889, the International Institute of Agriculture (IIA) in Rome in 1905, and the International Labour Organization (ILO) in Geneva in 1919, these international networks were further consolidated, underpinned by an increasing concern for the coordination of international trade and the economic viability and social welfare of rural populations.[4]

This trend towards greater internationalization and cooperation between agrarian interest groups continued after the First World War. The period following the war was both a time of crisis and innovation in agriculture. Widespread war damage and fluctuating agricultural prices due to food surpluses impacted upon the livelihoods of agricultural producers everywhere leading to greater government intervention.[5] And as is well known, the interwar years saw the emergence of a number of nationalist agrarian social engineering schemes across Europe. Ideas about how to revalorize, modernize and control the 'peasantry', and to maximize output and achieve national autarchy ranged from collective measures such as the Soviet kolkhoz to the Italian battle for wheat.[6] Great differences continued to persist across national boundaries and international landscapes with regard to agricultural practices, labour organization, farm sizes, crop cultivation, animal husbandry, and the adoption of scientific and technological innovations.[7] But the war also brought to light how entangled agricultural markets were and how transnational solutions needed to be found for national problems. The war thus also gave new impetus to pre-war internationalist agrarian networks that had highlighted the common challenges and the need for greater agricultural cooperation, quantification and standardization.[8] Thus, in spite of the protectionist and nationalist ruralist policies that are usually seen as dominating the interwar period, the 1920s and 1930s also saw an increase in international cooperation on social and economic questions, ranging from the standardization of agricultural statistics to discussions on improving social rights for people working in the agricultural sector.[9]

[3] S. Castonguay, 'Creating an agricultural world order: regional plant protection problems and international phytopathology, 1878–1939', *Agricultural Hist.* 84 (2010), pp. 46–73.

[4] Juan Pan-Montojo, 'International institutions and agriculture: from the IIA to the FAO', in C. Martiin, J. Pan-Montojo and P. Brassley (eds), *Agriculture in capitalist Europe: from food shortages to food surpluses* (2016), pp. 23–43. Also, on the issue of rural hygiene, I. Borowy, *Coming to terms with world health: The League of Nations Health Organization, 1921–1946* (2009). A. Nützenadel, 'A green international? Food markets and transnational politics, 1850–1914', in A. Nützenadel and F. Trentmann (eds), *Food and globalization: consumption, markets and politics in the modern world* (2008), pp. 153–73.

[5] B. Ziemann, 'Agrarian society', in Jay Winter (ed.), *The Cambridge history of the First World War* (2 vols, 2014), pp. 382–407. M. Tracy, *Government and agriculture in Western Europe, 1880–1988* (1988).

[6] J. Burchardt, 'Editorial: rurality, modernity and national identity between the Wars', *Rural Hist.* 21 (2010), pp. 143–50.

[7] On differences within one country, see D. Fitzgerald, *Every farm a factory: the industrial ideal in American agriculture* (2003), pp. 17–18.

[8] For more on agrarian internationalism see Georg von Grävenitz, *Argument Europa: internationalismus in der globalen agrarkrise der zwischenkriegszeit* (1927–1937) (2017).

[9] A. Ribi Forclaz and L. van de Grift (eds), *Governing the rural in interwar Europe* (2017). N. Vivier and

One crucial question that linked existing economic and social concerns with the future of rural populations was the question of education. From the early 1920s onwards, the term 'agricultural education' became a buzzword in international debates. All the major international organizations and conferences, from the CIA to the ILO, put the question of education on their agenda as something that needed to be both promoted and standardized. Education was seen by many interwar reformers and international civil servants as a means to diffuse new methods and technologies, turn un-skilled labourers into skilled workers, with the goal of improving agricultural practice and rural livelihoods whilst at the same time maximizing output, thus securing the future of the rural economy whilst preserving its agrarian identity. Reformers and agricultural experts, including new professional groups of agricultural economists and rural sociologists, all agreed that education was the linchpin of agricultural and rural development.

But what exactly did 'agricultural education' in internationalist parlance refer to and what were the motivations behind regulation and standardization? How far were discussions about agricultural education motivated by a reformist agenda of social progress with better working and living conditions or by a concern to exercise a tighter social control over the countryside?[10] Was agricultural education a tool to reduce rural exodus, or on the contrary, a measure to replace masses of allegedly uneducated peasants by a new professional class of skilled agricultural workers? How far were these discussions limited to certain parts of Europe, or was there a more global vision for education as a means to agricultural development? And last, what role did international organizations play in these discussions, and what, if anything were the legacies of these interwar debates?

In this article we seek to answer these questions through the prism of the archives of international organizations and associations, using the latter as 'transnational sites of study' that illuminate the circulation of ideas and debates on agricultural education.[11] Based on records from the CIA, IIA and ILO, the article begins by contextualizing the changes happening in agriculture in the interwar years. It then goes on to discuss how agricultural education became a core theme in the discussions held in the headquarters of the ILO in Geneva. The article examines the views that existed on what agricultural education should do, on the appropriate balance between theoretical and practical knowledge and whether rural schools should have a specific curriculum tailored to future agricultural populations.

As will become clear, the interwar international call for more widespread and standardized agricultural education catered for a variety of political, economic and social concerns. Agricultural education meant different things to different people. For some, the establishment of farm education in primary schools was seen as a way of awakening an interest in agricultural

Note 9 *continued*
S. Petmezas, 'The state and rural societies', in N. Vivier (ed.), *The state and rural societies: policy and education in Europe 1750–2000* (2008), p. 25.

[10] On education as a means of social control and regulation, see the editors' introduction in T. S. Popkewitz, B. M. Franklin, and M. A. Pereyra (eds), *Cultural history and education: critical essays on knowledge and schooling* (2001).

[11] I borrow this phrase from Glenda Sluga, 'Editorial: the transnational history of international institutions', *J. Global Hist.* 6 (2011), p. 219. For a similar approach that does not relate to agriculture, see Damiano Matasci, 'L'éducation, terrain d'action internationale. Le bureau international de l'enseignement technique dans les années 1930', *Relations internationales* 151 (2012), pp. 37–48.

work in rural children, where others believed in the dispatch of extension agents to teach adult farmers practical skills. A third point of view thought that progress would be best achieved through some form of vocational education (in French 'enseignement professionel'), that is technical education that would combine both theoretical knowledge with practical, hands-on experience and specifically prepare the student for work in agriculture. In one form or another, all these methods were concerned with improving the farmer's mind and efficiency and with controlling the dissemination of new scientific knowledge, through which professionalization and modernization of agricultural producers could be achieved. By discussing these debates, the article highlights the shifts and continuities in international efforts to promote better agricultural education in the 1920s and 1930s. It describes how interwar efforts foreshadowed the rural development strategies of development agencies such as the Food and Agriculture Organization after the Second World War. Finally, by connecting the history of international organizations with that of agriculture, the article rethinks some of the major tenets and chronologies of rural development history and broadens our knowledge of interwar 'proto-development' policies, actors and institutions.[12]

I

For most of the seventeenth and eighteenth centuries, the transfer of agricultural knowledge and knowhow in Europe relied on an empiric transmittance from generation to generation, through participation and imitation. This situation changed during the eighteenth century, when Europe witnessed the emergence of a 'science of agriculture' which went hand-in-hand with the first attempts at organizing, and institutionalizing, specialized training and teaching, a process dubbed by Peter Jones as 'agricultural enlightenment'.[13] From the mid-nineteenth century onwards, agricultural academies became more widespread resulting in an increase in academic research and experimentation and in the circulation of theoretical and scientific knowledge. The tendency towards a 'scientific' approach to agriculture was further promoted by land grant colleges in the United States, and the research and teaching activities of philanthropic foundations and colonial experiment stations.[14] Particularly in central Europe, vocational education and apprenticeship, which offered systematic technical training for agricultural work, became more common although still limited to only a very small portion of the rural population.[15] But all in all, the number of farmers trained in agricultural institutions

[12] I borrow the term from Cyrus Shayegh who has recently made a similar argument but in a different context. Cyrus Schayegh, 'The interwar germination of development and modernization theory and practice', *Geschichte und Gesellschaft* 41 (2015), pp. 649–84.

[13] On this see Peter Jones, *Agricultural enlightenment: knowledge, technology, and nature, 1750–1840* (2016). The phrase 'science of agriculture' is borrowed from id., 'Making chemistry the "science" of agriculture, *c.*1760–1840', *Hist. of Science* 54 (2016), pp. 169–94.

[14] On the United States, D. B. Danbom, 'The agricultural experiment station and professionalization: scientists' goals for agriculture', *Agricultural Hist.* 60 (1986), pp. 246–55. Jonathan Harwood, *Technology's dilemma: agricultural colleges between science and practice* (2005). J. M. Hodge, *Triumph of the expert: agrarian doctrines of development and the legacies of British colonialism* (2007), p. 208.

[15] P. Brassley, 'Agricultural science and education', in E. J. T. Collins (ed.), *The agrarian history of England and Wales,* VII, *1815–1914* (2000), pp. 594–649. See also id., 'Agricultural education, training and advice in the UK, 1850–2000', in Vivier (ed.), *State and rural societies* and also id., 'The professionalization of English

remained comparatively small. In fact, promoters of agricultural education confronted quite a few obstacles. As Richard Hoyle has pointed out for Britain, education was not necessary to gain access to land and although public health regulations increased in the early twentieth century, the great majority of farmers both in Europe and overseas did not need formal agricultural education, nor were they prepared to accept the cost and loss of labour that attending school necessarily entailed.[16] The challenges posed by this dilemma to international educational reforms and policy-making was widely recognized. As an international observer put it:

> The farmer, and especially the smallholder, asks why he should pay to send his son, whose services he can ill spare, to an institution in order to learn what, after all, he can be taught without cost on the home farm itself; and it is by no means easy to meet the double argument, that about expense and that about doing without the son's services, or the explain exactly in what consists the superiority of the institution teaching to what the father himself can impart.[17]

It was the very low numbers of 'professional' farmers that attracted the attention of the ILO, one of the main international organizations that contributed to debates on international social policy after the First World War. The ILO had been established in 1919 as part of the Treaty of Versailles, primarily to address the social rights of industrial workers.[18] Against the backdrop of what was perceived as a general radicalization of the rural countryside in Europe, its director, the French social reformer Albert Thomas, soon expanded the organization's mandate to include the working conditions of people in the agricultural sector.[19] Thus, in 1921, the annual Conference of the ILO put a range of agricultural issues, ranging from working hours to the protection of women and children and social insurance on its agenda.[20] Also, a small permanent unit comprising three members of staff – the so-called Agricultural Service – was set up within the ILO's headquarters to collect and manage material on agricultural labour issues. It was headed by the Cambridge-educated German-British scholar and internationalist, Louise Matthaei (later Louise Howard), who, until her departure from the organization in 1932, continuously battled with the ILO's director to increase her staff, budget and the overall importance of her unit.[21]

Note 15 *continued*
agriculture', *Rural Hist.* 16 (2005), pp. 235–51. Caitlin Adams, 'Rural education and reform between the wars', in P. Brassley, J. Burchardt and L. Thompson (eds), *The English countryside between the wars: Regeneration or decline?* (2006), pp. 36–52. For France, see the work of M. Boulet *et al.* (eds), *Les enjeux de la formations des acteurs de l'agriculture, 1760–1945* (2000).

[16] Richard W. Hoyle, 'Introduction', in Richard W. Hoyle (ed.), *The farmer in England, 1650–1980* (2013), pp. 12–13.

[17] L. E. Howard (née Matthaei), *Labour in agriculture: an international survey* (1935), p. 162.

[18] S. Kott and J. Droux (eds), *Globalizing social rights: The International Labour Organization and beyond* (2013).

[19] International Labour Conference, *Report on the adaptation to agricultural labour of the Washington decisions concerning women and children* (1921). For the draft conventions and recommendations adopted by the conference, see International Labour Conference, *Third session: record of proceedings*, I (1921), pp. 832–52. A. Ribi Forclaz, 'A new target for international social reform: the International Labour Organization and working and living conditions in agriculture in the interwar years', *J. Contemporary European Hist.* 20 (2011), pp. 307–29.

[20] Published as International Labour Organization, *A technical survey of agricultural questions* (1921).

[21] ODNB, 'Howard , Louise Ernestine, Lady Howard (1880–1969)'; Also, Ribi Forclaz, 'A new target for international social reform'.

Most of the ILO's early work on agriculture targeted a narrow group of so-called agricultural (wage) workers in Europe. Even so, many of the issues that the ILO addressed for the agricultural sector such as the limitation of working hours and the protection of women and children, proved too contentious. Still, as a result of these early efforts, by 1921 the ILO Conference had issued a range of guidelines, so-called recommendations, that did not bind governments to take legislative action but still needed to be brought to their attention. This included one on the development of technical agricultural education in which it asked members of the ILO to 'endeavour to develop vocational agricultural education', and also to submit regular reports on the progress of these institutions.[22] Whereas the impact of these recommendations remained modest, they signalled that for the first time a permanent international organization was attempting to tackle socio-economic questions that hitherto had only been sporadically addressed by international conferences, congresses and institutions. This rising focus on education, as has been shown for colonial contexts, also reflected the 'interwar faith in new modes of knowledge' and confidence in the abilities of scientists and experts 'to shape and manipulate nature'.[23]

The 1921 enquiry had also brought to light, that, as was the case with many other agricultural subjects, ranging from social legislation to agricultural statistics, international organizations faced a lack of centralized data and it was thus impossible to draw comparisons between existing models and forms of agricultural education in different countries across the globe. In response to the lack of data, in 1923 a newly constituted agricultural expert commission, the so-called Mixed Advisory Agricultural Committee, launched a more elaborate survey. Comprising members of the ILO and the IIA, the goal of the Committee was to coordinate the efforts of the two institutions despite their differing agendas and approaches. As Niccolò Mignemi explains in his article, the IIA was born out of transnational reformist networks of agricultural economists who were more concerned with economic cooperation than social policy. As Federico D'Onofrio's contribution shows, the IIA shared with the ILO a commitment to knowledge-production and data-gathering. Indeed, the cooperation between the two institutions resulted in the dispatch to ILO member countries of a questionnaire asking for information on national legislation, institutions and the various categories of agricultural education ranging from lower-grade schools to evening classes, higher education, and extension programmes, as well as methods of teaching.[24]

Such fact-finding surveys were very much *en vogue* in the interwar years, both as scientific tools and as a way to delineate issues that could be tackled through international cooperation, planning and policy development. The stated goal of the joint ILO-IIA enquiry on agricultural education was 'to set out the position of agricultural instruction throughout the world, and to show by a comparison of various methods of instruction the gaps which may exist and the improvements which may be effected'.[25] As the joint commission signals, agricultural

[22] 'Recommendation concerning the development of technical agricultural education', third International Labour Conference (1921).

[23] P. Kallaway, 'Science and policy: Anthropology and education in British colonial Africa during the interwar years', *International J. Hist. of Education* 48 (2012).

[24] International Labour Organization, *Vocational education in agriculture* (Studies and Reports Series, no. 9, 1929).

[25] Report of the experts on vocational agricultural instruction submitted to the Agricultural Advisory Committee, Nov. 1925, Archives of the International

education was regarded as a hybrid question that combined social rights and welfare aspects that were the mandate of the ILO, with technical and economic issues such as farm household management, the marketing of agricultural products, the creation of allotments, and the prevention of animal disease that were the mandate of the IIA.[26]

The most tangible result of the enquiry was a collection of national reports received from 31 countries in and outside Europe (but not from the US or USSR which, although solicited, did not reply). Some of these reports contained detailed information on institutions, numbers of pupils and courses offered but most highlighted that, as the ILO put it, 'a mere fraction of the agricultural populations are trained in a knowledge of the occupation which they pursue'.[27] The tone used by ILO officials to describe the general situation in agriculture smacked of age-old prejudice towards backward farmers and the rural-urban divide: everywhere, so the ILO report claimed, agricultural populations were 'shy', 'suspicious', 'diffident', and 'deficient in general culture'.[28] Much of this state of affairs was a result of 'inadequate general education in rural areas' which, along with inadequate housing, infrastructure and health provisions, produced a socially, politically, and economically inferior rural population that was vulnerable to change and to economic crisis.[29]

The ILO report on vocational education identified 'a special need for raising [the] general level of [education]' in almost all of the 31 countries it reviewed. As was the case with most of the work of international organizations in the early 1920s, the report was not so much oriented towards formulating international policy instruments but rather its aim was to facilitate the collection and exchange of information, to draw comparisons between different countries and different educational models.[30] Thus it also highlighted the great variations that existed across national and regional contexts and between, for example, Western and Central Europe and places like Cuba, Haiti and Chile. It showed that, in some countries, the legal framework for agricultural teaching dated back to the early nineteenth century, whereas in other countries such a framework did not exist. It also highlighted variations within Europe, for example with regard to the spread of agricultural apprenticeship and vocational training. Above all, however, the ILO report emphasized common challenges that were faced across national boundaries.

Note 25 *continued*
Labour Organization, Geneva, Series Agriculture, file number 802 (hereafter ILO, AG followed by file number).

[26] ILO, AG 800/0/3, 'Report on the second session of the Agricultural Advisory Committee', Rome, 5–7 Nov. 1925, p. 4.

[27] ILO, *Vocational education in agriculture*, p. 38. The study contained an overview of technical agricultural education in 31 countries across the globe, ranging from Australia to Switzerland and covering countries such as Norway, Finland, Sweden, Denmark, Germany, Switzerland, Austria, Hungary, Czechoslovakia, Poland, Latvia, Estonia, Belgium, France, Spain, Italy, Romania, Yugoslavia, Greece, Scotland, Northern Ireland, Irish Free State, Canada, South Africa, Australia, Argentina, Chile, Cuba, Haiti, British India, China, Japan.

[28] Ibid., p. 30. On the general acceptance of such prejudice see also J. Handy, '"Almost idiotic wretchedness": A long history of blaming peasants', *J. Peasant Studies* 36 (2009), pp. 325–44.

[29] ILO, *Vocational education in agriculture*, p. 45.

[30] Lately, historians of international organizations have shown this to be true for various international commissions such as the League of Nations' Permanent Mandates Commission and its Financial and Economic Commission. P. Clavin, *Securing the world economy: the reinvention of the League of Nations, 1920–1946* (2013). S. Pedersen, *The guardians: the League of Nations and the crisis of empire* (2015).

II

Generally speaking, international experts in the late 1920s agreed that the two main challenges agricultural education faced were firstly how to keep farmers up to date with the rising body of theoretical and scientific knowledge concerning agricultural methods and secondly, how to inculcate a progressive mindset amongst the rural population as a whole. In the eyes of international officials and experts associated with the ILO, agricultural education was a means to mould farmers' minds and render them open to scientific knowledge. It thus had a 'social purpose' that went beyond mere teaching, namely to turn out 'a sufficient number of … educated farmer(s) whose pores are open to all forms of new scientific knowledge' and who would spearhead progress in rural societies.[31]

The increased 'scientization' of agricultural debates, a phenomenon that had started in the early nineteenth century, strongly featured in international expert meetings such as, for example, the first post-war gathering of the CIA in France in 1923. Under a new section titled 'agronomy', members of the commission discussed technical and scientific matters such as new methods of soil disinfection, the latest advances in plant science, the use of fertilizers, new machinery, and the potential of seed selection.[32] The rise of related scientific disciplines such as rural sociology with its focus on farm life, social structure and rural culture, and agricultural economics, which outlined the rules governing production, distribution, and commercialization of agriculture, influenced the way plans for agricultural modernization were conceived by national governments and international organizations.[33] This further strengthened the call for greater coordination and cooperation within international agrarian associations and institutions. At the international congress of the CIA in Warsaw in 1927, members of agrarian networks discussed the coordination of agricultural experimentation across Europe, as well as the standardization of nomenclature for agricultural products.[34]

Against the backdrop of this scientific revolution, many feared that the so-called 'traditional' peasantry, with its reliance on empiric and vernacular knowledge did not have much of a future. The perceived lack of education and professionalization of the agricultural workforce was seen as contributing to a vicious circle in which uneducated and therefore backward agriculturalists increased the cleavage between urban and rural people, ultimately jeopardizing the latter's economic survival. The chief of the Agricultural Service of the ILO, Louise Matthaei, spoke for many international experts when stating that:

> The intellectual opportunities of rural peoples are … on the whole, deficient even in countries where compulsory education has been in force for many years. There is bred a great

[31] ILO, *Vocational education in agriculture*, p. 46.

[32] ILO AG 1000/13/1, Eleventh international agricultural congress of the CIA, Paris 1923. On the rise of agronomy, see Nathalie Jas, 'Déqualifier le paysan, introniser l'agronome, France 1840–1914', *Ecologie et politique* 31 (2005), pp. 45–55.

[33] On rural sociology, see Raluca Muşat, 'Prototypes for modern living: Planning, sociology and the model village in interwar Romania', *Social Hist.* 39 (2014), pp. 157–84. On the role of agricultural economists, Federico d'Onofrio, *Observing agriculture in early twentieth century Italy: agricultural economists and statistics* (2016).

[34] ILO, AG 1000/13/2, Twelfth international agricultural congress of the CIA, Warsaw 1925.

> dependence on, and belief in, traditional experience and traditional forms of management among agricultural populations. Such experience is usually wholly empiric.[35]

A change of such empiric knowledge was advocated not only for methods of production but also for the running of the farm household more generally. Both men and women were targeted as recipients of educational measures. This was also fostered by an emerging international understanding of the economic and social role of women in rural and agricultural life, particularly as homemakers and family managers and to a lesser extent as agricultural producers. A new 'séction féminine' of the CIA concerned itself with the dissemination of knowledge about home economics and household rationalization.[36] Women were seen as key actors in planning and managing the economy of the household, improving the utilization of the resources of the farm as well as providing better nutrition for the farm household. Women, international experts often asserted, were key to preventing rural exodus and it was therefore necessary to teach them skills and the use of labour-saving devices that would decrease the drudgery that came with many of their daily tasks. As Elizabeth Jones has shown for the Weimar Republic, views on agricultural education were 'gendered' in that it was commonly agreed upon that women should enrol in agricultural schools to receive practical education including courses on dairying, gardening, and the breeding of small livestock but not in botany or agronomy.[37]

However, as became clear from the reports collected by the ILO in Geneva, there was a delicate balance to be struck when educating rural people. Too much knowledge, it was feared, would further erode the ties that bound people to their land and encourage them to seek employment in the more attractive urban areas. This particularly mattered for another issue discussed by the ILO-IIA Mixed Advisory Agricultural Committee in the late 1920s, one that concerned many European countries at the time, namely the problem of rural exodus.[38] Rural exodus was a vague term, generally understood by international organizations to denote a 'migration with harmful consequences' affecting 'rural areas and agriculture' and leading to overcrowding in the cities.[39] As the author of an ILO case study on rural exodus in Germany affirmed, 'all recognise that a higher level of education would develop in the population a greater attachment to the soil'.[40] Yet whereas many agreed that all forms of technical education 'should foster a sense of the dignity of their calling among the rural population' and thus help to improve their economic situation, the form and content of agricultural education was widely debated.[41]

In this context, one controversial question that stirred debate both nationally and internationally was the question of 'rural bias'; in other words, whether to include some form of agricultural education in elementary school so as to influence the future professional choices of young children. By the 1920s, compulsory attendance of seven or eight years at elementary

[35] Howard, *Labour in agriculture*, p. 164.

[36] ILO, AG 1000/13/3, thirteenth international agricultural congress of the CIA, Rome 1927.

[37] E. Jones, *Gender and rural modernity: Farm women and the politics of labour in Germany, 1871–1933* (2009), pp. 150–3. N. Verdon, 'Agricultural labour and the contested nature of women's rural work in interwar England and Wales', *Historical J.* 52 (2009), pp. 123–4.

[38] ILO, AG 804/1, Fourth session of the Mixed Advisory Agricultural Committee, Rome 1929.

[39] International Labour Organization, *Rural exodus in Germany* (Studies and Reports series K, 9, 1933), p. 5. Another such investigation was carried out in Czechoslovakia in 1935.

[40] Ibid., p. 119.

[41] Ibid., p. 120.

school for children aged between seven and fourteen years was legally established in most countries. Some reformers argued that by giving 'country children' the 'chance of knowing about agricultural things before choosing their occupation in life' improved the likelihood that they would 'take up agriculture'.[42] The introduction of a 'rural bias' was contested, not least amongst ILO member countries. Whereas in a majority of countries some general form of 'ruralization of the curriculum' (also understood as an adaptation to the local environment of the students) existed, the great majority of countries that answered the ILO survey were against the introduction of vocational instruction in primary schools calling it 'undesirable', 'doubtful' and 'scarcely advisable'.[43] This excluded colonies and protectorates, which had not been included in the survey and in which, because of the preponderance of the rural sector, ruralized curricula were the norm.[44]

Amongst those who opposed the introduction of a ruralized curriculum in the countryside, many questioned its economic rationale and whether the shrinking agricultural sector was actually able to absorb surplus rural population, whereas others objected for social reasons, either arguing that children were too young to absorb technical knowledge or that it was unfair to create such determinism. Some agricultural interest groups such as the National Union of Agricultural Workers in England and Wales were 'utterly opposed to directing education of village boys and girls consciously towards providing future workers on the land'.[45] The ILO's opinion on this was rather clear: introducing a rural bias was 'an improper attempt to force certain groups of the population into certain occupations'.[46] As Matthaei pointed out, rural bias was 'sentimental' and 'against the laws of economics'. Not only was it unrealistic to 'keep everyone on the land', Matthaei also argued that an agricultural bias in rural schools 'would breed up divided populations and would re-fix the gulf between urban and rural life which it was one of the principal achievements of the nineteenth century to sweep way'.[47]

Thus, from the perspective of the ILO, primary schools were not the place to introduce agricultural teaching. Rather, the organization promoted the standardization of vocational agricultural education or an apprenticeship system in agriculture as a specific and systematic form of 'higher technical education' in which pupils would enrol after finishing compulsory primary education. As already mentioned, ILO officials were well aware of the many financial, social and practical obstacles to taking year-long degrees. Therefore, the ILO survey took a rather encompassing approach, arguing that vocational education could be transmitted through different types of formal and less formal teaching, ranging from agricultural colleges in which students earned a degree over several years to shorter winter schools and extension courses.

One of the major challenges when trying to reform technical education in agriculture, the ILO conceded, was how to balance 'practical experience' with 'useful knowledge'. After all, as rural reformers in North America recognized, there was a fine line between awakening the farmer's mind and risking him leaving the rural countryside.[48] With regard to practical

[42] ILO, *Vocational education in agriculture*, p. 48.

[43] For a summary of the government reports, see ibid., pp. 54–5.

[44] ILO, *Vocational education in agriculture*, p. 55.

[45] *The Landworker*, Dec. 1926, p. 52.

[46] ILO, *Vocational education in agriculture*, p. 51.

[47] L. E. Matthaei, 'Education in agriculture', *International Labour Rev.* 20 (1929), p. 683.

[48] D. T. Rodgers, *Atlantic crossings: social politics in a progressive age* (1998), p. 354.

knowledge the challenge was 'not to waste precious hours of instruction in teaching farm-bred boys and girls what they have already learnt at home'.[49] With regard to scientific knowledge the farmers had to adapt 'to advance in science' but this did not mean that agricultural education had to be 'properly speaking scientific'.[50] Defining the 'right' amount of knowledge thus posed all sorts of issues as the example of teaching on the usage of chemical fertilizers shows. As ILO officials pointed out, 'it is not enough to be taught that fertilizers have a great effect on crops … Unless the student can also be taught how to judge the quantity and quality of fertilizers needed …, he has learned less than he ought'. For the ILO, the dilemma of defining the content of agricultural teaching had even wider social and economic ramifications, mostly due to the rapid progress of scientific discovery and constantly shifting knowledge requirements.

> The future farmer will very likely know more in general, for example, about fertilisers than his father, but he will not be able to act without the expert's advice as (his father) did, owing to the extraordinary complexity which knowledge of this subject has assumed.[51]

Thus ILO officials concluded, agricultural teaching needed to be constantly adapted, in tune with scientific advances and growing dissemination of knowledge. Also, instruction and guidance through experts needed to be made available which posed all sorts of logistical and financial challenges. Many international reformers stressed the importance of extra-mural education for the 'diffusion of progress in the countryside'. In this context, agricultural extension, an approach that combined local interventions of agricultural experts with self-help programmes and rural adult education, was seen as the most affordable and 'modern' way to bring scientific knowledge to the farming population without creating too much disruption.[52] Extension had its origins in late nineteenth century America where 'people's colleges', experimental and demonstration farms established near land grant institutions made efforts to disseminate the results of research in agriculture to improve standards of living and productivity in rural communities.[53]

In the eyes of ILO officials extension teaching had various benefits: it was informal, did not take much time or require much effort on the part of students. It was cheap and free to the farmer, and appealed to all ages. Based on the idea that new scientific methods were brought directly to the farmers' attention by means of 'demonstration', extension was practice-oriented and encompassed farm and field. As one agricultural expert put it, extension's 'easy approach, does not outrage the shyness or diffidence so characteristic of rural populations, nor does it evoke their distrust and suspicion'. Also, because extension combined 'instruction' with a 'certain amount of pleasure' and 'a little mild excitement', it had achieved great success across Europe.[54] The impact of this type of practical and punctual teaching could be increased through all sorts of publicity measures including the organization of rural weeks and days, the staging of competitions, shows, and exhibitions, the use of travelling libraries and cinema projections, and the organization of visits to model and experimental farms, and demonstration

[49] ILO, *Vocational education in agriculture*, p. 43.
[50] Ibid., p. 40.
[51] Ibid., p. 42.
[52] Ibid., p. 29.
[53] B. F. Stanton, 'Agriculture, crops, livestock, and farmers', in R. W. Bulliet (ed.), *The Columbia history of the twentieth century* (1998), pp. 345–79.
[54] ILO, *Vocational education in agriculture*, pp. 29–30.

plots. The agenda behind all these publicity measures was to secure what international experts termed an 'easy approach to knowledge'.[55] For much of the interwar years, however, the ILO's endorsement of agricultural extension methods as a way to solving the problem of education in rural areas remained purely theoretical as the organization had neither the finances nor the ambition to further develop this field of activity.

III

By the early 1930s, against the backdrop of the Great Depression, international experts increasingly linked questions of production efficiency and international trade in agricultural goods, falling export prices and growing unemployment rates to more general concerns about the development of a class of technically and scientifically versed agricultural producers and labourers. As the chief of the agricultural service of the ILO observed, the accelerated globalization of agricultural markets and is recurrent crises warranted a 'minimum measure of reorganization of the agricultural industry …., reorganization which will tend to demand more skilled and more highly organised labour … but rather less in quantity'.[56] Stretching from continental Europe to the United States, countries witnessed greater state intervention, protectionism and the rise of social engineering projects. At the same time, international cooperation on rural and agricultural development between Geneva and Rome increased and new platforms and meetings emerged that addressed social, scientific and economic issues.[57]

Thus, in 1930, the League of Nations Health Committee together with the IIA and the ILO set out to organize a European conference on 'rural hygiene' to be held in Geneva in the summer of 1931.[58] The preparatory work for the conference generated an unprecedented volume of reports and interdisciplinary exchanges on social and technical questions, ranging from public health, medical services and sanitation in rural areas to questions of rural housing, sewage disposal, and water supply. The ILO cooperated by sending two reports, one that dealt with the poor accommodation of agricultural workers and the other with the employment of children in agriculture.[59] By integrating questions that had rarely been discussed before in international fora, the conference opened up the discussion on rural welfare more generally, bringing together international expertise and knowledge on social and economic dimensions, and showcasing what was viewed as an integral backwardness of rural areas.

Whereas by the early 1930s international diplomatic relations were starting to deteriorate, the period saw a marked increase in transnational agricultural cooperation, meetings and congresses that dealt with specific aspects of scientific agriculture, ranging from fertilizers to technical education. Internationalization efforts particularly emanated from Fascist Italy where the government had embarked on wide-reaching scientific agricultural research and

[55] Ibid.

[56] L. E. Matthaei, 'Some effects of the agricultural depression on agricultural labour', *International Labour Rev.* 23 (1931), pp. 453–75, here p. 475.

[57] K. K. Patel, 'The green heart of governance: rural Europe during the interwar years in a global perspective', in Ribi Forclaz and van de Grift (eds), *Governing the rural*.

[58] J. L. Barona and S. Cherry (eds), *Health and medicine in rural Europe (1850–1945)* (2005), pp. 130–4. Also, Borowy, *World health,* pp. 325–30.

[59] ILO, AG 1000/44/1, correspondence between Matthaei and Frank Boudreau, League of Nations Health Section.

ruralization programmes.[60] Thus, in 1930 a new organization, the Fédération Internationale des Techniciens Agricoles (FITA), was set up in Rome by Franco Angelini, an Italian agricultural engineer who also created various other international institutions such the International Centre for Chemical Fertilizers (established in 1933) and the International Centre for Rural Broadcasting (1936).[61] FITA was a federation set up to 'defend' the interests of a rising professional group of academically trained agronomists but the organization declared the promotion of agricultural education more generally as one of its main goals. Indeed, it considered itself as a successor to the older Commission internationale pour l'enseignement agricole founded in 1905 in Liège and headed by the Belgian agronomist and internationalist Paul de Vuyst, an early promoter of ideas of farm rationalization and scientific management.[62] In line with earlier statements by the ILO, the FITA maintained that agricultural education needed to be improved 'to elevate the level of civilization of agriculturists as high as possible'.[63] The diffusion of specialized technical education was seen as conducive to greater mechanization and rationalization of production, improvement of equipment and better organization of farm management.

The FITA managed to take the lead in the organization of various international events in 1931 and 1932, including a series of international congresses on agricultural education. The first of these events was purposely scheduled to take part at the same time as the fifteenth congress of the CIA in Prague in June 1931, which focused on the 'diffusion of progress in the countryside' more generally.[64] In line with other CIA congress, the gathering was concerned with technical, and economic questions, such as animal production, mechanization and industrialization and the better organization of international trade, but equally important were social welfare questions such as methods of agricultural teaching and measures to improve production, health and work in agriculture through such means as the radio, films, and agricultural fairs and exhibitions.[65] A range of illustrious agrarian experts emphasized in their speeches how agricultural education had been neglected, painting it as the gateway to progress and greater agricultural output. The Yoguslav delegate, Ljudevit Prohaska, underlined how Denmark and Switzerland – often cited as models of agricultural modernization – had succeeded in overcoming the agricultural crisis by promoting educational measures. Interestingly, however, the Swiss agronomist Benninger cautioned conference participants against a blind belief in the superiority of the agricultural technician ('*technicien agronome*') over those he called the empirical agriculturists ('*agriculteurs empiriques*'). Benninger stressed that improvements were delicate: they could have negative effects on farmers and needed to be made in full knowledge of local conditions 'because sometimes in the past improvements had been made that had resulted in more harm than good'.[66]

[60] T. Saraiva, 'Fascist labscapes: geneticists, wheat, and the landscapes of Fascism in Italy and Portugal', *Historical Studies in the Natural Sciences* 40 (2010), pp. 457–98.

[61] ILO, AG 1000/46/1, Première conférence internationale des techniciens agronomes, 9–14 Nov. 1930.

[62] On De Vuyst see E. Gubin (ed.), *Dictionnaire des femmes belges* (2006), pp. 201–02.

[63] ILO, AG 1000/46/0/4, Congrès international de l'enseignement agricole, Rome, Nov. 1932.

[64] ILO, AG 1000/46/2, Commission internationale de l'enseignement agricole, July 1931, Brussels; ILO, AG 1000/46/2, Deuxième conférence internationale des techniciens agricoles, Prague, June 1931.

[65] ILO, AG 1000/13/5, Bulletin officiel, congrès international d'agriculture, Prague, 5–8 June 1931.

[66] ILO, AG 1000/46/2, speech by Swiss agricultural engineer Benning at the Deuxième conférence internationale des techniciens agricoles, Prague, June 1931 (author's translation).

A year later, another congress on agricultural education was organized by the FITA. Despite its evident nationalist efforts to showcase Fascist programmes of social, economic, and environmental agricultural engineering such as the 'battaglia del grano' and the clearance of the Pontine swamps, delegations were present from Europe, and the United States, but also Argentina, South Africa, Algeria, Colombia, Cuba, Egypt, Mexico, Uruguay, Venezuela. Participants discussed various categories of agricultural education as well as more general questions concerning rural psychology and sociology, and the beautification of rural life.[67] For all their propagandistic intentions, these events show the importance attributed internationally to higher education in agronomy and the creation of a professional elite of agricultural experts in the 1930s. The participation of countries from the South in these international gatherings reflected an increasing concern with agriculture in the tropics.

Indeed, while in the 1920s, institutional debates on improving agricultural education had focused on European countries, by the mid-1930s, reflecting rising tensions within colonies, it was openly acknowledged that the lack of technical education was hampering economic progress on a global level. This also showed in the publication of new surveys on scientific research, experimentation and education in the tropics. Already in the late 1920s, the IIA had set up a commission focusing on the neglected particularities of 'tropical' agriculture, arguing for the latter's growing importance in solving issues of an international character.[68] In 1934, the IIA published an international directory of agricultural engineering institutions as well as a survey of tropical agricultural experiment stations.[69] In 1935, under the title 'The World Agricultural Institutions' it released a global inventory of educational establishments including detailed information on the latter's history, finances, buildings, laboratories, experimental farms, composition of teaching staff, curriculum, and body of students.[70] Although the usage and practical impact of such reference works remains difficult to assess, their publication nevertheless indicate a tendency towards thinking about rural populations and scientific and educational development in more global terms.

This tendency towards more globalized information gathering and less Eurocentric conceptualizations of agricultural and rural problems further increased in the late 1930s through a range of international events, such as the League of Nations' second rural hygiene conference in Bandoeng in 1937. South Asian and East Asian countries such as India, China and Japan which had attended the 1931 conference as mere observers, sent formal delegations to debate questions of public health including access to medical care, health education, and the expansion of health services in rural areas, but also more generally on economic development and educational reform.[71] The global approach to rural welfare, which increasingly emphasized the similarities

[67] ILO, AG 1000/46/0/4, Congrès international de l'enseignement agricole, Rome, Nov. 1932.

[68] A. Chevalier, 'L'agriculture tropicale et subtropicale au conseil international scientifique de l'institut international d'agriculture de Rome (7–14 Novembre 1927), *Revue de botanique appliquée et d'agriculture coloniale* 8.77 (1928), p. 12.

[69] International Institute of Agriculture, *Les institutions de génie rural dans le monde/International directory of agricultural engineering institutions* (1934).

[70] International Institute of Agriculture, *L'enseignement agricole dans le monde/Agricultural education in the world* (1935).

[71] S. Amrith, *Decolonizing international health. India and Southeast Asia, 1930–1965* (2006). Also, T. M. Brown and E. Fee, 'The Bandoeng conference of 1937: A milestone in health and development', *Am. J. Public Health* 98 (2008), pp. 42–3.

and interdependencies between socio-economic issues in Europe's rural countryside and the wider world, also showed in the continuing cooperation between the IIA and the ILO. In 1938, a newly constituted joint commission of IIA and ILO experts, the so-called Permanent Agricultural Committee, came together for its first session. The meetings of this committee stood out both for their inclusion of extra-European expertise, especially from Asia, but also with regard to their wider conceptualization of so-called 'peasants', which included waged laborers, sharecroppers, farm servants, small farmers and landlords.[72] Once again, the ILO collected a wide range of information, asking experts to submit preliminary reports outlining the socio-economic conditions in the agricultural sector in their respective countries.[73] Ranging from Switzerland to Japan, national reports emphasized similar shortcomings, such as low wages, excessive hours of work and lack of protection against unemployment and sickness. Education was generally mentioned in the reports as a way to remedy many of the social ills arising from living conditions in the countryside. As the Indian scientist, principal of Punjab Agricultural College, Muhammad Afzal Husain asserted, it was education of the rural population that would 'lead to intelligent work, alertness, better physique, better quality of work and higher output'.[74] In many respects, the discussions held in the Permanent Agricultural Committee were unprecedented in their integrative approach to agricultural questions and they resulted in a published report on 'social problems in agriculture' that offered an unprecedented survey and a guideline for the ILO's future work.[75] The increase of international meetings in the 1930s and a rising awareness of the global challenges amongst international actors, however, did not result in new legislative instruments. Just as the work of the Permanent Agricultural Committee had begun, it was cut short because of the outbreak of international hostilities. A second meeting of the committee, planned for 1939, was indefinitely postponed and for a few years at least the war would severely hamper the ILO's work.

IV

The devastation of peoples and landscapes and the social, economic and demographic chaos brought about by the Second World War, as well as the challenges posed by widespread hunger and the need for agricultural reconstruction brought the creation of a host of specialized agricultural committees and regional agencies focusing on trade and economic cooperation as well as on technical aid and development.[76]

In Europe, against the backdrop of emerging Cold War tensions, the Marshall Plan's recovery programme provided American financial aid to help with agricultural rehabilitation and industrialization schemes. In addition to the range of United Nations organizations that came into force after 1945, international commissions such as the European Productivity

[72] Ribi Forclaz, 'A new target ', p. 326.

[73] International Labour Organization, *Social problems in agriculture* (Studies and reports series K, 14) (1939), pp. 96–7.

[74] ILO, AG 1003/1/101/33, Report presented to the Permanent Agricultural Committee by Mr. Mian Afzal Husain, principal of Punjab Agricultural College, India.

[75] ILO, *Social problems in agriculture*.

[76] Amalia Ribi Forclaz, 'From reconstruction to development: The early years of the Food and Agriculture Organization (FAO) and the conceptualization of rural welfare, 1945–1955', *International Hist. Rev.* (forthcoming spring 2018).

Agency and later the Food and Agriculture Directorate were set up with the goal of better coordinating agricultural policies and increasing productivity.[77] Having spent the war in exile in Montreal, the ILO faced the challenge of asserting its global presence and its role in agricultural cooperation in this new context.[78]

In 1947, as India and Pakistan were ringing in a new era of decolonization, the ILO returned to Geneva and resumed its work on agriculture with a surprising degree of continuity. Although the IIA in Rome had not survived the war but was instead 'replaced' by the Food and Agriculture Organization (FAO) in 1945, the joint expert meeting on agricultural issues was immediately reconstituted. In July and August 1947, nearly a decade after its first meeting, experts in the Permanent Agricultural Committee met to discuss 'the increasing importance attached by the ILO to the social concerns in agriculture'.[79] Picking up the threads of interwar international debates, the meeting identified a range of problems such as extension of social security to farmers, employment, housing, and last but not least education. In the same year, an Asian regional conference in New Delhi, and a regional meeting for the Near and Middle East in Istanbul both addressed the working conditions of agricultural workers, signalling that ILO's widening geographical responsibilities in this field.[80] The meetings, however, also highlighted how, in the light of decolonization and the increase of non-European member countries, the ILO would have to rethink its 'classic' interwar standard-setting activities that were predominantly geared towards European and American workers.[81]

Following the recommendations of the Permanent Agricultural Committee further meetings were scheduled and by 1949, Matthaei's successor, the chief of the ILO's agricultural service, Turkish economist Mukdim Osmay, spoke of an 'intensification' of his organization's work on agriculture.[82] Indeed, having decided to place the question of agricultural labour and related matters on the agenda of the 1950 International Labour Conference, the ILO was preparing a wide-ranging report dealing with conditions of life and work in agriculture, underlining how little legislative progress had been achieved since the 1920s on such questions as hours of work, minimal salary, paid holidays, but also education.[83]

Alongside these technical discussions, the 1950s also brought more practical and interventionist development policies under the banner of 'technical assistance' and 'rural development'.[84]

[77] J. Pan-Montojo, 'International institutions and agriculture: from the IIA to the FAO', pp. 32–33.

[78] On the ILO's wartime exile see Sandrine Kott, 'Fighting the War or Preparing for Peace? The ILO during the Second World War', *J. Modern European Hist.* 12 (2014), pp. 359–376.

[79] International Labour Organization, Permanent Agricultural Committee, 2nd Session (1947).

[80] 'International Labour Organization', *International Organization* 2 (1948), pp. 127–8.

[81] This argument is made in the editors' introduction to Jill M. Jensen and Nelson Lichtenstein (eds), *The ILO from Geneva to the Pacific Rim: West meets east* (2016), p. 4.

[82] ILO, AG 1003/100, Osmay to Bouchard, 24 Mar. 1949. For an internal appraisal of the ILO's work in the field of agriculture, see A. Johnston, *The International Labour Organization: its work for social and economic justice* (1970).

[83] 'Labour problems in agriculture: general report', International Labour Conference, thirty-third session, Geneva 1950.

[84] Daniel Maul, *Human rights, development and decolonization: the International Labor Organization, 1940–1970* (2012). See also V. Plata-Stenger, 'Une voie sociale pour le développement. Le Bureau international du travail et les débuts de la coopération technique (1919–1949)' (unpublished PhD thesis, University of Geneva, 2016).

Thus, by the early 1950s, both the ILO and FAO shifted their focus away from data gathering and report writing onto operational activities, especially the transfer and circulation of expertise through technical assistance missions in the context of the United Nations Expanded Technical Assistance Program (ETAP).[85] Out of the nine international organizations engaged in this programme, FAO received the biggest share of funds for its development work, putting the organization into a leading position with regard to agricultural development and food production in the post-war international order.[86] By the early 1950s, FAO dominated operational activities in agriculture, deploying hundreds of agricultural experts of all nationalities who were engaged in practical education through so-called 'demonstrations' of scientific methods and tools all over the planet.[87] Given that technical assistance cooperation could only be undertaken at the request of a government and many governments identified the FAO as responsible for agricultural issues, hardly any requests for assistance in agriculture reached the ILO in the early post-war years.[88] Rather, through its so-called Manpower programme developed under the directorship of the American David Morse, the organization focused on training industrial workers through vocational training with the aim of helping developing countries achieve economic growth.[89]

Yet, despite existing overlaps with FAO (and to a much lesser extent with the newly created United Nations Educational and Scientific and Cultural Organization, UNESCO), the ILO succeeded in retaining its role as the leading organization concerned with agricultural education.[90] Thus, in 1953, based on recommendations of the Permanent Agricultural Committee, the Governing Body of the ILO decided that the question of how to improve the education of farmers should be placed on the agenda of the 38th session of the International Labour Conference in 1955.[91] In preparation for the conference, the ILO asked member governments whether they would support international legislation on vocational education in agriculture. The replies showed that the majority were sceptical about the possibilities of finding a 'common' approach to agricultural education at an international level. Some, forgetting the interwar efforts of the organization, also questioned whether the ILO was the appropriate organization to deal with this issue. Most governments, however, were still favourable to international legislation although the great majority did not support a convention but agreed to a recommendation.[92]

With the resulting 1956 recommendation on agricultural education the ILO once again asserted its voice with regard to social reforms in the field of agriculture. Although the

[85] D. Maul, 'Help them move the ILO way: The International Labour Organization and the modernisation discourse in the era of decolonisation and the Cold War', *Diplomatic Hist.* 33, (2009), pp. 387–404.

[86] Amy Staples, *The birth of development: How the World Bank, Food and Agriculture Organization and World Health Organization changed the world, 1945–1965* (2005), p. 99. Also D. Webster, 'Development advisors in a time of Cold War and decolonization: The United Nations Technical Assistance Administration, 1950–1959', *J. Global Hist.* 6 (2011), pp. 253.

[87] Food and Agriculture Organization, Report on the activities of FAO under the technical assistance program (1951), p. 110.

[88] On this see Johnston, *International labour organization*, pp. 119, 257.

[89] On manpower programme, see Maul, *Human rights*, p. 132

[90] On overlaps, see FAO, 10 DIR 346, Herbert Broadley (FAO) to Wilfred Jenks (ILO), 21 Aug. 1953.

[91] ILO, AG 1004/100, Fourth session of the Permanent Agricultural Committee, 1953.

[92] See replies of governments in International Labour Conference, 38th session, Report VII, 'Vocational education in agriculture' (1955), pp. 5–6.

recommendation remained a non-binding guideline with no direct impact on national law or practice, it encouraged member countries to expand programmes of training to:

> impart to farm men and women of different categories (unskilled, semi-skilled and skilled workers, managers, operators and farm housewives) the skills and knowledge necessary for their profession, instilling in them a sense of the social importance of the work they are doing.'

In more explicit terms, education in agriculture was to lead to 'more effective use of land, labour and capital', 'increase of production and yields', and 'improvement of income, and standard of living'.[93]

Apart from their title and general objective, the 1921 and 1956 recommendations had little in common. Whereas the 1921 recommendation was limited to two vague articles that contained no details about the scope and forms of agricultural education, the 1956 recommendation contained 37 articles outlining the multiple reasons for and ways in which people in agriculture should be instructed. As had already appeared during the 1929 enquiry, vocational education needed to be conceived in broad terms, comprising both formal education such as apprenticeship as well as informal ways in which knowledge was brought to the farmer through on-farm training and extension services. Whereas in the early 1920s, the ILO's concern had been mainly to improve the conditions of agricultural wage labourers in Europe, however, in the mid-1950s the recommendation did not limit itself to waged agricultural workers but it included 'the whole agricultural population' 'whatever their legal relationship to the land'.[94]

This expanded conceptualization of people working in agriculture reflected the knowledge gained by the ILO on this issue in the previous three decades as well as the expansion of its horizons produced by globalization. The ILO's interwar efforts to apply the same labour standards that existed for industrial workers to agriculture had been challenged from the beginning by the heterogeneity of agricultural conditions, and the lack of a cohesive and identifiable population group and its needs. From the late 1940s onwards, newly independent member countries, especially India, criticized the Eurocentricity of pre-war conventions, and forced the ILO to reconsider its aims of achieving universal standards in widely different contexts.[95] In the years to come, the ILO would further abandon its standard-setting activities, to embrace a more integrated and practical approach to development, and many of the reflections on how to impart education to the seemingly uneducated farmer would find their way into development practices, thus by-passing governmental legislation to be applied directly at the farm and village level.

[93] ILO, AG 18, 'Vocational education in agriculture', report VI, 39th session of the International Labour Conference, 1956 (1955), pp. 5–6.

[94] Recommendation issued by the International Labour Organization, R 101, Vocational Training Agriculture, 1956, 3.1.

[95] On this see Daniel Maul, 'The ILO, Asia and the beginning of technical assistance, 1945–1960' in Lichtenstein and Jensen (eds), *ILO from Geneva to the Pacific Rim*, p. 125.

V

This article has approached interwar cooperation in the field of agricultural education through the archives of the international organizations. As has been shown, beginning in the early 1920s, discussions in the ILO reflected the profound changes that were anticipated for the countryside, particularly the social and economic repercussions of modernization and the rising importance of scientific knowledge on agricultural production. There was a concern amongst international officials that the transformation and the industrialization process that agriculture was undergoing in the 1920s would 'bring about a crisis' similar to the one the 'Industrial Revolution had had on other industries'.[96] Raising the general educational level of rural populations was seen as a 'public responsibility' and as a 'pre-requisite to any real progress'.[97] Drawing on modest resources, the ILO's Agricultural Service worked to collect information about national case studies, tried to facilitate international exchanges between national experts and to bring the issues to the notice of governments through reports and surveys. Other institutions, such as the IIA, the CIA and later FITA further contributed to an international debate on agricultural education. In fact, by the second half of the 1930s there were so many different actors involved in questions of agricultural education that the ILO and IIA called for greater coordination.[98] We have to admit however that most of the activities of these institutions remained limited in scope and outreach, never resulted in a binding convention and rarely reached beyond government offices and expert eyes.

It would be wrong to assume that by using the archives of international organizations we can automatically achieve a global perspective on a subject that varied greatly not only across national boundaries but also across villages and regions. Nevertheless, there are a few observations that can be made. One, of course, is to highlight the efforts of international institutions to tackle the problem of agricultural education decades before 'development' came to dominate international policy-making. These efforts led to the exchange of expert opinions from different countries and the production of surveys that created a resource of knowledge on which governments, bureaucrats, civil servants but also farmers' organizations could draw. Another point that emerges from this approach is the continuity in institutional conceptualizations of international agricultural improvements and reforms. This continuity was reflected in the recurring debates on agricultural education as well as in the ILO's legislative efforts and the two recommendations issued on this subject in the 1920s and 1950s. Forty years before rural development programmes took off on an international level, ILO officials had formulated goals for agricultural improvements, brought together expertise, drafted reports and consistently faced the challenges posed by highly complex and heterogeneous socio-economic conditions in agriculture. Throughout this process it was first and foremost national experience, opinion and desire that determined both the form and the contents of international instruments. But the governing bodies and expert meetings

[96] ILO, *Vocational education in agriculture*, p. 76.
[97] Ibid., p. 69.
[98] ILO, AG 1004, Commission préparatoire pour coordonner l'activité des organisations internationales dans le domaine de l'enseignement agricole, 30 Apr. 1936.

of organizations such as the ILO steered the discussions and debates by launching specific inquiries and by deciding about which items to put on the agenda of their meetings.

Too often we equal rural development with the so-called 'Third World', whereas in the interwar years and continuing well into the post-war age, rural development was not targeting the Global South but was focused on agricultural progress in Europe. The encompassing debates and activities in organizations such as the ILO, IIA, and CIA document not only the discussions of an arguably narrow group of international experts, technocrats, and civil servants. Through the compilation and comparison of national experiences they offer glimpses of the intellectual reflections that accompanied the transformation of agriculture from pre-industrial forms in the 1920s and '30s to more specialized, technical and commercial forms of agricultural production in the 1960s. They also enable us to trace the changing geographical mindmaps that informed international debates over this period. Further research will be needed to demonstrate how international experts and 'local' farmers interacted in specific geographical and historical contexts, and to what extent local agricultural knowledge and local development actors shaped and contested the implementation of educational schemes.

Book Reviews

Britain and Ireland

EDWARD IMPEY with DANIEL MILES and RICHARD LEA, *The Great Barn of 1425–27 at Harmondsworth, Middlesex* (Historic England, 2017). vi + 89 pp., 31 illus. £20.

Harmondsworth is among the country's great medieval barns – what hacks call the cathedrals of the countryside. At twelve bays and 192 feet in length, it is here reckoned the thirteenth largest British barn for which there is evidence, although many of those which trump it are long-since demolished. Built in 1425–27 by Winchester College to service a newly purchased manor, it remained in agricultural use until the 1980s. Disuse led to disrepair, and finally a rescue purchase by English Heritage for £20,000, followed by £573,000 for repairs, completed late in 2014. A secure long-term future remains some way away, however, threatened as the barn is by Heathrow's third runway. Look out for this one in the years to come.

It is suggested by the authors that the construction of great barns may have followed the return to demesne farming in the twelfth century, after which grain tithes were received as unprocessed sheaves rather than as grain. Such barns have a rich literature – Walter Horn and Ernest Born are scholars' names that immediately spring to mind – but all too often the focus has been almost exclusively on structure, with context and function secondary considerations, if treated at all. Not so here, and that is what makes this such an exemplary study. Two things facilitated it: the opening up of the building and the recording and structural analysis which informed repairs, and the survival of a rich series of medieval accounts.

The manor of Harmondsworth was bought by William of Wykeham in 1391 as an endowment for New College, Oxford. As on other endowment properties, heavy investment in its buildings followed: church, prior's house and then the barn. That barn supplemented, or more probably replaced, two earlier barns, one being used in the 1390s for mixed crops, the other for hay. Accounts show that the barn or barns had to store cereals and pulses from around 240 acres, and there is an interesting discussion of the volume of crops barns could accommodate (dependent on how high into the roof the stacks rose) and the correlation between storage volume and the crops' acreage. There is, however, wide variation in the outcomes of the calculations according to the sources used, and the underlying assumptions on which the modern estimates are based: some estimates suggest Harmondsworth had considerable excess capacity, but this is far from certain. Also uncertain is the final cost of the new barn, although there is an informed consideration of what is known, and comparators.

As revealed by the accounts, the main crop grown here in the early fifteenth century was wheat (the smaller and broken grains, *curallum,* separated by sieving, being used as animal feed), followed by barley, oats, pulses and a mixed fodder crop of oats and legumes called *harascum*. The use of the barns – and barns in general – for storing and processing crops, which at Harmondsworth were also ricked, is considered in some detail, as are the ultimate uses to which the processed crops were put, alongside accounting procedures and the responsibilities of the college and manorial officials. This is a particularly rich and nuanced chapter, and would serve as a very useful primer for students. From Harmondsworth itself there is nothing particularly out of the ordinary, although labour services were still important as late as 1450. Their continued imposition in the early fifteenth century did not go unchallenged, and it is noted that by then, Harmondsworth had a long history of disastrous labour relations. Formal commutation came in 1461. However, by the fifteenth century the harvest workers did at least enjoy a much ampler and richer diet than in earlier days: in 1433–34 the harvest climaxed with a feast or 'reapgoose' for the twelve *famuli*, and presumably others, for which three geese were accounted, probably served on a table furnished with a cloth and candles.

At some stage before 1540 demesne farming ceased and the entire manor and rectory was leased as a single property, passing in 1543 to the Crown by exchange and thence in 1547 into lay hands. By the seventeenth century, if not earlier, groups of bays in the barn were

let with separate nearby properties: two bays with Court Lodge in 1687. There is, however, no evidence of partitions having been inserted in the barn, although these are known elsewhere. Later, probably in the mid-eighteenth to mid-nineteenth centuries, a series of multifoils or 'daisywheels' were inscribed by compass on several of the stylobates: the contention that these were apotropaic, to ward off witches, bad luck or fire, has recently gained credibility through the work of Timothy Easton.

The book is well produced and attractive, with high-quality colour illustrations. My only disappointment is that Historic England has chosen a slightly modest format, a softback the same size as this journal. A building this magisterial really deserved more generous bookmaking. But this is just a small cavil. It is very good study.

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JON STOBART, *Sugar and spice. Grocers and groceries in provincial England, 1650–1830* (Oxford University Press, paperback ed., 2016). 320 pp., 8 illus. £29.99.

Sugar and spice is a wide-reaching and thorough examination of the grocery trade in the long eighteenth century that analyses the processes of selling and purchasing groceries from merchant to retailer to consumer. By placing groceries in the historical context of the 'consumer revolution' and global empire, Stobart links the national and transnational to the everyday, ephemeral goods that have often been overlooked in favour of durable objects. He also considers how the familiar terms 'luxury', 'novelty' and 'pleasure' as explanatory concepts of eighteenth-century consumerism often disguise the continuities within grocery retail. Over the course of the book, Stobart demonstrates that these could be relatively fluid categories, and that 'novelties' were often incorporated within existing retail processes and structures.

In his first chapter, Stobart studies the grocery trade's pre-modern roots, arguing that the trade existed as a specialist branch of retailing well before the eighteenth century and that 'change as much as continuity marked the eighteenth-century grocery trade' (p. 40). Chapter two examines colonial goods that grew in popularity over the eighteenth century: sugar, tea, coffee, chocolate and tobacco. Through an examination of inventories and grocers' stock, Stobart strengthens his argument that these new goods, rather than stimulating a big growth in grocery retailing (as has been previously argued), were incorporated into existing lines of stock. The third chapter turns towards grocers and their 'networks of supply', which developed over a period when imported goods were becoming increasingly popular. Stobart argues that the existing supply networks were 'dynamic and responsive' (p. 88) and that shopkeepers held established personal relationships with the suppliers through whom they purchased their stock and new goods.

The next chapter analyses the geographical location of grocery shops in provincial towns and cities. Stobart argues that the physical location of grocers, amongst traditional 'genteel' traders, shows that they were 'firmly tied into polite lifestyles' (p. 111). Through a study of geographical markers such as trade cards and newspaper advertisements, an interesting argument is made that consumers created mental maps which positioned grocers' shops within other polite and genteel retailers, reinforcing their respectable position. Chapter five goes into the space of the shop itself, and looks at how groceries were displayed. Stobart provides evidence that grocers displayed their products in a way that suggested order, efficiency and professionalism, as well as adapting promotional techniques to suit their expanding range of goods. In chapter six, Stobart moves on to the process of buying and selling. Again, he demonstrates that selling groceries is as much about continuity with the seventeenth century as it was about change. Grocers were still expected to offer credit to respectable customers, and customers expected personal recommendations and guarantees from their grocers.

The next two chapters turn to advertising, focusing in particular upon newspapers and trade cards, and the audiences for these advertisements. Stobart argues that these two mediums offered different aspects of goods to the consumer: trade cards contained rich imagery and symbolism of empire and the exotic, whilst newspapers focused more on the commercial aspects of price, quality and availability. Consumers would receive both messages from these forms of advertisements, demonstrating that 'new' goods such as tea could be both exotic and mundane simultaneously. Stobart also examines the different shopping practices of consumers. Households developed their own routines in grocery buying, and developed skills at interpreting the commercial information available to them, whether through advertisements, reputation, or word of mouth, customers made their choices based on price and quality.

In chapter nine, Stobart delves into the life of groceries once they left the shop, leaving the space of the retailer and entering the home of the consumer. Stobart studies recipe books in order to explore the 'novelty' and 'luxury' of these 'new' imported goods. He argues that 'food and eating held different meanings

for different groups who were motivated by different concerns' (p. 238). The elites, for example, used food and groceries to delineate their social status and financial position, whereas the middling sorts used new groceries to denote their polite sociability and prudent respectability. The final chapter examines the material culture which surrounded these new groceries, using inventories to reveal that new 'consumption bundles' such as hot drinks paraphernalia, were collected gradually and situated amongst existing goods, rather than replacing older practices.

Throughout this book Stobart presents a detailed analysis of the life of groceries, from the time they reached Britain's shores to their consumption. Through this wide-reaching examination, he puts forward a persuasive argument that the growing demand for imported groceries in the eighteenth century was incorporated successfully into existing retail structures. A recurring theme is one of continuity *and* change (one might say, development) where existing sourcing, retailing, advertising, purchasing, and consumption processes were adapted and expanded to include these new goods. Colonial groceries could at the same time be seen as luxurious and everyday; novel and existing, nuancing these conceptual categories. As a whole, *Sugar and Spice* expands and furthers our knowledge of the consumer history, not least by insisting that goods should be understood through their 'lifespan' – from merchant, to retailer, and on to consumer.

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KATE FELUŚ, *The secret life of a Georgian garden* (I. B. Tauris, 2016). xiii + 258 pp., 71 figs. £16.89.

It is a truth universally acknowledged that one should never judge a book by its cover. Yet the charming exterior of *The secret life of a Georgian garden* should stop any bookshop browser in their path, tempting them to pick up and thumb through its contents. Upon doing so, the curious shopper will be rewarded with a book which is both insightful and entertaining, a history of the pleasure grounds of the Georgian elite. Rather than following a strictly chronological narrative, Feluś' work is arranged into sections covering morning, afternoon, evening and night-time, thus giving the reader a view of a 'day in the life' of the Georgian garden. In doing so, Feluś connects the garden – so often discussed primarily as an agreeable but somewhat unimportant hobby or afterthought – with the everyday experiences of the era's wealthy men and women.

The book will be enjoyed by both academics and interested amateurs alike. On the one hand, Feluś presents a history of the changing faces of pioneering landscapers (with a particular focus on Lancelot 'Capability' Brown), which provide the contextual and evolving background to the fairly consistent uses made of the garden itself. Yet, on the other hand, the book branches out, with references to scenes from Jane Austen novels providing a pleasant levity to the volume as a whole. All this is aided by Feluś' opulent and witty use of language where, for instance, an inheriting landowner is 'the archetypal new broom, [who] started sweeping away the most out-of-date features of his uncle's garden' (p. 59).

Feluś' book also benefits from the many visual images. First, there are the numerous pictures, both monochrome and colour, which add richness to the descriptions of the scenery. There are many which stand out, though a particular favourite has to be the two-page colour spread depicting the fireworks at Whitehall in 1749 (figure 64). In addition to the pictures are the earthy descriptions Feluś supplies, which transport the reader to the Georgian garden itself. Though, once there, they may be surprised by what they see. From portraits of a young George III stealing glances at the Lady Sarah Lennox making hay, to spectacles of boisterous lads engaging in mock naval battles on otherwise peaceful lakes, Feluś never fails to entertain.

An element of cheeky playfulness in people's use of their gardens also becomes apparent. Feluś describes one incident that involved the sacking of a hermit, hired to live within the grounds for seven years, yet found partaking of refreshments in a local tavern. Feluś shares this playfulness when she postulates on the possibility that naked bathers – their modesty protected by shrubbery and slopes – might watch with amusement as fully clothed people passed by completely unaware.

There is little in this book that warrants criticism, and any that exist stem largely from a wish that certain topics had been explored in greater detail. For instance, the tone of Feluś' work is pleasant and almost always joyful – except for the description of the untimely death of an up-and-coming composer – and suggests an idyllic life. Yet, the book might have benefited from giving more attention to the trials of running a Georgian garden. There are a few tantalizing references to the difficulties experienced by those who worked at the gardens, such as when servants had to struggle on their hands and knees against strong winds, but this felt like an all too brief glance behind the curtain of the garden facade. Further, the cost of maintaining the gardens and providing lavish entertainment is not mentioned, and the reasons why people went to such lengths is only fleetingly discussed. The focus on the positives also tends to mean that the gardens

are explored in mostly pleasant weather, and so the interaction between a garden and its many users in more inclement conditions, and as the seasons changed, is rarely revealed.

Perhaps leaving the reader wanting more is a sign of a successful book. It is certainly likely to encourage readers to dig through the extensive bibliography to find out where they could learn more. Nevertheless, Feluś provides a unique insight in to the way the garden both fuelled and facilitated life in this period, and highlights its importance to society. Feluś has shown how the role of the garden reached beyond the boundary walls, to influence people in their everyday lives, from the clothes they wore when exploring the grounds, to the food they ate (including reference to a three-foot-long venison pie), and to the fascinating way in which activities at night were planned around the timings of the full moon. The garden, we learn, interconnected many aspects of people's everyday lives. In doing this, Feluś has shown that there was so much more to the Georgian garden than we might have expected, and that by rooting through these pages, we may learn to appreciate gardens all the more.

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HANNAH BARKER, *Family and business during the Industrial Revolution* (Oxford University Press, 2017). 288 pp., 28 illus. £60.

In *Family and business during the Industrial Revolution*, Hannah Barker sets out to offer a fresh interpretation of family business history by challenging current perceptions of family, gender, work and power relationships in a period widely regarded as heralding significant economic and social change. By using the term 'Industrial Revolution' in her title, Barker immediately stakes her claim in a much broader historiography and demands that the reader considers the family business in the context of those 'spectacular but isolated successes of small numbers of giant industrialists and financial elites' described by Maxine Berg (p. 4). This is undoubtedly an ambitious undertaking, even though the evidence originates from a relatively small geographical area, namely Manchester and Liverpool.

In the Introduction, Barker argues that business owners viewed themselves as a 'diverse, yet distinct, social group' (pp. 9–10) and this idea of self-identification is a theme that is referred to throughout the following chapters. The importance of family to the majority of businesses cannot be underestimated, and although Barker herself has contributed to an important literature that demonstrated women's place in the business world, this analysis moves the debate along to examine men, women and families; an avenue that will prove much more fruitful in uncovering the broader picture.

Family and business is split into six chapters. Chapter one, 'Wealth Holding and Investment' (co-authored with Mina Ishizu), uses 124 Manchester wills and 130 Liverpool wills to examine the preoccupation of small business owners with wealth generation. The diversity of these investments suggests that they could be both a 'belt and braces' form of security against the pitfalls of trade, as well as a 'get rich quick' scheme, and the pitfalls of the latter are colourfully described through the cautionary tale of Liverpool biscuit baker John Coleman. Examination of the probate process leads Barker to question the degree to which a testator's last wishes were actually carried out and what the implications of this might be for the second generation of business owners.

The examination of probate records is further developed in chapter two, 'Family and Inheritance', which looks more closely at the motivations and practicalities of will writing. Barker argues that 'will making was primarily driven by a desire to control one's property' (p. 48), and this desire for posthumous control is a factor that appears to underlie the majority of the probate process. The case studies of John Woodward, Thomas Kent and James Blomiley each demonstrate the way that the probate process could be used by people to attempt to control not just their family's economic future (although she also presents plenty of evidence of this) but also the future personal relationships of family members and beneficiaries. Historians of women's history and the legal practicalities of estate distribution will be particularly interested in the section on women's inheritances (pp. 63–76).

In chapter three, 'Family and Business', Barker uses court records to try and differentiate the myriad of motivations and relationships that combined to create 'family strategy'. She acknowledges that court records show fissures rather than cooperation, but they also show how these conflicts were resolved. Barker's careful description of the court records also reveals the multiple levels of trust that existed between family members, supporting her argument that family should be considered a complicated and fluid organization rather than a single economic unit. The hostility of court battles is set aside in chapter four, 'Cooperation, Duty, and Love', and the focus turns to the ways that families worked together to create economic and social stability in a time of tumultuous change. Sections on parents and children, husbands and wives, and other family members allow Barker to remind the reader that the men and women in these pages experienced the

deep and powerful emotional connections of family life: something that can easily be overlooked.

Chapter five, 'Home, Business, and Household' (co-authored with Jane Hamlett), and chapter six, 'Family and Household', use inventories and diaries to firstly reconstruct the physical space in which small businesses operated and secondly, examine how people used this space. Analysis of the layout of business and living premises is particularly interesting, not least because it refutes the arguments that the Industrial Revolution was the time of the separation of work and home. Barker contends that public and private spaces, those of work and home, were fluid and reflected the relationships that they housed. The case of George Haywood, an employee who found life very uncomfortable because of the bickering of his employer and his family, shows how the cheek-by-jowl existence that many of the trades-people and their employees experienced meant the 'metropolitan customs' (p. 193) of separate rooms for different purposes were of little relevance or interest to the business owners of north-west England.

Family and business is an extremely focused work which makes excellent use of case studies to reveal the dynamics of family life and relationships within the context of small business ownership. There are some aspects that are perhaps not explored to their full potential, particularly the role that religion played in shaping communities, but this is a minor quibble given the way that Barker has successfully integrated the history of family enterprise into the wider economic, social and cultural history of eighteenth- and nineteenth-century England. Moreover, *Family and Business* demonstrates the continuities that underlined business life in the epicentre of momentous economic change.

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ANGUS J. L. WINCHESTER, *Dry stone walls: history and heritage* (Amberley Press, 2016). 96 pp., 180 illus. £16.99.

As someone living on a hill farm in the North Pennines, who has a keen interest in its landscape and traditions, and also being an amateur dry stone waller, I have long desired a book like this. Angus Winchester was already familiar from *The harvest of the hills. Rural life in northern England and the Scottish Borders, 1400–1700* (2000), his ground-breaking study of pastoral farming that combined assiduous documentary research with expert field surveys and amply showed his personal affection for, as well as his informed understanding of, this region. *Dry stone walls* demonstrates the same methodology and attitude.

As the author declares in his Introduction, this book's focus 'is unashamedly on northern England, which possesses some of the highest concentrations of dry stone walls' in the country (p. 8). His cases of particular walls are nearly all from Cumbria, Derbyshire and the Yorkshire Dales. Readers based elsewhere, especially in Wales, might thus be disappointed. Moreover, he is concerned almost exclusively with walls as field enclosures and property boundaries. Sheepfolds (pp. 73–7) and bields (pp. 77–9) are discussed, but not houses, farm outbuildings, churches, fortifications, mine workings, rabbit warrens, monuments, curricks or follies, even though any of these features – depending on their age and location – might potentially provide informative examples of the dry stone waller's craft. Such structures await serious study in this context.

The strict parameters of Winchester's survey enable him to conduct a systematic and fairly thorough appraisal of dry stone walls as primarily barriers to the movement of animals, by far their most common function. These walls must together stretch for thousands of miles through the northern and western regions of the British countryside. It is most important for the observer to understand that 'the modern landscape of dry stone walls does not date from a single period but is a composite production, reflecting a range of historical processes from the medieval period to the nineteenth century' (p. 92). In the first section of this book, Winchester presents a convincing account of how these processes occurred and their characteristic signs in the routes, materials and construction of walls. The clear and edifying photographs are commendable. Winchester admits 'that few attempts to identify distinctive features of medieval walls are wholly convincing' (p. 20); but the presence of orthostats and boulders strongly suggest antiquity, while an H-profile more specifically evinces a medieval or early modern date. The main problem when trying to date walls from their morphology is that they will have been periodically repaired and very possibly entirely rebuilt during their past. However, because wallers are reluctant to undertake any unnecessary labour, the course of a wall, any firm foundations that are in place, most of the other building material already there, and probably the existing height and profile of a wall are all likely to be retained unless there has been a compelling reason to change any of them.

By far the greatest mileage of dry stone walling, instantly recognisable by its straight lines, originates from the era of parliamentary enclosure. The form and building technique of walls also became fairly standardized and the occupation of professional waller began then, when there were many more wallers than there are today. One of Winchester's intriguing details is that, in the late eighteenth century, a 'waller

might expect to be paid around 2 shillings per rood of 7 yards (6.4 metres) – roughly a day's work' (p. 43). Rough indeed! This is considerably beyond what a modern waller, working to a decent standard, would comfortably undertake. Maybe there is an invisible second waller (paid part of that 2 shillings) and a boy (the son of either of these, possibly paid nothing, whose job was mainly to gather or create heartings) invisible in that record; otherwise it really was grim up north.

The second section of the book is a field guide to the features to be seen in dry stone walls. The different kinds of local stone, along with aesthetics and pride in good workmanship, have determined regional walling styles. The normal components of a wall, such as throughs, copestones (known variously as cams, capstones, capes or combers, depending on location), sheep creeps (or unkies) and smouts, the necessary gates and stiles to allow human movement, an interesting range of gateposts and stoops (as well as harr-hanging to avoid installing either), and more specialized features such as bee boles, rabbit smouts and initialled stones (these denoted either land ownership or responsibility for maintaining a stretch of wall) are each clearly described and explained. Curiously, hares' leaps, distinct from rabbit smouts by being positioned about halfway up the wall instead of at ground level, are not mentioned. It is unfortunate that the author has included, as an alternative for 'sheep creep', the term 'cripple hole', when that name has been quietly relinquished by wallers in recent years. Winchester's stated dimensions of traditional skeps (p. 73) are questionable in that any examples of the smallest – as little as 25 cm in diameter and 18 cm high – are almost certainly supers, for vertically extending the capacity of a bee hive. The photographs in this section include some examples of walls built of challenging material, showing not only the necessity of using whatever stone was close to hand but also the ingenuity and skill of particular wallers. Winchester includes the reuse of building materials (including stones from Hadrian's Wall and other Roman edifices) and odd items (such as fragments of hand querns and clay pipes) sometimes found inside walls, which might help to date them (pp. 83–5).

Deeply informed by the author's expert knowledge of northern England's landscape history as well as fully conversant with the techniques and terminology of dry stone walling, this book will be useful to agricultural historians. Lucidly written, methodically arranged, well illustrated and full of intriguing examples, it will also be accessible and engaging for the general reader. And most particularly, all dry stone wallers will enjoy and benefit from reading it.

MARTIN HAGGERTY

CAROL BEARDMORE, STEVEN KING and GEOFF MONKS (eds), *The land agent in Britain. Past, present, future* (Cambridge Scholars Publishing, 2016), 210 pp., 7 illus. £52.99.

Despite their pivotal role within rural society, land agents, estate stewards and factors have attracted surprisingly little notice in the historiography of early modern and modern Britain. A handful of books have been written over the past fifty years including David Spring's *The English landed estate in the nineteenth century* (1963), J. R. Wordie's *Estate management in eighteenth-century England* (1982) and David Oldroyd's *Estates, enterprise and investment at the dawn of the Industrial Revolution* (2007), together with articles by T. J. Raybould, Christopher Napier and Sarah Webster. Yet there is no definite history of the English (or British) land agent. As such, this short edited volume of essays is a welcome addition to the limited existing literature.

Drawn from a conference of the same name held at the University of Leicester, the book consists of an introduction and eight chapters. The introduction outlines the duties and responsibilities of land agents, offering a historical overview of the development of the role over the past few centuries and underlining continuities in the experiences of and personal skill set needed by land agents past and present, a theme picked up again by most of the contributors in their individual chapters. Land agency was and is a 'people business' (Hurren, p. 170) and land agents must be 'accomplished diplomat[s]' (King, p. 132) who can negotiate with landowners, tenants, labourers and diverse others alike: agents thus occupied a 'pivotal position within agrarian society' (Beardmore, p. 88). The editors then move on to introduce the individual chapters, although it is perhaps to be regretted that they do not offer a little more by way a historiographical grounding for the book. They are undoubtedly right to argue that the existing literature is '*relatively* threadbare' (p. 12, my emphasis) but a more explicit discussion of how the study of land agents might contribute to existing histories of the countryside and the aristocracy, business history, and the thorny question of agency within landscape change would have been welcome.

Along with the introduction, the early chapters by Jeremy Moody and Geoff Monks effectively set the scene. Moody briefly examines the history and development of land agency over the last thousand years, before focusing much of his chapter on the growing professionalization of agents in the period after *c.*1800. Monks takes up this theme again in the following chapter, arguing that mechanization and new legislation were both important factors in

the changing remit of the agent in the nineteenth century. The chapters by Carol Beardmore, Steven King and Elizabeth T. Hurren offer detailed case studies of the working lives and relationship of particular nineteenth-century agents and estates, while Caroline Dakers examines agents in fact and fiction, paying particular attention to those agents who appeared in the lives and novels of three female writers (Jane Austen, Elizabeth Gaskell and George Eliot). Both John Martin and Nick Morris offer interesting insights into the tensions inherent in managing heavily diversified estates with multiple stakeholders – Martin discussing game shooting estates and Morris the contemporary situation at Stowe in Buckinghamshire – although in neither case are the chapters centrally focused on the land agents themselves.

Read as a piece, the chapters stress the diversity of agents' responsibilities and roles, offering useful insights into the circulation of ideas and knowledge between agents and the networks in which they situated themselves (perhaps especially in the chapters by Monks and King). They also almost all remind us of the connections between the past, present and future of land agency, although the contributors place varying weight on the issue of continuity *versus* change (read: professionalization). I would perhaps have liked to have heard a little more about how representative the individual case studies were of wider experiences in the countryside, about the relations between landowners and agents (on which the surviving estate archives are surely fertile ground for research) and about the experiences of agents before the turn of the nineteenth century. The history of the *early modern* land agent remains to be written it seems, but this modest addition to the otherwise rather slim historiography on rural land agency in the nineteenth and twentieth centuries is certainly timely. The combined reference list and detailed index will both be appreciated by readers, although I would also like to have seen a list of contributors.

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TERENCE DOOLEY and CHRISTOPHER RIDGWAY (eds), *The country house and the Great War. Irish and British experiences* (Four Courts Press, 2016). 208 pp. £22.95.

This edited volume is a collection of sixteen papers, which tells the stories of country houses and their families between 1914 and 1918. Derived from estate and family papers from across Ireland and Britain, many of the sources are still retained in private family collections rather than local or national record offices and most are relatively little known. Rather than just presenting a single experience of the war, the book describes a range of differing experiences for the individuals involved, be they men or women, adults or children, living in towns or in the country.

The editors note that the country house community in Ireland made a greater than proportionate contribution to the war effort in comparison with the rest of the population: this initial assessment leaves the door open for further analysis of the sources to understand the subsequent effects on this community and on society in general. The editors are both associated with the Centre for the Study of Historic Irish Houses and Estates at Maynooth University, which surely explains the emphasis in the book on examples drawn from Ireland.

The first paper by Fergal Browne looks at the life of Robert Heard, heir to the Pallastown estate. Whilst serving in the war, he was injured on three occasions and recuperated on the estate: during this time, he was involved in agricultural developments, as well as in the local community through agricultural shows and ploughing matches. A further paper by Edward Bujak notes that the skills acquired through fox-hunting were transferrable to flying an aeroplane, which led initially to a 'winged aristocracy': in due course, pilots were recruited from lower social orders, who in turn were accepted by the aristocracy.

Through a large archive of letters between Edward Richards-Orpen and his wife, Philip Bull steps back from the front line of fighting to examine Richards-Orpen's role in the army's Motor Transport School of Instruction. Although serving in France, Richards-Orpen was granted agricultural leave between August 1917 and the following May, during which time he managed the harvesting on the Monksgrange estates in Ireland (which he inherited in 1927), as well as the sowing for the following season. Whilst Richards-Orpen survived the war, Fidelma Byrne examines the loss of family members at the 'big houses' of Ireland. She highlights one case where an estate had to find death duties arising from the loss of three successive owners in an eight-year period: the outcome was that the estate was leased out by the young widow left in charge.

Caroline Carr-Whitworth looks at the effects of the war on the community at Brodsworth Hall in the West Riding of Yorkshire. Noting that 'a large number of the little army of men who find employment on the Brodsworth estate are now serving their king and country' (p. 62), she considers the need for women to take over traditional male roles, as well as the effect on the estate of the ten lives lost. This impact on manpower

is a common theme with Fidelma Byrne noting one estate where thirteen staff had enlisted, leaving the head gardener and a boy to manage the estate.

Several papers reflect the effect of World War I on the Anglo-Irish gentry through the stories of individuals: amongst these are Ian d'Alton's discussion of Norman Leslie of Co. Monaghan; Donal Hall's examination of the Bellingham family of Co. Louth; and Colm McQuinn's paper on the Hely-Hutchinson brothers of Co. Dublin. These stories contribute to an underlying theme that those Anglo-Irish families who fought for Britain in the war were seen by nationalists as being on the side of England and therefore not supporters of an independent Ireland.

For Britain, Paul Holden considers the case of the parish of Lanhydrock in Cornwall and the effect of the war on the Agar-Robartes family (who lived at Lanhydrock House) and other families. After the war the parish struggled, not only as a result of the loss of men to the war, but also due to the collapse of both the mining and agricultural industries. Christopher Hunwick relates research undertaken for a war exhibition at Alnwick Castle in Northumberland, which resulted in over 30 names being added to the Roll of Honour, originally prepared in 1924. A paper by Ronan Foley demonstrates how country houses, acting as auxiliary hospitals, provided an extension to the network of war-time care for injured service personnel through a therapeutic landscape, whilst Brett Irwin considers Lady Londonderry's role in setting up the Women's Legion, which influenced the government's approach to organizing female labour later in the war.

This well-produced book of sixteen papers, with very few errors, presents a wide range of viewpoints on the effect of the First World War on the families who lived in the country houses of Ireland and Britain. Whilst some simply extract the information relating to individual war service as contained in the original archive material, others present a detailed and engaging view on the contributions that these families made to the war.

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JAMES RAVEN (ed.), *Lost mansions. Essays on the destruction of the country house* (Palgrave Macmillan, 2015). 138 pp., 6 figs. £35.99

The country house is an established part of English architecture. This, however, was not always the case. Political, societal and economic changes during the twentieth century placed the country house and the landed order under threat at a time when declining landed authority coincided with the ascendancy of the state. Within these shifting power relations the key question was what should become of the country house and who should be responsible. Estate owners and architectural historians, confused civil servants and reluctant local authorities, together with amenity organizations and societies – including the National Trust – grappled with a range of important questions. Which houses were of national architectural importance? What were the roles of the various actors? And what were to be considered suitable new uses for these buildings?

This culminated in the landmark *Destruction of the country house* exhibition at the Victoria and Albert Museum in London in 1974. Curated by architectural historians devoted to country house preservation, it catalogued and lamented loss at a crucial time and in doing so, cemented the country house in the popular consciousness. Such is the legacy of the *Destruction* exhibition that no book on this subject can escape it. Thus the introduction of *Lost mansions* opens by stating that one in six of the great country houses in Britain and Ireland were demolished between 1900 and 2000, destruction which eventually totalled 1900 properties and peaked in the year immediately following the end of the Second World War.

Mournful loss has thus pervaded the popular history of the country house. Yet this interesting volume of six essays helps to refocus the histories of the twentieth-century country house away from loss *per se* and towards new themes including the causes of loss, contemporary representations of loss, and the implications of more recent interest in great estates, the latter principally driven by the popularity of the *Downton Abbey* television series. Importantly, too, the volume broadens the debate to consider examples from England, Scotland *and* Ireland. It is perhaps apt that the opening image is a photograph of Roseneath Castle mid-explosion: where other books have ended, *Lost mansions* begins.

In the first chapter, Jon Stobart sets about to recover 'lost histories' through the themes of material culture, processes and people. He draws upon fragments of archival evidence including inventories and sales catalogues, theoretical approaches to understanding consumption linked to wealth and status, and little-known histories of female landowners and their impact on country houses in order to successfully 'reinvigorate the country house as a lived space' (p. 40).

Terence Dooley, in considering the Irish country house, identifies how political unrest and demands for land reform had a significant bearing on country house losses. This is charted through Ireland's complex and turbulent nineteenth- and early twentieth-century

agricultural history, which included famine, brief agricultural prosperity during the mid-1800s, global recession from 1877, the establishment of the reforming Land League and subsequent Land War. This instability led to a period of country house retrenchment and the sale of house contents. A long history of ensuing resentment, with land rights at the heart, is viewed as directly culminating in acts of military separatism and agrarian agitation, including the widespread burning of an estimated 300 country houses between 1920 and 1923. Such actions were in part undertaken in the hope that small landholders or the landless could benefit from landowners being ousted. One legacy of this contested history is that the country house became a symbol of British rule in Ireland and, as such, was never regarded as a part of Irish national identity or heritage.

Dooley's overview provides the context for Ian d'Alton's literary perspective on Bowen's Court in County Clare, the former ancestral home to the Anglo-Irish author Elizabeth Bowen. Despite surviving the troubles in the 1920s it was demolished in 1959 following its sale to a local farmer. Through the essay, d'Alton innovatively intertwines Bowen's own history of the house and her critique of gentry life with literary representations to create 'images of lost mansions and their meaning as literary texts' (p. 63).

Barbara Wood's chapter offers a different perspective on loss. Rather than physical loss and destruction, she considers how country houses have lost their purpose and sense of place and the implications of this for their future presentation, especially where familial continuity was lost. She explores this through three examples, including Barrington Court in Somerset, the first country house bequeathed to the National Trust in 1907. Not really knowing what to do with the house, it was let on a 100-year lease to Colonel Arthur Lyle, a gentleman farmer with a passion for architecture. Lyle completely redeveloped and remodelled Barrington, acquired surrounding land and established a successful model farming estate. It is interesting to note here how changing ownership could help breathe new life into estates and drive agricultural innovation. Despite this, and following a several short-term tenancies, the estate was eventually returned to the Trust in 2008. The identity of the house and its estate had been made and remade and, as such, the Trust have found it difficult to identify a coherent narrative to present to the public.

The two final chapters both offer contemporary histories of the country house. Thus Michael Davis explores more recent aesthetic debates regarding the maintenance, use and preservation of ruined Scottish castles. The architectural importance of the Scottish castle continues to spark debates about conservation, preservation and the appropriateness of restoration techniques. In exploring specific examples, Davis highlights how sympathetic restoration can be a positive and pragmatic alternative to decay and loss. James Raven moves south to reflect on the country houses of Essex, and in particular Marks Hall, exploring the pervasive 'heritage of loss', which, through the *Destruction of the country house* exhibition, enveloped the twentieth-century history of the country house. In looking forward, Raven identifies that, 'we need more grounded interpretive projects as many continue to wallow ... in Waugh-torn landscape where country house history has been high-jacked [sic] for very particular – if insinuated – political and cultural agendas' (p. 123).

In redefining 'loss' as more than simple physical destruction, the contributors to this short volume help us to reimagine British and Irish country houses and their late modern histories. The very readable and nicely produced volume, with helpful abstracts for each of the chapters, is thus a very welcome addition to the field.

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Europe and beyond

JANET M. DAVIS, *The gospel of kindness. Animal welfare and the making of modern America* (Oxford University Press, 2016). ix + 302 pp. £26.49.

Animal advocacy in the twenty-first century has become a 'global economy of kindness', where thousands of organizations compete for public donations to facilitate their version of animal protectionism at home and overseas. The movement itself is fragmented, inconsistent and at times divisive, driven by an unstable mix of altruism, ego, compassion, imperialism, kindness, and greed.

Since the post-World War II 'rights revolution' and the splitting of animal advocacy in the 1960s, animal welfare (the prevention of unnecessary suffering) and animal rights (non-human animal equality through liberation) have been increasingly conflated, a mistake compounded by the popular media who readily sensationalize abolitionist stances to increase readerships. Public challenges to human-animal practices in transnational places are often made with a lack of awareness of the specificities of cultural history and the human lives involved. Detached from its historical roots, the wider animal advocacy movement can learn much-needed lessons from *The gospel of kindness*.

The gospel of kindness expertly traces the social, cultural and political meanings of the American

animal welfare movement from the (American) Civil War to the onset of World War II. The six main chapters focus on implications of the animal welfare movement within the United States in an era of Protestant revivalism and social reform (chapter 1 to 3), and in America's overseas empire after Spanish-American War in 1898 (chapters 4 to 6).

Fez, Morocco (a city with no US embassy in 1929), is the unexpected starting point, where the structural foundation for the book is laid. Here, the American Fondouk animal hospital, the only shelter flying an America flag in a foreign country at this time, is used to pose broader questions about the evolution of the American animal welfare movement in the US and overseas: 'Why were discussions of an American animal hospital in Morocco consistently connected to questions of patriotism, uplift, and American benevolence?' and 'How did an organized movement, which began in cities across the United States, become a vanguard for the nation's aspirations for abroad?' (p. 4).

The first US animal protection organization, the American Society for the Prevention of Cruelty to Animals, was founded in New York by Henry Bergh in 1866. By 1900 every state had passed animal welfare legislation, largely based on Bergh's New York state laws. Janet Davis explains: 'animal welfare leaders enthusiastically embraced what they called "the gospel of kindness" to build a harmonious union, which could transcend the potentially divisive particularities of culture, religion, race, and class' (p. 4). Informed by the biblical concept of stewardship, animals were placed at the centre of wider projects of social and cultural reform, where 'animal kindness became a barometer of free moral agency and the boundaries of proper, civilized comportment and citizenship' (p. 5).

The gospel of kindness covers new ground on the role of female animal welfare advocates in American identity formation. Where the nineteenth century 'domestic ethic of kindness' (explored by Katherine Grier in *Pets in America*, 2006) saw middle-class women teach children benevolence through pet keeping in the home, the 'gospel of kindness' had wider implications. Davis shows how all-female institutions such as the Women's Pennsylvania SPCA (founded in 1867) and Women's Christian Temperance Union (founded in 1874) 'brought women out of the home and into the classroom, doctor's office, laboratory, church, backwoods logging camp, and state legislature' (p. 83).

Davis also reveals how public interactions with animals were transformed by humane advocates, the media and law enforcers into signs of 'American belonging and exclusion' (p. 85), with racial and class hierarchies being mobilized as pressure points for cultural assimilation. Examples include: othering the visiting Filipino Bontoc Igorots as dog eaters; the routine prosecution of Italian immigrants for hunting and consuming songbirds; the rejection of Jewish slaughter practices for being 'barbaric'; the portrayal of dog-fighting and rat-baiting crowds as 'beastly' immigrant Irish Catholics; and the restyling of bird hats and docked tails as 'un-American decadence'.

Unlike previous historical work on animal advocacy in America (Susan Jones's *Valuing Animals*, 2002; Bernard Unti's *Protecting all animals*, 2004; Diane Beers's *For the prevention of cruelty*, 2006) and Britain (Moira Ferguson's *Animal advocacy and Englishwomen*, 1998; Hilda Kean's *Animal rights*, 2000), *The gospel of kindness* makes an important contribution to understanding the role of animal advocacy, animal welfare legislation and humane education as tools for empire building in the wider world.

Davis traces the introduction of dog management in the Philippines for public health, safety, and colonial order, acknowledging that 'dog eating represented a cultural justification for assimilative empire building, even though actual colonial policy did little to stop it' (p. 126). The challenges of outlawing culturally specific animal practices are demonstrated with the example of cock-fighting in the Philippines, Cuba and Puerto Rico. In the Philippines, the practice became accepted as 'the embodiment of cultural fraternization and exchange among colonizer and colonized' (p. 134). In Cuba, Congress repealed the ban as a sign of cultural and political self-determination, and in Puerto Rico, cockfighting enthusiasts 'simultaneously appealed to ideals of cultural nationalism and citizenship to defend their sport' (p. 139). Ultimately, American policy-makers realised 'that humane education and practical recognition of pluralistic traditions constituted a more effective animal welfare policy than exclusion and criminalization' (p. 150).

Colonial India is an unusual case study in that policy-making and law enforcement was outside of American jurisdiction. However, Davis nicely shows how Indian religious traditions of nonviolence (*ahimsa*) and vegetarianism informed American animal protectionism, whilst teasing out the tensions connected to British colonial policy, religion, pluralism, caste, communalism, and nationalism. The difficulties of imposing universalizing rhetoric overseas become quite apparent, and the rise of 'cow nationalism' serves as an important reminder of how animal specific practices can lead to human inequality and dangerous social, cultural and political divisions. This point is reinforced by the example of 'un-American' bullfighting, which was treated as a symbol of Spanish decadence and

decline, and universally banned across the American empire.

The gospel of kindness is a remarkable piece of historical scholarship and an excellent book. The critical historical approach is engaging and global scope impressive. Not only does Davis reveal the significance of animal welfare advocates in shaping ideologies, policies and human-animal identities in modern America, she also uncovers and underlines the historical challenges of transnational animal protection. The book is authoritative and highly relevant to the contemporary world, and should be read by anyone with interests either in histories or animals or in the modern, largely secular, animal advocacy movement.

DANIEL ALLEN
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CYNTHIA CLAMPITT, *Midwest maize. How corn shaped the U.S. Heartland* (University of Illinois Press, 2015). 304 pp., 19 illus. £82 h/b, £15.99 p/b.

My grandmother, from England, turned up her nose at corn-on-the-cob, which she thought was food only for horses. I regarded this as a curious attitude as our family eagerly anticipated the corn season each year, the 'Taber corn' of Alberta and the 'peaches and cream' of Manitoba. This book helps to explain my grandmother's attitude and it provides fascinating insight into corn history, culture, and economy with a focus on how this crop transformed the Midwest, which is often called the 'Corn Belt'. Confusingly called maize in Britain (where 'corn' refers to cereals such as wheat, barley and oats), corn is today the number one cereal crop worldwide and the major agricultural crop of the United States.

Midwest maize is a lively popular account of the importance of corn. It is a sweeping survey based mainly on secondary sources. Cynthia Clampitt writes that, while many of the topics and issues she covers have been addressed in other books, hers is the first to tie them together. This book belongs in many ways to the recent genre of studies that focus on how products or crops such as cod, salt, coffee and cotton transformed the world. Clampitt argues that corn was an 'empire builder', practically creating the Midwest and making it successful.

A food historian and travel writer, Clampitt covers a remarkable range of topics beginning with the history of maize in Mesoamerica, its first appearance in Europe, the diversity and adaptability of corn, changing technologies in planting, harvesting, processing and preserving, corn as fodder and the rise of stockyards, trains, and cities due to the demands of the corn economy. Clampitt brings to light the multiple uses of corn, as breakfast cereal, starch, oil, syrup, and as ethanol for gasoline. Careful attention is paid to the material culture of corn history with discussion and photographs of technology now found only in museums such as the hand-cranked corn shellers. There is a chapter on popcorn: Americans consume an astonishing 16 billion quarts or more of popped corn each year. In the chapter, 'Celebrating Corn', Clampitt discusses the many ways humans celebrate this crop and show their gratitude, from the ceremonies of the indigenous people of the Americas to state fairs, and the Corn Palace that has made Mitchell, South Dakota famous. There is a chapter of recipes for preparing, for example, corn oysters, cornbread, and cornmeal pudding. A final chapter examines thorny questions and issues of the present-day including genetic modification, with a focus on how more people of the world can be fed while still retaining ideals of food quality.

While I like the way corn as an indigenous crop is dealt with in several places in the book, I wish there was greater acknowledgement of the work of indigenous women farmers in what became the Midwest. The best book on corn culture, and the most detailed ever published on indigenous agriculture, is *Buffalo Bird Woman's garden* by Hidatsa farmer, Maxi'diwiac, who in 1912 left a meticulous account of corn farming according to ancient methods. The crops of these women farmers were the main economic drivers of their region's economy. They excelled in the art of plant domestication, developing hardy, early maturing varieties of corn that could flourish even in the short growing season of the northern plains, and that could withstand hail and drought as well as early frost. In an approach that is similar to Clampitt's, Maxi'diwiac demonstrates how corn determined where people lived, their architecture, sacred ceremonies, courtship customs, and relations with neighbours. The farming methods and crops that Maxi'diwiac and other Hidatsa, Arikara and Mandan women developed over centuries endure to this day.

A map would have been useful for those not acquainted with the Midwest. It is unfortunate also that there is little venturing north of the 49th parallel. We learn that 'Canada was not initially part of corn's sweeping conquest of the prairies' (p. 13), but in the Red River Settlement of Manitoba in the nineteenth century, corn was a much more successful and reliable crop than wheat. So, there is much to be learned from this book about the profound reach and influence of corn. And I learned that Grandma was not alone, for Europeans still often view corn as animal fodder.

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Articles

The role of demesnes in the trade of agricultural horses in late medieval England	JORDAN CLARIDGE	1
Fertilization by manure: a manor model comparing English demesne and peasant land, *c.*1300	HUGO J. P. LA POUTRÉ	20
The enclosure of the commons and wastes in Nantconwy, North Wales, 1540 to 1900	FRANCES RICHARDSON	49
Feeding in the forest: How Scottish settlers learned to raise livestock in the old-growth forests of Upper Canada, 1814 to 1850	ELIZABETH RITCHIE	74
The spread of the potato blight in the Russian Empire, 1846 to 1852	MARTEN SEPPEL	94
World War I and the reconstruction of rural landscapes in Belgium and France: a historiographical essay	DRIES CLAEYS	108
The hays of medieval England: a reappraisal	SARAH J. WAGER	167
Technology, labour, and productivity potential in peasant agriculture: England, *c.*1000 to 1348	JANKEN MYRDAL AND ALEXANDRA SAPOZNIK	194
From couper to farmers' cooperative: livestock fairs and markets in north-east Scotland from 1800 to 1900	RICHARD PERREN	213

International organizations and agriculture, 1905 to 1945

Edited by Niccolò Mignemi and Juan Pan-Montojo

International organizations and agriculture, 1905 to 1945: introduction	JUAN PAN-MONTOJO AND NICCOLÒ MIGNEMI	237
Italian agricultural experts as transnational mediators: the creation of the International Institute of Agriculture, 1905 to 1908	NICCOLÒ MIGNEMI	254
Agricultural statistics in their international aspect: the International Institute of Agriculture, the Economic Conferences of Genoa (1922) and Geneva (1927) and the 1930 census of agriculture	FEDERICO D'ONOFRIO	277
The global agricultural crisis and British diplomacy in the League of Nations in 1931	MADELEINE LYNCH DUNGY	297

Shaping the future of farming: the International Labour Organization and agricultural education, 1920s to 1950s	AMALIA RIBI FORCLAZ	320
Annual list of publications on agrarian history, 2015	PETER MCSHANE	130
Winter Conference Report 2016	PAUL WARDE	161
Spring Conference Report 2017	REBECCA FORD	163

Book Reviews

Karis Baker, Ruth Carden and Richard Madgwick (eds), *Deer and people*	ALASTAIR I. WARD	158
Hannah Barker, *Family and business during the Industrial Revolution*	JENNIFER ASTON	343
Carol Beardmore, Steven King and Geoff Monks (eds), *The land agent in Britain. Past, present, future*	BRIONY MCDONAGH	345
Cynthia Clampitt, *Midwest maize. How corn shaped the U.S. Heartland*	SARAH CARTER	350
Janet M. Davis, T*he gospel of kindness. Animal welfare and the making of modern America*	DANIEL ALLEN	348
Terence Dooley and Christopher Ridgway (eds), *The country house and the Great War. Irish and British experiences*	ALAN WADSWORTH	346
Kate Feluś, *The secret life of a Georgian garden*	STORMM BUXTON-HILL	342
Elizabeth Foyster, *The trials of the king of Hampshire. Maness, secrecy and betrayal in Georgian England*	BRIONY MCDONAGH	154
Amy M. Froide, *Silent partners. Women as public investors during Britain's financial revolution, 1690–1750*	JENNIFER ASTON	152
Edward Impey with Daniel Miles and Richard Lea, *The Great Barn of 1425–27 at Harmondsworth, Middlesex*	PAUL STAMPER	340
David Johnson, *An improving prospect? A history of agricultural change in Cumbria*	IAN WHYTE	154
Richard Jones and Christopher Dyer (eds), *Farmers, consumers, innovators. The world of Joan Thirsk*	JONATHAN HEALEY	150

Eric Jones and Patrick Dillon, *Middle Ridgeway and its environment*	CATHERINE GLOVER	146
Peter Mitchell, *Horse nations. The worldwide impact of the horse on indigenous societies post-1492*	RHYS EVANS	159
Jean Morrin, *The Victoria History of Hampshire. Steventon*	ALAN WADSWORTH	155
David Neave, Susan Neave, Catherine Ferguson and Elizabeth Parkinson (ed.), *Yorkshire East Riding Hearth Tax, 1672–3*	HELEN MANNING	151
Mark Newman, *The wonder of the North. Fountains Abbey and Studley Royal*	BRIONY MCDONAGH	149
Denise Phillips and Sharon Kingsland (eds), *New perspectives on the history of life sciences and agriculture*	ALASTAIR I. WARD	158
James Raven (ed.), *Lost mansions. Essays on the destruction of the country house*	MATTHEW KEMPSON	347
Jonathan Spurrell, *Bessingham. The story of a Norfolk estate, 1766–1970*	STORMM BUXTON-HILL	157
Jon Stobart, *Sugar and spice. Grocers and groceries in provincial England, 1650–1830*	SARAH SHIELDS	341
Jon Stobart and Mark Rothery, *Consumption and the country house*	LIZZIE ROGERS	156
Simon Townley (ed.), *The Victoria County History of the counties of England. A History of the County of Oxfordshire, XVIII, Benson, Ewelme and the Chilterns (Ewelme Hundred)*	MALCOLM THICK	148
Angus J. L. Winchester, *Dry stone walls: history and heritage*	MARTIN HAGGERTY	344
C. M. Woolgar, *The culture of food in England, 1200–1500*	JENNIFER S. HOLT	147