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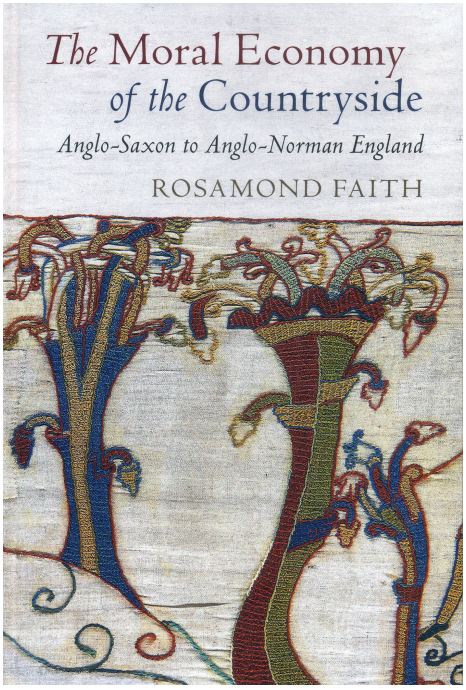
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Joan Thirsk Memorial Prize 2020

The Society is pleased to announce that the Prize for 2020 has been awarded to Rosamond Faith, for her book, *The Moral Economy of the Countryside*, published by Cambridge University Press.



The President of the Society, Paul Brassley, writes: 'As in previous years, it is gratifying to see that 2019 produced an excellent crop of entries for the Thirsk Prize. They were all potential winners, and covered periods ranging from the eighth century to the twenty-first, but the judges were unanimous in awarding the prize to Rosamond Faith for her book, *The Moral Economy of the Countryside: Anglo-Saxon to Anglo-Norman England*. The book explores the structure of values and obligations in Anglo-Saxon landed society which determined whether behaviour was judged to be right or wrong, and explains how these ideas affected landholding. Concepts of rank, reciprocity, and worth were changed by the Norman Conquest, so by the twelfth century a formerly free peasantry owed regular labour and rent in cash or kind to a new class of landlords. The culmination of a lifetime's work, this book makes comprehensible a huge amount of knowledge, secondary literature and primary sources. Beautifully written, and sensibly priced, it's exactly the kind of book that Joan Thirsk would have enthused about.'

The emergence of mixed farming in eastern Norway*

by Axel Mjærum

Abstract

Farming societies in large parts of northern Europe until the last century were founded on a close integration between livestock breeding and the cultivation of arable land. The emergence of this mixed farming economy represented a fundamental change in the history of the region. The main aim of this paper is to study this process of transformation in greater detail by using statistical modelling of radiocarbon dates and results from excavations in eastern Norway. The article discusses the details of a clear shift in farming traditions 1000–500 BC, including a large-scale expansion of farming land into areas of stone-rich moraine. It concludes that this represents the emergence of farming systems practised until recently in eastern Norway and that this change was an important part of the social and cultural developments that took place in the last part of the Bronze Age in Northern Europe.

Few issues are more important in farming societies than soil fertility. Historically farmers in large parts of northern Europe have ensured this by closely integrating livestock breeding and arable cultivation to prevent soil depletion.[1] In such a mixed farming system, the livestock is fed on crops grown on the farm, as well as grass and leaf fodder from pastures and forests. In return, the animals' manure helps to sustain agricultural plant growth. The balance between crops and livestock is critical and offers an opportunity to involve the whole family in the production and even out farm labour during the annual cycle.

It has long been argued that this form of mixed farming emerged in northern Europe in the first millennium BC.[2] In the last few decades the process of transformation to this economy has been discussed in further detail, and it has been held up as one of the most significant changes in agricultural history, especially on the basis of excavations and research projects in

* I would like to thank the two anonymous reviewers whose comments have greatly improved this manuscript. I also appreciate Hans-Martin Frydenberg Flåtten and Julian Post-Melbye for language revision as well as Alan Crozier for proofreading. I am also grateful to Per Persson and Steinar Solheim for their analysis of data used in this article.

[1] R. Jones, 'Why manure matters: Historical, archaeological and ethnographical perspectives', in R. Jones (ed.), *Manure matters* (2012), pp. 1–11; R. Shiel, 'Science and practice: The ecology of manure in historical retrospect', in *Manure matters*, pp. 13–23. See also C. Dyer, 'The housing of peasant livestock in England, 1200–1520', *AgHR* 67 (2019), I, pp. 29–50 for a discussion of these perspectives.

[2] D. B. Grigg, *The agricultural systems of the world: An evolutionary approach* (1974), pp. 152–86; on dating, see Myrdal, 'Elisenhof och järnålderns bosskapskötsel i Nordvästeuropa [Elisenhof and Iron Age cattle farming in north-western Europe]', *Fornvännen* 79 (1984), pp. 73–92.

Sweden. Our knowledge of the emergence of mixed farming, however, has only partly been based on wider systematic analysis of larger datasets from multiple sites.[3]

Surveys and excavations in eastern Norway in the past three decades have, however, generated close to 600 radiocarbon dates, a record that provides new possibilities to study the emergence of mixed farming by quantitative approaches. Based on the new data, combined with contextual information and other parts of the archaeological record in the region, I will address three research questions related to the introduction of a new way of farming in the first millennium BC. First, when was the concept of mixed farming introduced in eastern Norway? Secondly, to what extent was the system transformed to a mixed farming economy, and, finally, how can such a transformation to a new way of farming be explained?

I

According to the agrarian historian Janken Myrdal the agricultural histories of pre-modern societies were characterized by a small number of large-scale transformations separated by periods of relative stability when only parts of the system were adjusted.[4] He identified the last parts of the Bronze Age (*c.*1100–500 BC) and the transition between the Early and Late Iron Age (AD 500–600) as such moments of transformation in prehistory. Myrdal based his model on archaeological and historical records from Sweden, but his ideas are also applicable to other parts of northern Europe. The model is grounded on the fact that agricultural production was a pervasive part of most European societies until the nineteenth century, and that farming was also entangled with almost every other task and goal in these societies.[5] It is clear, however, that there was room in these systems for the individual farmer's choices, adaptations and innovations, and that such innovative practices were most likely to be incorporated more generally when they fitted the existing technological system.[6] In essence, widespread changes in the technology of livestock breeding and arable farming also required proportional transformations in farming societies as a whole. Agricultural history is consequently often intertwined with major societal changes, climatic events, and pandemics.[7]

[3] 716 radiocarbon dates on charcoal found beneath clearance cairns are analysed in a study of demography in the Swedish region of Upland. See P. Lagerås, 'Agrara fluktuationer och befolkningsutveckling på sydsvenska höglandet tolkade utifrån röjningsrösen [Agricultural and population dynamics in the South-Swedish Upland interpreted from radiocarbon-dated clearance cairns]', *Fornvännen* 108 (2013), pp. 263–77, and Figure 2 in this article. Dates from arable land without such cairns have not been analysed in the same way. A broader discussion of the date of this development can however be found in E. A. Pedersen and M. Widgren, 'Agriculture in Sweden: 800 BC–AD 1000', in J. Myrdal and M. Morell (eds), *The agrarian history of Sweden, 4000 BC to AD 2000* [hereafter *AHS*] (2011), pp. 46–71 and L. Häggström, *Landskapsutnyttjande, bete och odling på sydsvenska höglandet under äldre järnålder: Exemplet Öggestorp* [*Land-use, grazing and cultivation in the south Swedish uplands: The Öggestorp case*] (Gotarc, series B, 2005).

[4] J. Myrdal, 'Swedish agrarian history – the wider view', in Myrdal and Morell (eds), *AHS*, pp. 257–70; and see Grigg, *Agricultural systems*.

[5] I. Hodder, *Entangled: An archaeology of the relationships between humans and things* (2012).

[6] See P. C. Anderson, A. L. van Gijn, J. C. Whittaker, and F. Sigaut, 'The dimension of tools, skills and processes: exploring diversity', in A. L. van Gijn, J. C. Whittaker, and P. C. Anderson (eds), *Explaining and exploring diversity in agricultural technology*, II (2014), pp. 3–11.

[7] J. Myrdal, 'Swedish agrarian history', in Myrdal and Morell (eds), *AHS*, pp. 257–70.

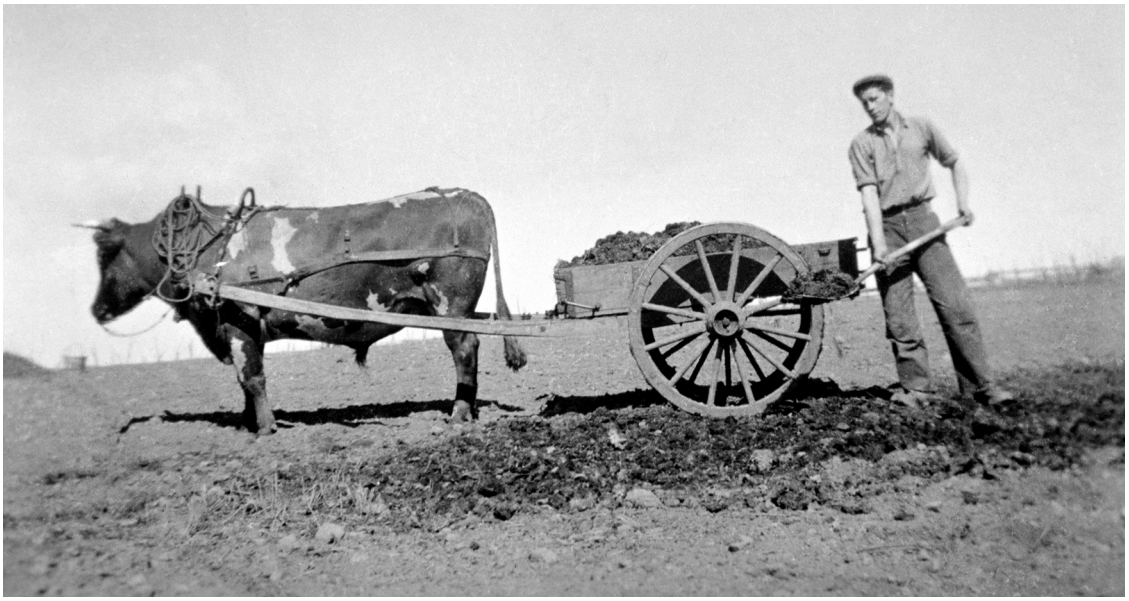


FIGURE 1. Manure is a key factor in the mixed farming system and, until the introduction of synthetic fertilizers and tractors, manual spread of waste from barns was a common sight across northern Europe.

Photo: manuring at Løten in inland Norway in 1937, taken by Even Narmo, CC PDM.

Myrdal argues that the introduction of mixed farming was also accompanied by significant technological changes, such as the introduction of iron implements. At this time byres and fences also became more common, making it possible to control the animals and their manure.[8] The idea of the existence of uniform agricultural systems transformed by periods of upheaval can be criticized for oversimplifying a complex, diverse, and partially divergent source material, and at the same time inviting simplistic causal explanations.[9] The transformation in agriculture can thus be seen as somewhat more nuanced, gradual and complex than the model of a limited number of major agricultural technology complexes suggests. Nevertheless, Myrdal's concept highlights crucial aspects of the major changes that appear as medium-term conjunctures in the history of agriculture. In this way, his perspectives form a framework that is well suited to a study of agriculture based on a large dataset of radiocarbon dates, where the aim is to capture the trends and breaks that led to the mixed farming economy.

[8] Myrdal, 'Elisenhof'; see, e.g., Häggström, *Landskapsutnyttjande*, pp. 153–4, for a discussion of this argument.

[9] For general arguments concerning simplistic causal explanations see, e.g., V. P. J. Arponen *et al.*, 'Environmental determinism and archaeology: Understanding and evaluating determinism in research design?', *Archaeological Dialogues* 26 (2019), pp. 1–9; for specific arguments concerning the introduction of mixed farming, see M. Widgren, *Fossila landskap: En forskningsöversikt över odlingslandskapets utveckling från yngre bronsålder till tidlig medeltid* [*Relic landscapes: A research history concerning agrarian landscape developments from Late Bronze Age to Middle Ages*] (1997), p. 26; B. Myhre, 'Landbruk, landskap og samfunn 4000 f.kr.–800 e.Kr. [Agriculture, landscape and society 4000 BC–AD 800]', in B. Myhre and I. Øye (eds), *Norges landbrukshistorie* [*The agrarian history of Norway,* hereafter *AHN*], I (2002), pp. 99–101; Häggström, *Landskapsutnyttjande,* pp. 151–6.

II

The part of eastern Norway studied consists of 79,000 km² of land and encompasses a quarter of present-day Norway (Map 1). The topography is varied. The coastal strip has a temperate climate with deciduous forests. The lower part of the inland region is dominated by coniferous woodland (taiga), while there only birch and alpine vegetation is found at high altitudes. The mountainous landscape in the central part separates eastern Norway from the fjord landscape on the west coast, while there is no such clear landscape boundary to the neighbouring areas in Sweden.

Land upheaval combined with melting and moving glaciers has eroded the surface, rendering a varied landscape with till sediments, clay flats and river deposits.[10] Most of the past and present cereal cultivation is located in the coastal zone, around the large lowland lakes, and in the low-altitude valleys, which are the areas with the best climatic and geological conditions for cultivation. Animal husbandry dominates agriculture in the higher and inner parts. At present 6.4 per cent of the area is used as farmland, while 55 per cent is forested.[11]

The stone-rich areas with glacial till produced by the retreating ice sheet are only partly used as arable land today, whereas these areas played a key role during the Iron Age (see below). Parts of the former fields are therefore well preserved as areas with clearance cairns in the present forest landscape. The prehistoric farming land is more disturbed in areas that are used for cultivation today.

In the studied areas there are as many as 2,300 mapped sites with remains of farming from prehistory until the Middle Ages (before AD 1537), traces of former farming that represent multiple forms of agricultural practices since the Late Neolithic in the region. However, the presence of clearance cairns is an easily recognizable feature that appears at a significant number of the sites. This type of cairn is commonly linked to Iron Age farming in the region, while there have been multiple suggestions as to when this form of farming appeared in eastern Norway.

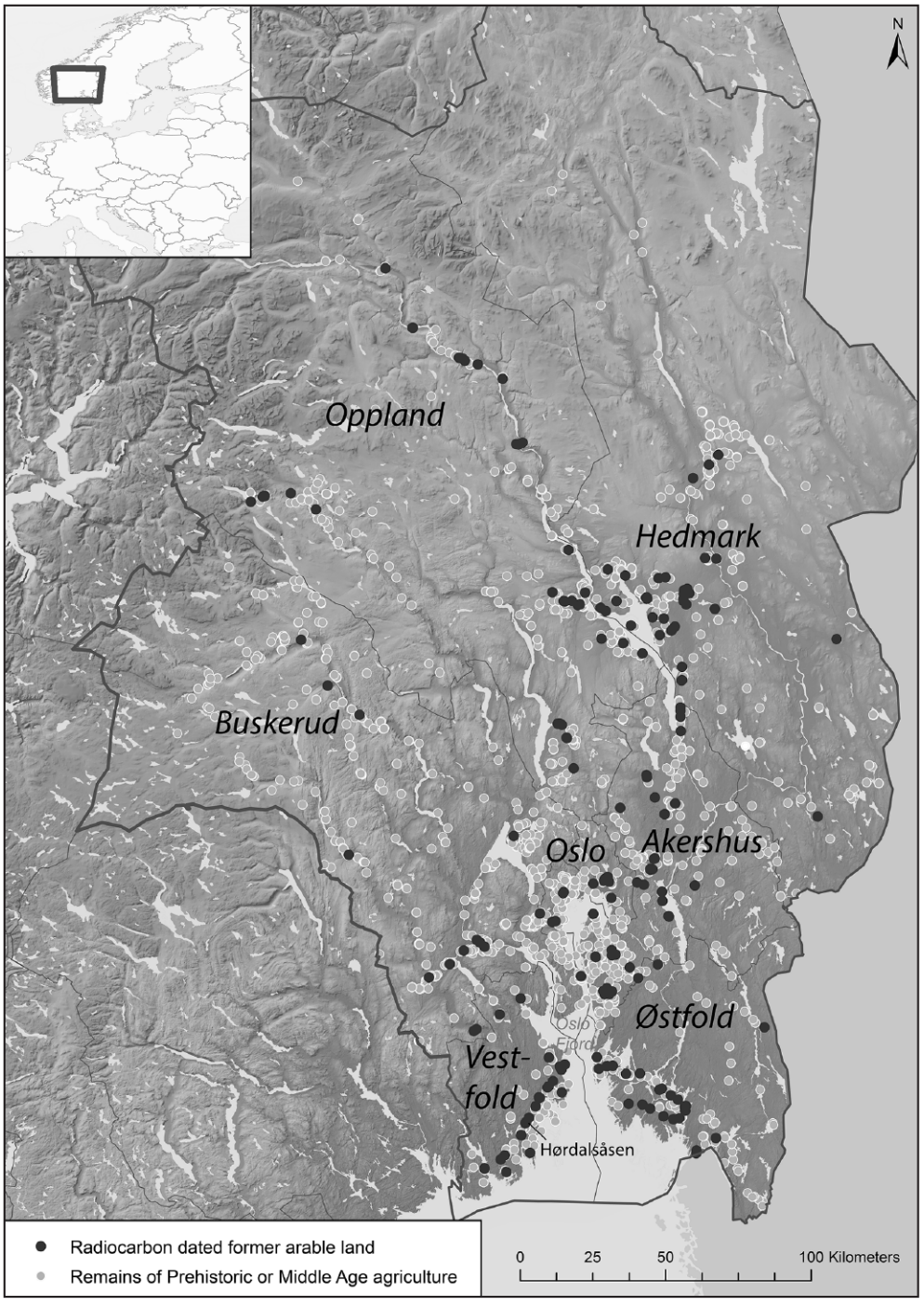
It has been argued that this practice of clearing stones to make arable land started in the Late Neolithic (*c.*2350 BC).[12] Other researchers have pinpointed 800 BC as the time of its introduction, based on radiocarbon ('C14') dates of single sites and references to more systematic Swedish research.[13] By analysing a large number of radiocarbon-dated fields *with* and *without* clearance cairns it is possible to study the regions farming traditions through time. The comprehensive data can further be used as a basis for a discussion of the character of the Bronze Age and Iron Age farming and the transformation to a mixed farming economy in the region.

[10] O. Fredin *et al.*, 'Glacial landforms and Quaternary landscape development in Norway', in L. Olsen, O. Fredin, and O. Olesen (eds), *Quaternary geology of Norway* (2013), p. 6.

[11] Statistics Norway, 'Area of agricultural properties, by area classification', (www.ssb.no/en/statbank/table/10206, 2019).

[12] O. Rønne, 'Hus og gård i senneolitikum på Svinesund', *Primitive Tider* 7 (2004), pp. 61–9.

[13] E.g. Myhre, 'Landbruk, landskap og samfunn', pp. 83–4; I. Holm, *Forvaltning av agrare kulturminner i utmark* [*Management of agrarian sites in forests*] (University of Bergen Archaeological Ser. 4, 2007), pp. 35–6.



MAP 1. In total, there are 2310 mapped sites with remains of former agriculture in the part of eastern Norway studied (Østfold, Akershus, Oslo, Vestfold, Buskerud, Oppland and Hedmark). In this article, 594 C14 dates from 203 of these sites are analysed (see supplemental material for details).

Map: Ingvild Tinglum Bøckman and Axel Mjærum, Museum of Cultural History.

III

In the last 30 years at least 203 sites have been C14-dated in the parts of eastern Norway that are included in this study. A total of 594 radiocarbon analyses are presently available from these sites. I will use the C14 data and the site contexts for a discussion of the transition in farming in the first millennium BC. Of the 594 radiocarbon dates, 577 are derived from wood charcoal.[14] The rest of the analyses were of cereals (9), nutshells (4), cones (2), bones (1), and berries (1). Archaeologists have sampled the material from agricultural soils and in relation to clearance cairns during archaeological excavations and surveys over the last 40 years. Tests have been conducted to validate the results, a strategy that has been recommended by recent researchers to identify various sources of error.[15]

Connected to the material in question there are at least three source-critical aspects that affect the analyses and the outcome: the quality of the dated material, different standard deviations of the radiocarbon dates and the effects of sampling bias.

Remains of former arable land are often a result of long-term farming and multiple geological and biological processes. The dating of such prehistoric sites has largely relied on radiological analysis in Scandinavia, and in the literature, the relationship between the dated material and former farming has therefore been much discussed. Several researchers have stressed that it is often difficult to establish the beginning of farming in an area unless a charcoal horizon related to the first clearance by fire is identified.[16] This conclusion has led to a practice of dating charcoal material found beneath clearance cairns, charred material which commonly originates from agricultural land clearance by fire (Figure 2).[17] This dating strategy gives the earliest possible date (a *terminus post quem* date) of the farming, and thereby a focus on the clearance of new farmland. There is however a risk of dating fires or settlement activity that are in fact earlier than the first farmland clearance in the area by applying this approach.

In eastern Norway, the strategy of sampling charcoal underneath the cairns has been combined with more detailed studies of tilled layers in the last 15 years. The aim has been to establish a better understanding of the complex formation processes of the tillage and the dated material. By combining comprehensive excavations with multiple forms of archaeometrical data (e.g. micromorphological studies, pollen analysis, macrofossil sampling, and analyses of soil physics and chemistry) it has been possible to obtain more detailed information of the farming practices, including clearance, manuring and periods of leaving the land fallow (see Figure 3).[18]

[14] See supplemental material: https://perma.cc/X5P9-JKJZ.

[15] A. Bayliss, 'Quality in Bayesian chronological models in archaeology', *World Arch.* 47 (2015), pp. 677–700. B. Weninger *et al.*, 'Quantum theory of radiocarbon calibration', *World Arch.* 47 (2015), pp. 543–66.

[16] E.g. L. Häggström, J. Baran, A. Ericsson, and A. Murray, 'The dating and interpretation of a field wall in Öggestorp', *Current Swedish Arch.* 22 (2004), pp. 43–60; Holm, 'Management of agrarian sites'.

[17] Lagerås, 'Agrara fluktuationer och befolkningsutveckling'.

[18] E.g. K. Viklund, J. Linderholm, and R. I. Macphail, 'Integrated palaeoenvironmental study: Micro- and macrofossil analysis and geoarchaeology (soil chemistry, magnetic susceptibility and micromorphology)', in L. E. Gjerpe (ed.), *Oppsummering og arkeometriske analyser: E18-prosjektet Gulli–Langåker* [*Results and*

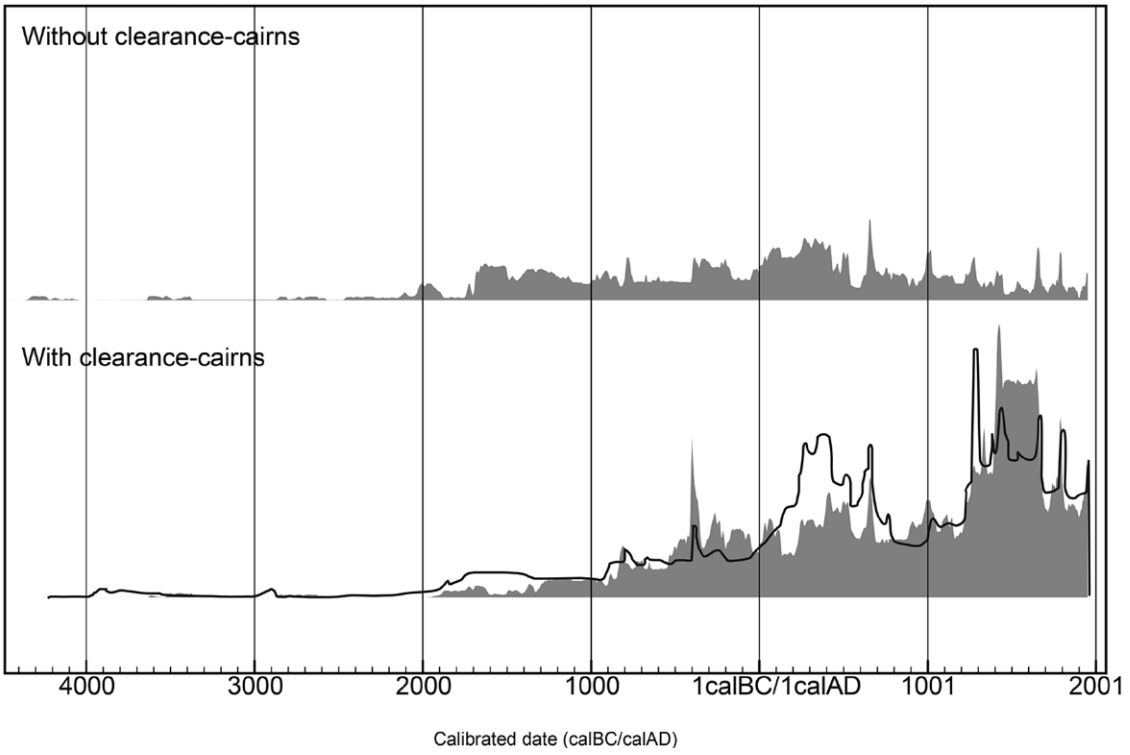


FIGURE 2. The plot at the top shows a significant increase in the number of sites without clearance-cairns (mainly agricultural layers, n=171) around 2000 BC and a further increase in the number of dates in the Roman Iron Age in eastern Norway. The second plot compares radiocarbon dates of clearance-cairn fields in central Sweden (n=716, black line) and eastern Norway (n=407, grey). The graphs prove that the stone clearance in the two areas must be regarded as one phenomenon during the Prehistory and the Middle Ages.

Illustration: author.

A focus on the tillage itself makes it possible to gain more reliable dates for the period the sites were used, and also in cases where clearance of stones was not practised as a part of farming. This strategy reduces the problems of getting *terminus post quem* dates from sites and makes the data from sites *with* and *without* clearance cairns comparable. This is of key importance when different farming systems in the region are discussed. Through such an approach, however, the focus is partly moved from the initial phase of farming to the time when the fields were in use, which can be a disadvantage when studying the timing of clearance of new farming land.

The effect of different sampling strategies can be studied on a small scale in Figure 4, and on a larger scale when the data sets from Sweden and Norway are compared (Figure 2). The general trend is that the periods of increase started a little bit earlier in Sweden than in eastern Norway, as is expected since the data collection in the Swedish study has been focused on the

Note 18 *continued*
archaeometric analysis from the E18 road project Gulli–Langåker] (2013), pp. 25–83; I. Holm and B. M. Sageidet, 'Origin of the sandy terraces at Grundset, Elverum, South-Eastern Norway: Evidence from archaeological soil micromorphology', *J. Nordic Archaeological Science* 18 (2013), pp. 67–83.

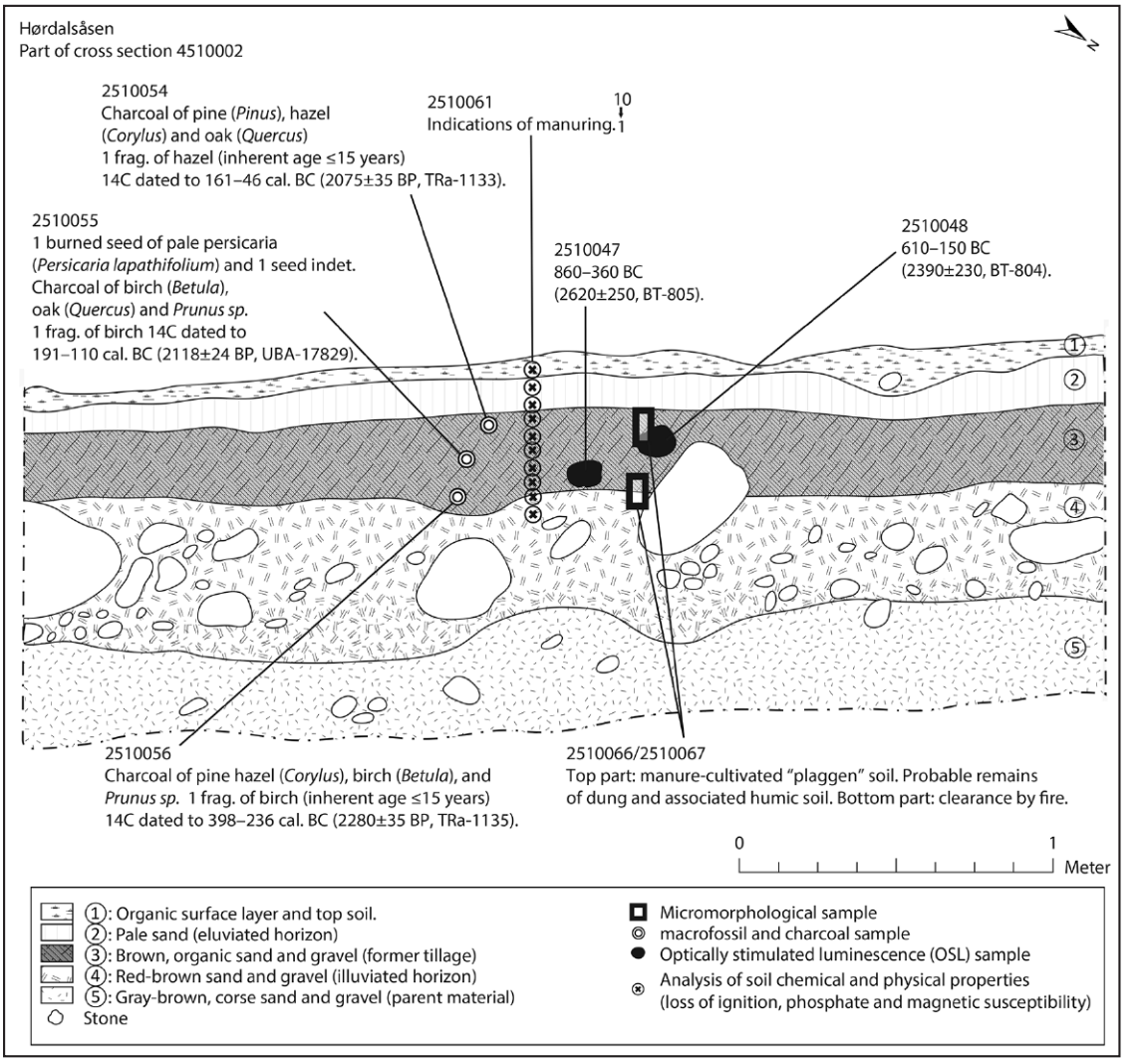


FIGURE 3. The tillage at Hørdalsåsen has been comprehensively analysed. Analyses from multiple cross-sections prove that farmers cleared the area *c.*400 BC and that the western part especially was intensively manured during the centuries that followed.

Illustration: Tone Wikstrøm and Axel Mjærum, Museum of Cultural History.

time of clearance, while parts of the Norwegian data represent the time when the fields were in use. The discrepancies between the graphs can thereby, at least partly, be a result of different sampling strategies, but cultural-historical differences are probably also of relevance. The graphs prove, however, that the clearance fields in the two regions must be treated as *one* phenomenon across the regions.

With few exceptions, botanists have studied the anatomy of the charred material used for the radiocarbon analyses in this study. Since oak and pine can potentially also reach a greater age than other common trees in the region, birch, spruce, hazel and other tree species are as

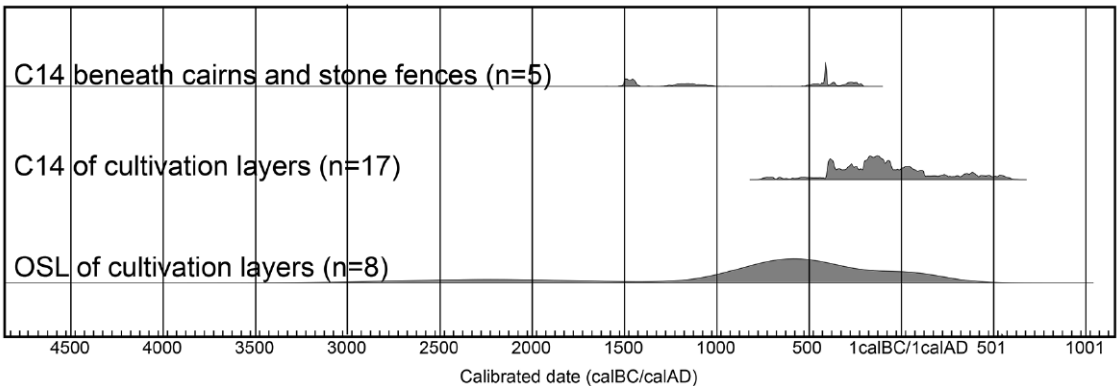


FIGURE 4. Charcoal found beneath clearance cairns gives an indication of when an area was cleared by fire, while dating of charcoal from the tillage itself represent the usage time of the fields. The differences can be seen clearly at Hørdalsåsen in eastern Norway.

Illustration: author.

a result preferred for datings. During the last decade, scientists have mainly selected younger branches and young trunks for C14 analysis in order to avoid using old wood.[19] The effect of dating samples of old wood can be studied further by preparing sum diagrams in OxCal, where analyses conducted on wood that potentially attains a very high age (oak and pine) is compared to kinds of wood that rarely becomes grows to a great age.[20] The summaries show no clear differences between the two data sets before AD 1, the main period of concern in this article.

The large dataset also gives an independent opportunity to evaluate the effect that old wood has on the datings of former arable land. Only nine (1.5 per cent) of the 594 samples are dated to the Mesolithic (before 4000 BC/5200 uncal BP[21]), and six samples are dated to the Early and Middle Neolithic (*c.*4000 BC/5200 uncal BP–2350 BC/3850 uncal BP), periods when arable farming did not exist or was very limited (see section IV).[22] This leads to the conclusion that the radiocarbon analysis dates farming at the site relatively accurately. Nevertheless, the results with a few outliers highlight that old wood can have implications for the dating and interpretation of single excavations.

Another possible source of error is the different standard deviations of the radiocarbon samples. Thirteen of them have a deviation of more than 100 years and 86 have a deviation of 50–99 years. For the rest the variance is stated to be 18–49 years. However, sum plots for

[19] S. Bowman, *Radiocarbon dating: Interpreting the past* (1990).

[20] See supplemental material: https://perma.cc/GTW9-WPKK.

[21] Radiocarbon measurements are commonly reported in terms of uncalibrated (uncal) years before present (BP). To be able to give the age in calendar years (BC/AD) the measured C14 years must be converted. This calibration process is needed because the proportion of atmospheric radiocarbon has varied over time and therefore dates must be adjusted according to the present knowledge of the half-life of the radioactive C14 isotope. The calibration processes can be done in calibration programs such as OxCal (Bronk Ramsey, 'Bayesian analysis of radiocarbon dates'). Because of the calibration process, there is normally a discrepancy between the measured C14 years (uncal BP) and calendar years (BC/AD). For more information about radiocarbon calibration, see https://c14.arch.ox.ac.uk/calibration.html.

[22] See supplemental material: https://perma.cc/X5P9-JKJZ.

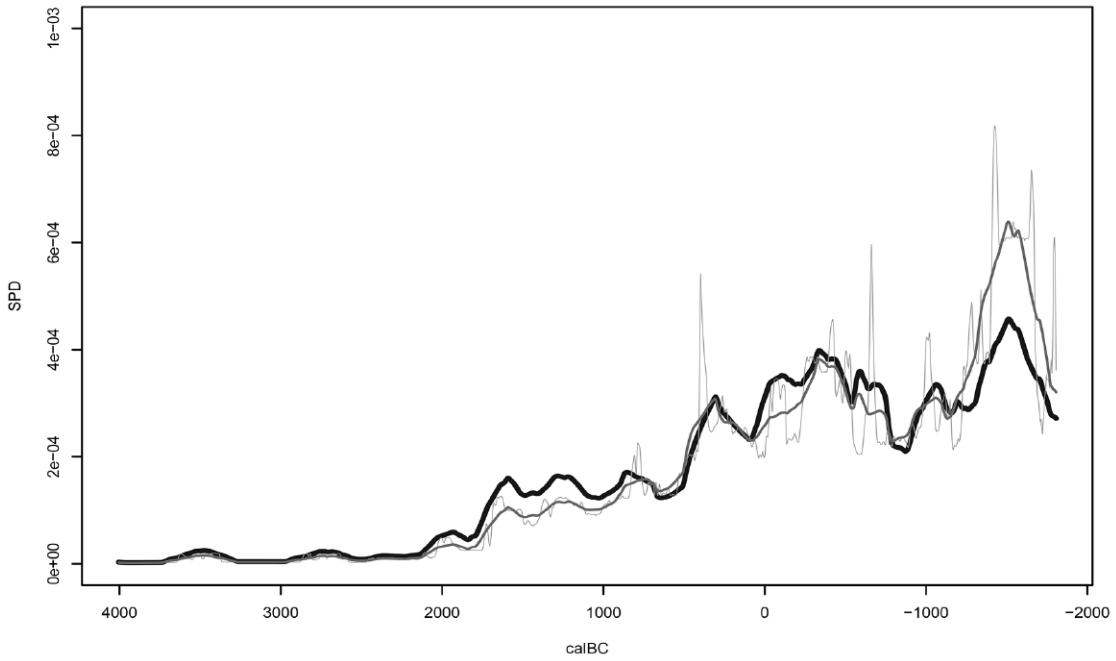


FIGURE 5. Radiocarbon dates of former cultivations in eastern Norway (n=594) displayed as an ordinary sum diagram (thin, grey line), as a moving average (thick, dark grey line) and with 200-year bindings (thick black line, n=358)

Illustration: Per Persson, edited by Axel Mjærum.

groups with a standard deviation above and below 50 years show no significant differences in the dating results.[23]

The analyses are partly presented in ordinary sum plots created in OxCal (see Figures 2 and 4).[24] However, there are between 1 and 63 radiocarbon dates from each site included in the study, which potentially can cause sampling bias. In order to correct for this effect, I have grouped the data in 200-year long site phases in the simulations (Figure 5). Several overlapping dates from one site were then counted as one, if they represent a site phase of less than 200 years. This binding process was done automatically in the software R using the Bchron package.[25]

In order to produce models of summed dates which could be compared with a simulated model (number of simulations=1000), the Monte Carlo test was used. This enables the production of datasets, which are statistically comparable (see Figure 7).[26]

[23] See supplemental material: https://perma.cc/GTW9-WPKK.

[24] OxCal. v4.3.2 and IntCal13 atmospheric curve. C. Bronk Ramsey, 'Bayesian analysis of radiocarbon dates', Radiocarbon 51 (2009), pp. 337–60. C. Bronk Ramsey, 'Methods for Summarizing Radiocarbon Datasets', *Radiocarbon* 59 (2017), pp. 1809–33; P. J. Reimer *et al.*, 'IntCal13 and Marine13 Radiocarbon Age Calibration Curves 0–50,000 Years cal BP', *Radiocarbon* 55 (2013), pp. 1869–87..

[25] A. Parnell, 'Bchron: Radiocarbon dating, age-depth modelling, relative sea level rate estimation, and non-parametric phase modelling' (https://CRAN.R-project.org/package=Bchron, 2016).

[26] Simulations of this type can be found in S. Shennan, 'Demographic continuities and discontinuities in

IV

The oldest dates from agricultural horizons are spread relatively evenly (before 2350 BC/7600–3850 uncal BP, n=15, see Figures 2 and 5). There are thus no significant differences between the Mesolithic and Neolithic before *c.*2350 BC and only a slight increase in dates between 2350 and 2000 BC. I therefore argue that most of the dates from fields before approximately 2000 BC are outliers not related to early farming in eastern Norway. The lack of identified cultivated soils and clearance cairn fields dated before *c.*2000 BC may at first sight look like a paradox, since changes in settlement patterns, material culture, finds of cereals, and pollen analyses point towards animal husbandry and also farming in many parts of eastern Norway since *c.*2350 BC, and even smaller-scale cultivation from the Early Neolithic.[27] This lack of identified cultivated soils in the main part of the Neolithic, however, makes a clear and interesting contrast to the results of studies from the Bronze Age and the Iron Age. This supports the widespread idea that the earliest farming in Scandinavia in general was based on a slash-and-burn process and had an extensive, peripatetic character.[28] By moving the fields after a few years, it was possible to overcome the problem of soil exhaustion without systematically manuring the fields, which generally is needed in the acidic Scandinavian soil.[29] It can be concluded that fully integrated mixed farming was not practised in this initial stage, even though both livestock and arable farming were parts of the economy.

V

A relatively large number of dates fall into the period *c.*2000–1000 BC (3500–2850 uncal BP, n=43) in eastern Norway (Figures 2 and 5). In this period, the sites *without* clearance cairns are significantly overrepresented (Figure 7), which shows much more clearly than in earlier studies that stone-free, sandy ground was preferred as cultivated cropland. Out of the 25 sites *without* clearance cairns dated before 1000 BC, 19 are in the counties around the Oslo Fjord (Østfold,

Note 26 *continued*
Neolithic Europe: Evidence, methods and implications', *J. Archaeological Method and Theory* 20 (2013), pp. 300–11; A. Timpson *et al.*, 'Reconstructing regional population fluctuations in the European Neolithic using radiocarbon dates: A new case-study using an improved method', *J. Archaeological Science* 52 (2014), pp. 549–57.

[27] C. Prescott, 'Third millennium transformation in Norway. Modeling an interpredictive platform', in C. Prescott and H. Glørstad (eds), *Becoming European: the transformation of third millennium Northern and Western Europe* (2018), pp. 115–27; L. Sørensen, L. and S. Karg, 'The expansion of agrarian societies towards the north – new evidence for agriculture during the Mesolithic/Neolithic transition in Southern Scandinavia', *J. Archaeological Science* 51 (2013) pp. 98–114; G. Reitan, L. Sundström, and J.-S. F. Stokke, 'Grains of truth: Traces of early farming in Neolithic southeast Norway', in G. Reitan and L. Sundström (eds), *The Stone Age coastal settlement in Aust-Agder, southeast Norway* (2018), pp. 547–65.

[28] E.g. L. Sørensen, *From hunter to farmer in Northern Europe: Migration and adaptation during the Neolithic and Bronze Age* (Acta archaeologica, 85:1, 2014). J. Simonsen, *Daily life at the turn of the Neolithic: A comparative study of longhouses with sunken floors at Resengaard and nine other settlements in the Limfjord region, South Scandinavia* (2017), pp. 379–85; L. S. Halvorsenand K. L. Hjelle, 'Prehistoric agriculture in western Norway – Evidence for shifting and permanent cultivation based on botanical investigations from archaeological sites', *J. Archaeological Science: Reports* 13 (2017), pp. 682–96.

[29] See R. Jones, 'Science and practice: The ecology of manure in historical retrospect', in Jones (ed.), *Manure matters*, p. 14.



FIGURE 6.
Left: Ard marks are well known in eastern Norway, both from the Early Bronze Age and from later periods. They are most commonly found under later burial mounds, as here from Østfold, Norway, or preserved underneath present-day ploughzone layers.

Photo: Kristin Orvik, Museum of Cultural History.

Right: Clearance cairns are one of the most common types of cultural heritage in eastern Norway. The cairns are often 3 to 9 m in diameter and consist of stones that measure 0.1 to 0.5 m.

Photo: author.

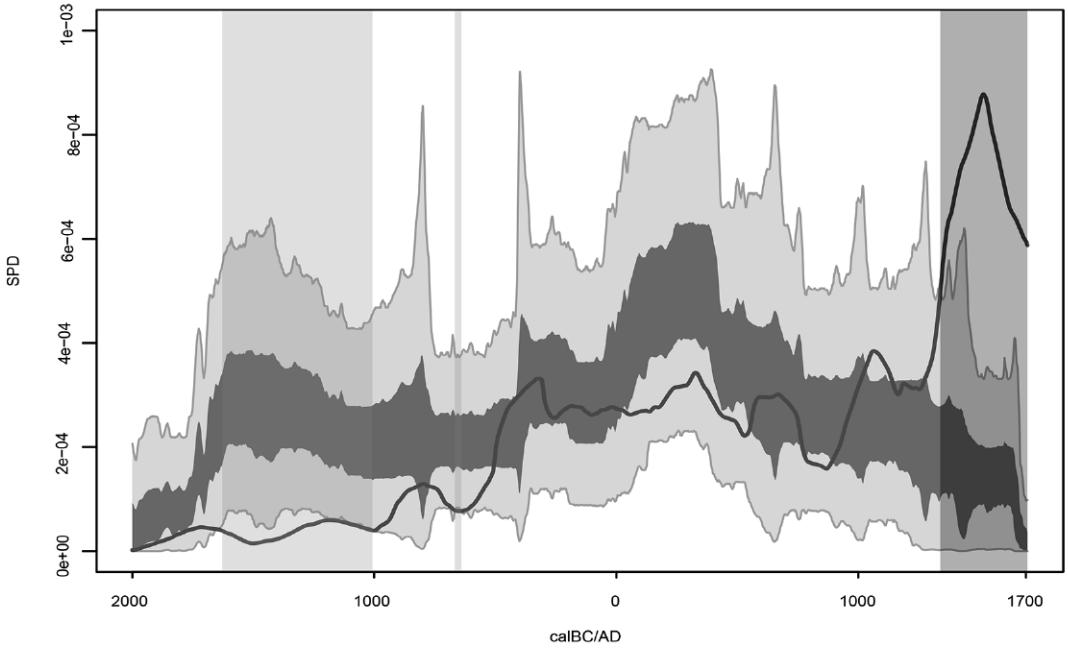


FIGURE 7. Results from 407 summed radiocarbon dates (SPD) from 109 sites with clearance cairns (marked with a black line) fitted with a model of expected distribution based on 167 C14 dates from 89 sites without clearance cairns. The dark grey area marks the expected distribution of dates from clearance cairn fields with 68.3 per cent probability, while the light grey area marks the same distribution with a 95.5 per cent probability. The model is based on 1000 simulations. The significant positive deviation is marked with a dark grey vertical column and negative deviations with light grey, vertical columns.

Illustration: Per Persson, edited by Axel Mjærum.

Vestfold and Akershus), but there are also such sites in the valleys inland.[30] The excavations provide little information about the size of the fields. However, at five sites from the period, marks of cross-arding have been identified, all of them along the Skagerak coast.[31]

By applying different archaeo-metrical methods the question of manuring has been addressed. There are indications of clearance by fire and trampling by cattle. In clear contrast to later periods, however, conclusive evidence for deliberate addition of organic matter to improve the soil in the early Bronze Age is so far lacking. Archaeologists have commonly found fragments of cereals and flint sickles at these sites. Spelt wheat (*Triticum spelta)*, emmer wheat (*Triticum dicoccum*) and naked barley (*Hordeum vulgare* var. *nudum)* are among the most common grains from Late Neolithic and Early Bronze Age contexts in Norway, as in other parts of Scandinavia.[32]

It has recently been argued that there was large-scale congruent land use management in the coastal areas in north-western Atlantic Europe in the Bronze Age, from southern England to Belgium, the Netherlands and western part of Denmark.[33] The low-lying sandy and silty, stone-free areas which appear in this region were preferred as farmland. Here extensive clearance of stones was not needed and ards could easily be used.[34] At Bjerre in Jutland, Denmark, remains of such farming have been studied in detail. Semi-oval fields have been identified, as well as traces of extensive livestock farming. The evidence for manuring is not conclusive, however, but there is a trend towards a more permanent cultivation system during the course of the Bronze Age.

The Bronze Age crop cultivation in Scandinavia and along the North Sea was also in general combined with livestock farming, and it is likely that livestock in some areas were moved seasonally from the coast to pastures inland.[35] Based on sources such as pollen analysis, the location of the sites and the distribution of artefacts in the landscape, several researchers have

[30] E.g. I. M. Gundersen, *Gård og utmark i Gudbrandsdalen* [*Farms and outfields in the Gudbrandsdalen valley*] (2016).

[31] L. E. Gjerpe (ed.), *Hus, boplass- og dyrkningsspor* [*Houses, settlements, and arable land*]*: E18-prosjekte, Vestfold*, III, *Varia* 73 (2008) pp. 212–3; G. A. Bårdseth, 'Kva dyrka Vodurid, brødherren? Jordbruk og næringsgrunnlag i Tune i førhistorisk tid [What did Vodurid cultivate? Agriculture and economy in Tune in past times]', *Viking* (2009), pp. 123–36.

[32] Indications of clearance by fire, trampling by cattle and analysis if macrofossils from eastern Norway are presented in Viklund *et al.*, 'Integrated palaeoenvironmental study'. Reviews of macrofossils from the Iron Age in other parts of Scandinavia can be found in R. Grabowski, 'Changes in cereal cultivation during the Iron Age in southern Sweden: A compilation and interpretation of the archaeobotanical material', *Vegetation Hist. and Archaeobotany* 20, no. 5 (2011), pp. 479–94; id. 'Cereal cultivation in east-central Jutland during the Iron Age, 500 BC–AD 1100', *Danish J. Arch.* 2 (2013), pp. 164–96.

[33] J.-H. Bech, M. Rasmussen, J. Olsen, and M. Kanstrup, 'Thy and the outside world in the Bronze Age', in, J.-H. Bech, B.V. Eriksen, and K. Kristiansen (eds), *Bronze Age settlement and land-use in Thy, Northwest Denmark* (2018), pp. 56–62, 86–7.

[34] W. H. Zimmermann, 'Ackerbau in ur- und frühgeschichtlicher Zeit auf der Geest und in der Marsch', in H.-E. Dannenberg and H.-J. Schulze (eds), *Geschichte des Landes zwischen Elbe und Weser*, I, *Vor- und Frühgeschichte* (1995), pp. 289–315.

[35] On transhumance see C. Prescott, *From Stone Age to Iron Age: A study from Sogn, western Norway* (1995), Multiple authors have emphasized the importance of animal husbandry in the Scandinavian Bronze Age, e.g. K. Kristiansen, *Europe before history* (1998), pp. 306–7; S. Welinder, 'Early farming households 3900–800 BC', in Myrdal and Morell (eds), *AHS*, pp. 18–45; J. Jensen, *The prehistory of Denmark: From the Stone Age to the Vikings* (2013), pp. 147–9. K. A. Oma, *The Sheep People: The ontology of making lives, building homes and forging herds in Early Bronze Age Norway* (2018).

also argued for an extensive breeding of livestock in the eastern Norwegian Bronze Age.[36] Seasonal movement of animals could very well have been a part of the region's farming systems in the Early Bronze Age, as multiple forms of transhumance have been practised in eastern Norway in recent times.[37]

In general terms, the archaeological record in eastern Norway points towards a farming practice that fits well into the farming system practised along other parts of the North Sea littoral. Permanent fields were established in stone-free areas, and animal husbandry played a key role in the society. However, the evidence of a systematic integration between animal husbandry and crop cultivation is not as conclusive as in later periods.

VI

In the forests of eastern Norway and central Sweden thousands of fields with clearance cairns are preserved. Many of these areas are linked to early Iron Age farming, and it has been argued that each farm had 10,000–30,000 m² of arable land.[38] Compilations of radiocarbon analyses from clearance cairn fields in eastern Norway and central Sweden prove a near total lack of radiocarbon dates from clearance cairn fields before 1800 BC. There is a small increase in the number of cairn fields dated from 1800 and 800 BC, especially in Sweden (Figure 2). Some of these early dates are however related to the inherent age of the charcoal and the fact that some of the dates must be regarded as *terminus post quem* dates of the clearance fields (see section III for a discussion of this source-critical problem). In the sum plots for both central Sweden and eastern Norway there is an increase of dates from *c.*800 BC, and a further increase in eastern Norway from *c.*500 BC. From then on, the number of dates stays at a high level until recent times. A further processing of the data (Figure 7) also proves that removing the stones from the fields was not a significant part of farming practice until after *c.*1000 BC. A more precise time for the introduction of this form of agriculture is difficult to set due to the inherent age of some of the charcoal and the major plateau in the calibration curve between approximately 800–400 BC, problems that may be solved by more detailed studies of the chronologies of sites in the future.[39]

[36] E. Mikkelsen, *Fra jeger til bonde: Utviklingen av jordbrukssamfunn i Telemark i steinalder og bronsealder* [*From hunter to farmer: The development of rural communities in Telemark during the Stone Age and Bronze Age*], Universitetets Oldsaksamlings skrifter, Ny rekke 11 (1989), pp. 312–22; E. Østmo, 'Hellerbosetning i østnorsk yngre steinalder: Utgravingen av Sandtrahelleren i Tjølling, Larvik, Vestfold [The use of rock shelters during the East Norwegian Neolithic: The excavation of the Sandtrahelleren rock shelter in Tjølling, Larvik, Østfold]', *Universitetets Oldsaksamling Årbok* (1991–92), pp. 87–102; D. Vogt, *Rock carvings in Østfold and Bohuslän, South Scandinavia: An interpretation of political and economic landscapes* (2011).

[37] K. Daugstad, M. F. Mier, and L. Peña-Chocarro, 'Landscapes of transhumance in Norway and Spain: Farmers' practices, perceptions, and value orientations', *Norwegian J. Geog.* 68 (2014), pp. 248–58.

[38] P. Connelid, C. Mascher, J, Regnell, and E. Weiler, 'Röstorp – tvärvetenskapliga studier av ett röjningsröseområde i södra Västergötland [Röstorp – interdisciplinary studies of a clearance cairn field in southern Västergötland]', in M. Widgren (ed.) Röjningsröseområden på sydsvenska höglandet [*Clearance cairn fields in the southern Swedish highlands*] (2003), pp. 169–205; A. Mjærum, 'Jordbruk i grenseland [Farming at the edge]', in C. L. Rødsrud and A. Mjærum (eds) *Ingen vei utenom: Arkeologiske undersøkelser i forbindelse med etablering av ny rv. 3/25 i Løten og Elverum kommuner, Innlandet* [*No other way: Excavations related to the rv. 3/25 road project, Inlandet county, Norway*] (2020).

[39] See W. D. Hamilton, C. Haselgrove and C. Gosden, 'The impact of Bayesian chronologies on the British Iron Age', *World Archaeol.* 47 (2015), pp. 642–60.

This conclusion indicates a significant change in the farming technology in the last part of the Bronze Age. Radiocarbon dates from Sweden also suggest a period of farming expansion at the beginning of the first century AD.[40] Such an expansion is however not as evident in the record from eastern Norway (Figure 2).

Which form of agriculture these cairn fields actually represent has been a key question, and researchers have especially discussed whether this farmland was fertilized.[41] Recent years' large-scale excavations, with incorporation of micro-morphology and other archaeo-metric data, clearly indicate a variance in the use of these fields, but some of them were heavily manured.[42] The farmers' large investment in clearing stones measuring some 10–50 cm in diameter at the sites was also of major importance, since this large effort made tilling possible. The flexible ard, which lacked a mouldboard, could then move smaller stones and manoeuvre around larger stones and cairns.[43]

The use of manuring in crop cultivation is known from the well-preserved field system at Hørdalsåsen in Vestfold, a hill that today is located in forest terrain. A large part of this approximately 44,000 m² hillock was transformed to arable land *c.*400 BC, resulting in more than 100 clearance cairns and construction of stone walls (Figure 8).[44] Excavated evidence and archaeometrical analysis point towards varied use of the area as farmland until *c.* AD 400. The western part was cleared almost free of stones with a diameter of 0.1–0.5 m and the layer of plaggan-like cultivation soil was up to 0.4 m thick (see Figures 3 and 6). The eastern part was defined by lynchets, stone alignments and cultivation layers that formed a complex system of irregular plots (250–400 m²). The farmers likely practised a multi-course rotation in this eastern area, with periods of crop cultivation, fallow and grazing. A cattle track with dung-rich deposits that led from the settlement area formed a key element during the whole period of use.[45] The vicinity of Hørdalsåsen consisted of a varied landscape of forested, hilly terrain and less well-drained and stone-free ground. Excavations indicate that parts of the surrounding area were managed by fire, partly cleared free of stones and that also more or less stone-free areas were used for crop farming. The Iron Age farmers also used these areas to obtain sufficient grass, hay and leaf-fodder for the animals as winter fodder, a necessity when animals were kept indoors or in pens part of the year.[46] Parts of similar systems of farming

[40] Häggström, *Landskapsutnyttjande,* pp. 153–4; Pedersen and Widgren, 'Agriculture in Sweden', pp. 52–3; Lagerås, 'Agrara fluktuationer och befolkningsutveckling'.

[41] L. Gren, 'Det småländska höglandets röjningsröseområden [The clearance cairn fields of the highlands of Småland]'. *Arkeologi i Sverige* 2, pp. 77–96; Widgren, *Relic landscapes*, pp. 31–3; P. Lagerås 'Järnålderns odlingssystem och landskapets långsiktiga förändring [Iron Age cultivation systems and long-term change of the landscape]', in P. Lagerås (ed.), *Arkeologi och paleoekologi i sydvästra Småland* [*Archeology and paleoecology in southwestern Smaland*] (Riksantikvarieämbetet, Arkeologiska undersökningar, 2000), pp. 167–229; Holm, 'Forvaltning av agrare kulturminner', pp. 34–7.

[42] Häggström, *Landskapsutnyttjande,* p. 158.

[43] M. Widgren, 'Reading the prehistoric landscape', *Ymer* 130 (2010), pp. 75–6.

[44] E. A. Pedersen, 'Transformations to sedentary farming in eastern Norway: AD 100 or 1000 BC', in C. Fabech and J. Ringtvedt (eds), *Settlement and landscape* (Jutland Archaeological Soc., 1999), pp. 45–52; R. J. S. Cannell, 'The application of multi-elemental analysis at Hørdalen (site 51): An evaluation of methods and results', in L. E. Gjerpe (ed.), *Results and archaeometric analysis* (2013), pp. 111–124; Viklund *et al.*, 'Integrated palaeoenvironmental study', pp. 25–83.

[45] Viklund *et al.*, 'Integrated palaeoenvironmental study', p. 58.

[46] A. Mjærum, 'Åkre og beitemarker i Fevanggrenda'; Häggström, *Landskapsutnyttjande*, see also

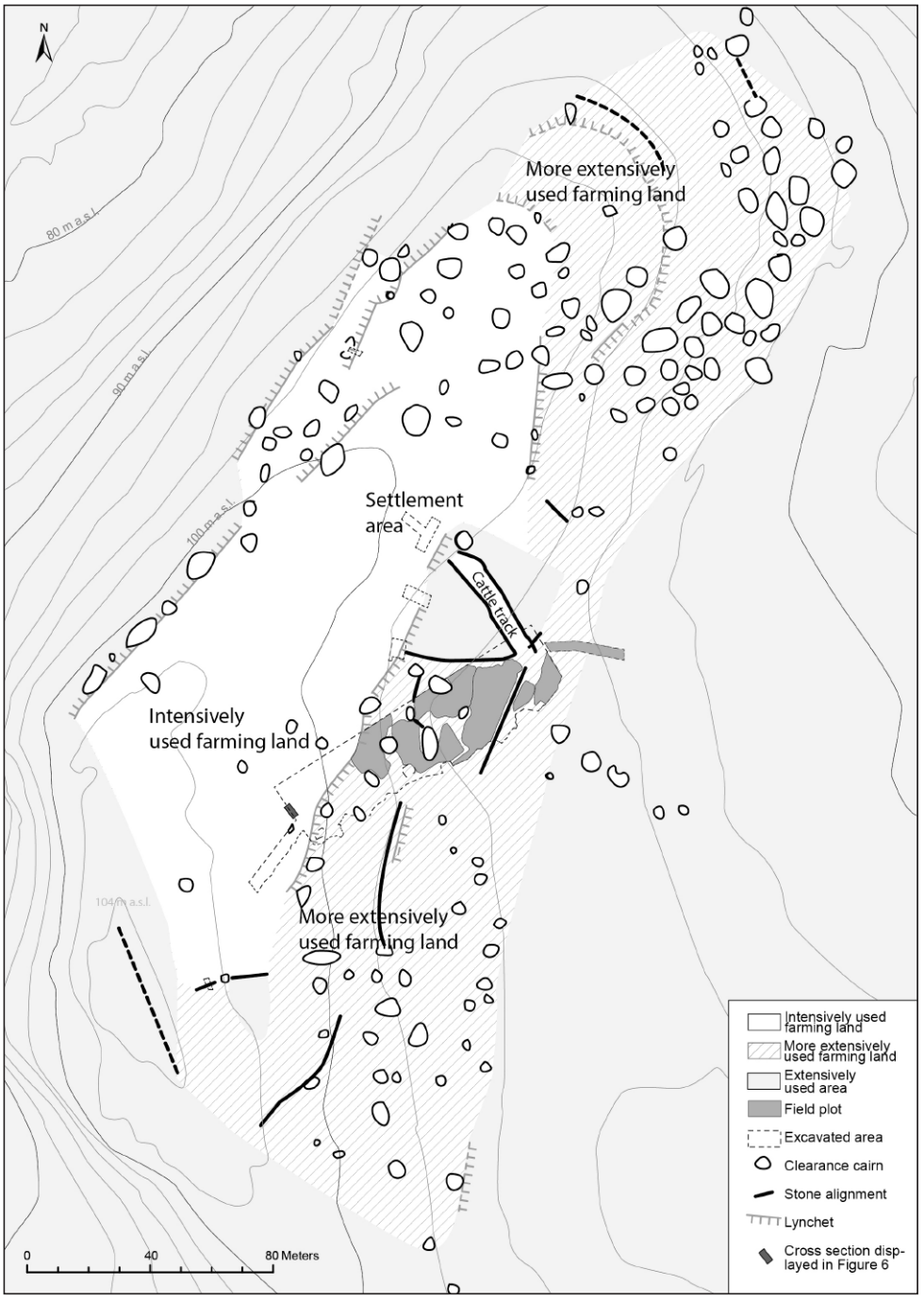


FIGURE 8. An area of 44,000 m² was cleared for cultivation *c.*400 BC at Hørdalsåsen in eastern Norway. The farming land consisted of a large, heavily manured field in the west and smaller, more extensively used field plots (250–400 m²) in the east.

Map: based on A. Mjærum, 'Åkre og beitemarker i Fevanggrenda – nytt om jernalderlandbruket i Vestfold [Fields and meadows at Fevang: The agricultural landscape of Early Iron Age Vestfold]', *Viking* (2012), Figure 2.

have been found in recent years at multiple sites in Norway and Sweden.[47] The results link the clearance fields to a dynamic system of intensively used, well-manured land, combined with more extensive landscape utilization.

Hulled barley (*Hordeum vulgare* var. *vulgare*) becomes significantly more common in the material from eastern Norway in the Early Iron Age, and it is likely that this cereal was grown together with wheat (*Triticum*) at Hørdalsåsen.[48] Hulled barley responds well to fertilizing, and it has been argued that the increased importance of this species was linked to more extensive manuring.[49] This argument has partly been confirmed by isotope analyses which suggests a more intensive and systematic manuring practice in Scandinavia.[50] A wide range of grains and weeds are known, however, which indicates that loamy as well as sandy soils were cultivated, a practice that probably required an intensified use of manure.[51]

The increased number of dated sites *without* clearance cairns, some of them with traces of cross-arding, support this interpretation of the cultivation of different types of soils (Figures 2 and 7). The local and regional expansion into new areas of arable land was thus not a replacement, but a supplement to the land that was already in use for cultivation. This was a system that could easily be adapted to new landscapes in the region. The result was a large variation of systems where livestock breeding and arable cultivation were integrated in the Early Iron Age, as has been the case until recently.[52]

VII

In the Early Bronze Age, crop cultivation primarily took place on stone-free, sandy and silty ground in eastern Norway. Arable farming was combined with animal husbandry, and both stray finds and pollen data suggest that many areas of the eastern Norwegian landscape were used as pastures as well as for more extensive forms of cultivation.[53] Most likely, some of the fields in the region were intentionally manured, but the use of fertilizers is not as comprehensive as in later periods.

The Early Iron Age was a period of expansion of farming land into stone-rich moraines with sandy ground in eastern Norway. These clearance fields were only one component of the farming systems, as large parts of the varied eastern Norwegian landscapes were exploited in a fully integrated, more intensive mixed farming economy. Based on the analyses of the radiocarbon data, this transformation happened during the last part of the Bronze

Note 46 *continued*
H. Zimmermann, 'Why was cattle-stalling introduced in prehistory? The significance of byre and stable and of outwintering', in Fabech and Ringtvedt (eds), *Settlement and landscape*, pp. 301–18.

[47] Häggström, *Landskapsutnyttjande*, p. 101; Pedersen and Widgren, 'Agriculture in Sweden', pp. 50–1; Mjærum, 'Jordbruk i grenseland'.

[48] Mjærum, 'Åkre og beitemarker i Fevanggrenda'.

[49] K. Viklund, *Cereals, weeds and crop processing in Iron Age Sweden: Methodological and interpretive aspects of archaeobotanical evidence* (1998).

[50] M. Kanstrup and others, 'Searching for long-term trends in prehistoric manuring practice: δ15N analyses of charred cereal grains from the 4th to the 1st millennium BC', *J. Archaeological Science* 51 (2014), pp. 115–25.

[51] Viklund *et al.*, 'Integrated palaeoenvironmental study', p. 73.

[52] Bårdseth, ' Kva dyrka Vodurid, brødherren?'; Mjærum, ' Jordbruk i grenseland '.

[53] E,g., Mjærum, ' Jordbruk i grenseland '.

Age (1000–500 BC, Figure 7). Taking into consideration that the datasets in Sweden and Norway partly are based on *terminus post quem* dates, and then the problems of calibrating radiocarbon dates in the last part of the Bronze Age (see section III), there is, however, a lack of unambiguous dates that support a full-scale introduction as early as 1000 BC. The dates presented in Figure 7 can therefore be understood as the result of a somewhat slower transformation process until the clearance fields consisted of a significant and stable part of the farming systems from *c.*500 BC (see Figure 7).

The farming economy in the Early Bronze Age and the Early Iron Age must then be considered as two clearly different agricultural systems, where the fields were manured more systematically and on a large scale in the latter of these two periods. This points forward to the historically known farming traditions in northern Europe, and I argue that the Early Iron Age economy should be regarded as a precursor to a historically known mixed farming economy.

When Myrdal originally formulated his idea of the emergence of a new agricultural complex in the first millennium BC, he linked this change to some major technological developments that he thought were crucial in a full-scale mixed farming economy. He argued especially for the importance of indoor stalling of animals to gain control of their manure.[54] In later publications, others have discussed and nuanced Myrdal's arguments.[55] Animal waste can be collected without indoor stalling, such as by using pens or by keeping animals in the fields for parts of the year. House-byres may also have been introduced for multiple other reasons. For instance, indoor stalling can make it easier to look after the animals and to milk them, and it protects the livestock from theft and predators. Animals exposed to cold weather also need more food to keep themselves warm. Fodder could thereby be saved by keeping animals indoors in the coldest part of the year. The ideological and social reasons for stalling animals should also be emphasized, since stalling is an effective way to display one's wealth in the form of livestock. It has consequently been argued that the introduction of indoor stalling marks a shift from a collective to an individually focused ownership, in the same way as ploughing and manuring were investments that strengthened the bond between the farmer and his land.[56] This moving of animals indoors for part of the year thereby had multiple implications beside the getting better control of the animal manure.

It is clear that longhouses with integrated barns were introduced at different times across northern Europe during the Bronze Age (*c.*1700–500 BC). The spread of this technology is complex and has been difficult to follow in detail.[57] An alternative approach is therefore

[54] Myrdal, 'Elisenhof'.

[55] E.g. Pedersen and Widgren, 'Agriculture in Sweden', pp. 49–53: Myrdal, 'Swedish agrarian history', pp. 260–1.

[56] For the concept of 'landesque capital', see N. T. Håkansson, M. Widgren (eds), *Landesque capital: The historical ecology of enduring landscape modifications* (2014). See also H. Fokkens, 'Cattle and martiality: Changing relations between man and landscape in the Late Neolithic and the Bronze Age', in Fabech and Ringtvedt (eds), *Settlement and landscape*, see especially p. 38; M. Pedersen, 'Livestock without bones: The long-house as contributor to the interpretation of livestock management in the Southern Scandinavian Early Bronze Age', in Fabech and Ringtvedt (eds), *Settlement and landscape*, pp. 281–91. See also M. Olausson, '"Säg mig hur många djur du har …": Om arkeologi och stallning ['"Tell me how many animals you own …": About archeology and stables]', in K. Viklund, R. Engelmark, and J. Linderholm (eds), *Fähus från bronsålder till i dag* [*Stables from the Bronze Age to the present*] (1998), pp. 28–58.

[57] Olausson, '"Säg mig hur många djur du har …"', p. 30; Bech *et al.*, 'Thy and the outside world', pp. 28–54.

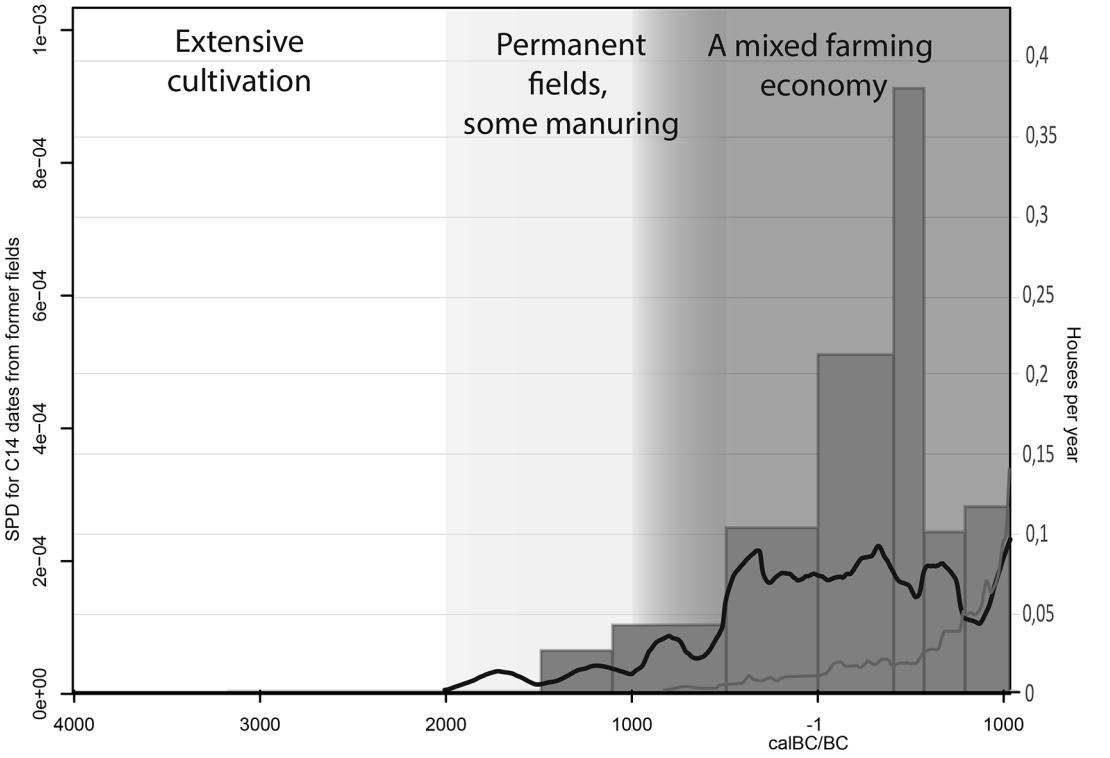


FIGURE 9. The developments in cultivation, longhouses and iron production. Dated clearance cairn field in eastern Norway (409 C14 dates, black line). The columns mark the number of houses per year from excavated sites in eastern Norway . The dataset include mainly sites with three-aisled longhouses (n=328, the two-aisled longhouses from the Late Neolithic and Early Bronze Age (n=6 sites) are excluded from the dataset). The black line is a part of a graph representing 1902 C14 dates from pre-industrial iron production sites in southern Norway (including eastern and western Norway). (Kjetil Loftsgarden has produced the graph concerning iron, using the summed probability distributions function in Rcarbon.)

Illustration: author.

to look at the number of three-aisled longhouses in the region, a house type that appeared *c.*1300 BC in eastern Norway and which commonly had an integrated part for the animals.[58] There is a significant increase in the number of excavated remains of longhouses during the last part of the Bronze Age in eastern Norway, and a further growth in the Pre-Roman Iron Age (500–1 BC, Figure 9). This fluctuation is covariant with the expansion of arable land and the mixed farming economy.

Another part of Myrdal's original argument is that the emergence of mixed farming was closely linked to the introduction of iron technology. Iron made it possible to produce long-edged, sharp blades for sickles and scythes that could be used to secure hay and foliage for the winter. In an attempt to date the introduction of iron farming implements in Sweden

[58] L. E. Gjerpe, 'Effektive hus. Bosetning, jord og rettigheter på Østlandet i jernalder [Efficient houses. Settlements, land and property rights]' (Unpubl. PhD thesis, University of Oslo, 2017).

and Norway, researchers have been faced with a problem because relatively few artefacts are preserved from the first millennium BC in the region in general, combined with shortcomings in radiocarbon techniques (see section VI). It has also been stressed that a large proportion of early iron tools, as well as most bronze sickles, never ended up in the earth, because the valuable metal would have been recycled.[59] Agricultural implements appear nevertheless in the archaeological record from approximately 200 BC.[60]

The numerous iron production sites in the region offer an opportunity to approach this question from another angle (Figure 9). Dates from these sites indicate that iron was processed in relatively large quantities from *c.*500 BC, which also made it possible to make iron tools for agricultural use. The dates from the iron production sites show that agricultural iron implements therefore cannot have been directly linked to the initial phase of the transformation of the farming economy. The importance of iron for intensive farming should not be exaggerated, however.[61] Farmers had already been using wooden ards for approximately 1000 years in the region (see section IV) and other tools made of wood, bone, stone and bronze were available. Nevertheless, the new system certainly created a need for long-edged implements. The co-variance between the number of iron production sites and the agricultural expansion from *c.*500 BC during the Iron Age therefore supports the idea that a further spread of a mixed farming economy was made possible in part by technological developments.[62] It is consequently difficult to find a direct link between a mixed farming economy and the introduction of iron, as Myrdal originally claimed.

VIII

Instead of attempting to link the introduction of mixed farming to a specific technological innovation, I find it fruitful to emphasize another part of Myrdal's original argument. He argues that those large-scale transformations in farming technology commonly relate intimately to other social or structural changes.[63] In the course of the seventh century BC, the contact networks in Europe were shifting and the exchange system of bronze was starting to collapse. Multiple social, cultural and economic changes in the Scandinavian societies followed. The transformation is commonly seen as the period when the chieftain societies of the Bronze Age with long-distance contacts were replaced by the family-based farming societies of Early Iron Age Scandinavia.[64]

[59] Jensen, *Prehistory of Denmark*, p. 577.

[60] B. Solberg, *Jernalderen i Norge. Ca. 500 f.Kr.–1030 e.Kr.* [*The Iron Age of Norway. c.500 BC–AD 1030*] (2000), pp. 45–6; Myhre, 'Agriculture, landscape and society', p. 108; Pedersen and Widgren, 'Agriculture in Sweden', p. 52.

[61] Häggström, *Landskapsutnyttjande*, p. 14.

[62] See Figures 5 and 9. See also Myrdal, 'Elisenhof'; Häggström, *Landskapsutnyttjande,* pp, 153–4; Pedersen and Widgren, 'Agriculture in Sweden', pp. 52–3.

[63] Myrdal, 'Elisenhof'; and see A. Bogaard, *Neolithic farming in central Europe: An archaeobotanical study of crop husbandry practices* (2004).

[64] Solberg, *Jernalderen i Norge*, pp. 64–5, and Myhre, 'Landbruk, landskap og samfunn', pp. 114–6, discuss the general changes in Norway, even though neither of them emphasizes the transformation of farming as a prominent part of this transition, see also Jensen, *Prehistory of Denmark*, pp. 537–55, for a discussion of the developments in Denmark. Kristiansen, *Europe before history*, has a discussion of the transformations in the Late Bronze Age in a European context, e.g., see pp. 207–9, 410–1.

In this new system, the longhouses with integrated barns became the focal point of the farmstead, where each farm had a defined area of land at its disposal.[65] In the emerging system of family-based production, it was expedient for individual farmers to make larger investments in the cropland and thereby introduce the new way of farming.[66] The Bronze Age was also a period with a large growth in population in eastern Norway, which probably resulted in a shortage of land and soil degradation.[67] The moraines in eastern Norway were, however, well suited for crop farming, as long as sufficient resources were invested in clearance and fertilization. Social and cultural factors made it possible to introduce technology that was already partly known in the North Sea area, such as farming on systematically manured field plots, and indoor stalling of livestock (see sections V and VII).[68] The outcome of these processes was that a closer integration between the single household, livestock breeding, and cultivation of arable land was adapted to the environment of eastern Norway. Simultaneous processes took place in neighbouring regions, and consequently different types of extensively and more intensively used permanent field systems became widespread across northwest Europe in the lattermost part of the Bronze Age.[69]

Based on analyses and interpretations of C14 data from eastern Norway, I therefore conclude that the introduction of a mixed farming economy was a process that started *c.*1000 BC and ended in a final breakthrough *c.*500 BC. The start of the practice of using stone-rich moraine as arable land is the most visible trace of this new way of farming. This agronomic system was however only a part of a dynamic farming system where much of the varied landscape was utilized as pastures and to obtain grass, and leaf fodder for the animals.

The shift to a closer integration between livestock breeding and cultivation was also a part of the emergence of the Iron Age farming societies. The growth in farming coincided with an increase in the number of settlements and a larger production of iron (see Figure 9). During the latter part of the Bronze Age, we thus see the breakthrough of a way of farming that has dominated eastern Norway and other parts of northern Europe until recently.[70]

[65] F. Herschend, *The early Iron Age in south Scandinavia: Social order in settlement and landscape* (Societas Archaeologica Upsaliensis, 2009); Gjerpe, 'Effektive hus'.

[66] See section I; and see Anderson *et al.*, 'The dimension of tools'.

[67] On demography in eastern Norway, see, e.g., S. Solheim and Per Persson 'Early and mid-Holocene coastal settlement and demography in southeastern Norway', *J. Archaeological Science: Reports* 19 (2018), Fig. 3. See Kristiansen, *Europe before history,* pp. 306–7 for more about soil degradation in the Late Bronze Age.

[68] See also e.g. S. Arnoldussen, 'The fields that outlived the Celts: The use-histories of Later Prehistoric field systems (Celtic fields or *raatakkers*) in the Netherlands', *Proc. Prehistoric Soc.,* 84 (2018), pp. 303–27.

[69] Pedersen and Widgren, 'Agriculture in Sweden', pp. 50–1, convincingly argue that square or rectangular, embanked 'Celtic fields' and clearance cairn fields in essence are the same farming tradition, but adopted to different landscapes in the first millennium BC; N. H. Nielsen *et al.*, 'Low and variable: Manuring intensity in Danish Celtic fields'. *J. Archaeological Science: Reports* 27 (2019), discuss manuring of Celtic fields. See, e.g., Arnoldussen, 'The fields that outlived the Celts' for dating of Celtic fields in northern Europe.

[70] E.g., Grigg, *Agricultural systems*; K. Lunden, *AHN*, II, *1350–1814* (2002); B. Gjerdåker, *AHN*, III, *1814–1920* (2002).

Shrewsbury, dearth, and extreme weather at the end of the sixteenth century*

by R. W. Hoyle

Abstract

This paper contributes to our understanding of dearth in early modern England and adds new weight to the developing recognition that famine is first and foremost the consequence of adverse climatic conditions and only secondly the outcome of market failures or unemployment. Evidence of weather in western England in the dearth years of the 1580s and 1590s is drawn from a chronicle from Shrewsbury, which has until now remained unexploited to this end. These years are shown to have been ones of unusual rainfall. The Chronicle also sheds light on the response of farmers to weather. It outlines the relief effort mounted by the borough authorities in Shrewsbury in these years: its account is supplemented by material from the borough archive. It shows that the town attempted to manage conditions in the difficult circumstances produced by extreme weather. Finally evidence is provided of the use of vegetables as a famine food in Shrewsbury.

'There are no extant contemporary accounts of the weather in 1585'.[1]

There is, one senses, something of a sea change afoot in our understanding of early modern famine.[2] Following Sen's highly influential work published in the early 1980s[3], there has been a view that famine was caused by inequalities in the allocation of foodstuffs following harvest failures.[4] Where people lacked the means to purchase food because of either unemployment or

* I am grateful to the *Review*'s referees for the comments, not all of which I have been able to take on board.

[1] Natalie Mears, Alasdair Raffe, Stephen Taylor and Phillip Williamson (eds), *National Prayers: special worship since the Reformation*, I (Church of England Rec. Ser. 20, 2013), p. 156. The form of prayer issued that year referred to 'immoderate and excessive rain' and black and heavy clouds', ibid., p. 159.

[2] There is now a comprehensive history of European Famine: Guido Alfani and Cormac Ó Gráda (eds), *Famine in European History* (2017), which includes an introduction by the editors and an account of 'Britain' by R. W. Hoyle (pp. 141–65).

[3] A. Sen, *Poverty and famines: An essay on entitlement and deprivation* (1984) is the basic text.

[4] This is the approach of Schofield and Walter which remains the fundamental text for students of early modern English dearth. The conditions which underlay the harvest are barely considered; the word 'weather' barely appears in the text and not in the index. Climate is considered in a discussion of the relationship of mortality trends against temperature trends (pp. 52–7) and appears at length in the index, but weather is not a synonym for climate and vice-versa. John Walter and Roger Schofield, 'Famine, disease and crisis mortality in early modern England', in John Walter and Roger Schofield (eds), *Famine, disease and the social order in early modern society* (1989) and Walter's essay in the same volume, 'The social economy of dearth in early modern England', at pp. 75–128. Another work of the same period barely considers weather or the causes of harvest failure, merely the consequences of harvest

high prices (the two being interconnected), famine could occur, even if there was food available to be bought. The analysis of famine came to be more about the unequal access to foodstuffs and less about the causes of the underlying shortages of food. Indeed, famine historians, like sixteenth-century local administrators in England, or those charged with the government of Bengal in the last years of the British empire, have been all too prone to hold that in episodes of famine there was no great shortage of food, but that markets were being manipulated for the profit of grain traders and farmers.[5]

If there is a shift in approach, it largely comes from the renewed interest of agricultural historians in famine. Famine in the sense that it concerns us here is caused by harvest failure which in turn is normally (not invariably) a consequence of adverse weather for periods of the year before the harvest or coinciding with the harvest itself. Farmers were not impotent in the face of inclement conditions, but their capacity to save the situation depended in large measure on the season in which the ill-weather occurs and the form that it took, be it hard or extended winters, excessive or unseasonable rain, or drought. But once a harvest had failed, or fallen short of needs, then it was up to civil society to decide how to allocate the available food and whether to take steps to procure more foodstuffs. Justices of the Peace were empowered to manage food supplies following the issue by the Privy Council of the Book of [Dearth] Orders. This not only gave the justices powers with which to act but also established *expectations* of how the justices would manage the situation.[6]

It is this post-harvest stage which has attracted most attention in recent years (the 'social economy of dearth') whilst, for want of evidence, weather events taking place before harvest have barely been explored. In the first part of this paper we draw on an unexploited source from Shrewsbury – an urban chronicle – which tells us a great deal about the weather in a succession of late sixteenth-century crisis years and answers the question, posited in our opening quotation, about what was wrong with the weather at this time. In the second part of the paper we continue the exploration of the Chronicle by drawing on it for what it tells us about the response of the borough to the shortfall in foodstuffs. This account is supplemented by other materials from the borough archive. Here we add to the conventional account of the 'social economy of dearth'.[7]

Note 4 *continued*
failure: Peter Clark (ed.), *The European crisis of the 1590s* (1985), which situates itself in the then popular idea of the Little Ice Age. It includes an index entry for climate but not for weather.

[5] This is all part of a larger mindset which denies the natural origins of crises such as forest fires, which the popular (and political) mind often blames on arson and human agency rather than seeing them as essentially natural events.

[6] The *Book of [Dearth] Orders* was first issued in January 1587 and again in 1594, 1595 (continued into 1596), 1600, 1608, 1622 and 1623. There is now a large literature on the Books of Orders, starting with Paul Slack, 'Books of Orders: The making of English social policy, 1577–1631', *Trans. Royal Historical Soc.*, 5th ser. 30 (1980), pp. 1–22, usefully brought together in Buchanan Sharp, *Famine and scarcity in late medieval and early modern England; the regulation of grain marketing, 1256–1631* (2016), ch. 8. For its local implementation and the text of the book issued in 1608, Todd Gray (ed.), *Harvest failure in Cornwall and Devon: The Book of Orders and the Corn Surveys of 1623 and 1630–1* (1992).

[7] Dearth I take to be high prices producing starvation and social dislocation. Famine I take to be the more extreme situation in which there is a heightening of the death rate. One may follow the other. A famine might develop out of dearth, but I would expect a dearth to be invisible in terms of heightened death rate.

The Chronicle, normally known as Dr Taylor's manuscript, is not an unknown source.[8] The material most relevant to Shrewsbury was extracted and printed as long ago as 1880 and, whilst a search of the manuscript reveals some additional material, virtually all of the material cited in this paper has been in print since then. The identity of the chronicler is unknown and the surviving copy is plainly a fair copy of a lost original. It ends in 1603 – whether deliberately or by loss of a succeeding volume is not clear – but for the last quarter of the sixteenth century it is a full document, giving a detailed account of events within the town of Shrewsbury but also more reflective comments on the weather and the state of agriculture in the surrounding area. There is an interest in unusual atmospheric conditions as well as extreme weather: the author notes several episodes of the aurora borealis in September 1592, occasional comets and an instance of ball lightening in one of Shrewsbury's churches. Storms and the flooding of the River Severn are both noted. It suggests a broad familiarity and awareness of the agricultural economy, but in years when agriculture was unexceptional, it makes no comment. It is those years when the weather was extreme and there was a real anxiety about the food supply, as reflected in high prices, that the anonymous chronicler describes the state of agriculture. It should be added that a reading of the Chronicle suggests that the author wrote his account of each year as events took place, and gathered them together at the end of the year. The Chronicle is much more structured than the extracts from it suggest (and the extracts give a very poor sense of its contents), but it describes events when they were fresh in the mind, returning to a question like food prices repeatedly over a period of months. Whilst the individual entries are often undated, there are sufficient entries describing events which are given a date to locate the undated entries in the course of the year.

It should come as no surprise that there were difficulties and distress in Shrewsbury in both the late 1580s and mid-1590s. That there were famines in north-west England in the mid-1580s and again in the mid-1590s was established by Andrew Appleby in a book published in 1978.[9] Appleby found especially high levels of mortality in the winter of 1587–88 and again in an extended period from late 1596 lasting into the spring of 1598. More locally, in an essay of 1974, Palliser brought forwards evidence for famine in several towns close to Shrewsbury, at Tamworth and Newcastle-under-Lyme in the neighbouring county of Staffordshire and Nantwich in Cheshire, some 30 miles to the north.[10] We now turn to exploring what lay behind this.

[8] The original manuscript is held in the library of Shrewsbury School: I am grateful to Dr Robin Brooke-Smith for making it available to me. The printed extracts are in W. A. Leighton (ed.), 'Early chronicles of Shrewsbury, 1372–1603', *Trans. Shropshire Archaeological Soc.* 3 (1880), pp. 239–52, hereafter cited as *SC*. All citations are to the printed text except for a few to the unprinted sections which are cited as Dr Taylor's Ms with a folio number. A modern edition is desperately needed.

[9] A. B. Appleby, *Famine in Tudor and Stuart England* (1978).

[10] David Palliser, 'Dearth and disease in Staffordshire, 1540–1670', in C. W. Chalklin and M. A. Havinden, *Rural change and urban growth, 1500–1800: Essays in English regional history in honour of W. G. Hoskins* (1974), pp. 54–75.

I

The problems noted by the chronicler began in the summer of 1585. The weather in the summer and at harvest time was 'unseasonable'. Husbandmen found it hard to get their corn harvested. Much of it was flattened and sprouted in the ear: that which was harvested continued to sprout. The price of rye rose on the harvest and, and the chronicler said, 'looked to become dearer'. He noted an extreme storm on 13 November, but by February 1586 he could report that 'this year and almost all the month of February the weather was so extreme and frosty that husbandmen could not in no good time plough their ground for rye'. March, on the other hand, was very wet and the price of grain rose sharply, and would have risen more had the magistrates not stopped its transport. It was doubtless the same persisting wet which brought a substantial mortality amongst sheep 'in most places in England'.[11]

In June and July 'corn grew to be very dear in most parts of England and especially in the west and north countries'. The Book of Dearth Orders was implemented on the Queen's instruction and corn factors were instructed to bring their stocks to market.[12] In Shrewsbury itself, prices reached 8*s*. for rye, wheat 9*s*. a bushel, and barley 4*s*. 6*d*., but a supply of rye was procured and sold at 5*s*. a bushel. The price trajectory over the year in Shrewsbury is shown in Table 1. We find a six-fold increase in the price of rye between the late summer of 1585 and the midsummer of 1586, and although the price fell from 8*s*. to 5*s*. when the foreign rye arrived, it was still four times the rate prevailing before the 1585 harvest.[13]

The Chronicle makes no comment on the harvest of 1586 although it does note storms around Michaelmas and the river Severn being very high, and a further storm on 8 December. Nor does it refer to agricultural conditions in 1587. But it does tell us that 1587 was an even more expensive year than 1586 with wheat at 11*s*. and rye at 9*s*. on the eve of the harvest. The harvest itself was 'quick and timely and most completed by St Bartholomew's day' (24 August), after which the price of wheat fell to 3*s*. 8*d*. and rye to 3*s*. (still twice the rate of the late summer of 1585). What the chronicler thought noteworthy of 1587 was the advent of a disease called the Burning Ague in July. This caused a high mortality in Shrewsbury and prompted the great assize to be deferred until later in the year, 'until the coldness of the year'. There was plainly some understanding that the illness would abate with the onset of winter.[14] The Severn was again very high in the second half of December 'by reason of the great rain in Wales'.

The chronicler then offers no comments on the weather in 1588 or the 1588 harvest. In 1589 though he commented that the weather had again been 'unseasonable' from May Day to the middle of November. Much hay had been lost: in the low grounds it had gone rotten and been carried away by flood water. Much corn was taken in 'not seasoned' (unripe). All grains rose in price, wheat to above 5*s*. and rye to 3*s*. at the least.[15] Looking back over the year, the chronicler recalled that those who had sown rye at first had sown barley again in the same

[11] *SC*, pp. 304–5.

[12] Shropshire Archives (hereafter SA), Shrewsbury Borough Records, 3365/2624 (unlisted bundle) includes censuses of grain brought to Shrewsbury market in April–July 1586 and the identity of the vendors.

[13] *SC*, p. 307. For the relief effort in this year, see pp. 29–30 below.

[14] *SC*, p. 311.

[15] *SC*, p. 314

TABLE 1. Grain prices in Shrewsbury, 1585–87

	Rye	*Wheat*	*Barley*
1585, before harvest	1*s*. 3*d*.–1*s*. 4*d*.		
1585, after harvest	2*s*. 4*d*.		
1586, March	4*s*. 8*d*.		
1586, June-July	6*s*. 0*d*.	8*s*. 8*d*.	
1586, July	8*s*. 0*d*.	9*s*. 0*d*.	4*s*. 6*d*.
1586, July after supply of foreign grain arrived	5*s*. 0*d*.		
1587, before harvest	11*s*. 0*d*.	9*s*. 0*d*.	
1587, after harvest	3*s*. 0*d*.	3*s*. 0*d*.	

Source: W. A. Leighton (ed.), 'Early chronicles of Shrewsbury, 1372–1603', *Trans. Shropshire Archaeological Soc.* 3 (1880), pp. 239–52 *passim*.

place, anticipating that the rye had failed. As a result there was a good supply of barley at 2*s*. to 2*s*. 6*d*. the bushel, which people used to make bread, either with rye or as single-grain barley bread. This kept the price of rye to around 4*s*. the bushel when, without the barley, the chronicler thought that it would have risen to 7*s*. or 8*s*. the bushel.[16]

There was already a shortage of fodder at the end of 1590 from the dryness of the year, which caused many cattle to perish for lack of foodstuffs. The weather turned to rain and snow after Christmas: there was flooding when the snow thawed at the end of March. People could not fallow their barley ground and the frost killed garden plants. It forced the sowing of barley to be delayed until April but, so far as we can tell, without adverse consequences for the harvest of 1591.[17] We then have a period in which the chronicler makes no comment on weather or agricultural conditions.

The summer of 1592 was marked by extreme hot and dry weather, so much so that men travelling towards London and drovers driving cattle had to buy water for their sustenance and that of their cattle. There was no grass to be had, and cattle perished for want of fodder.[18]

In late 1593 the Chronicle takes up the weather again, and the state of the agrarian economy. (For prices in these years taken from the Chronicle, see Table 2.) The river Severn flooded in December 1593. It broke its banks on 15 December and flooded the riverside suburb of Frankwell. This was accompanied by storms: 'terrible tempests of wind and rain for the space of a month … the like weather hath not been seen'.[19] The chronicler does not make any comment, at this stage, on the agrarian economy. Throughout the summer and part of the harvest of 1594, he tells us, there was 'great wet'. The River Severn remained unusually high

[16] *SC*, p. 315.

[17] *SC*, pp. 319–20. The data for deaths in Figure 1 shows a distinct peak in 1591 for which there is no obvious explanation: the peak months for burials in the two parishes do not coincide.

[18] Dr Taylor's Ms, fo. 191v.

[19] *SC*, p. 328.

TABLE 2. Shrewsbury grain prices, 1594–98

	Rye	*Wheat*	*Barley*
1594, summer	1*s*. 6*d*.–1*s*. 8*d*.	2*s*. 8*d*.	
1594, before harvest	3*s*. 2*d*.	5*s*. 4*d*.	
1594–5, winter	4*s*. 4*d*.–4*s*. 8*d*.	5*s*.–5*s*. 4*d*.	
1595, March	5*s*. 8*d*.	7*s*. 0*d*.	
1595, after harvest	6*s*. 0*d*.	7*s*. 6*d*.	
1596	12*s*. +	14*s*.–15*s*.	
1597, mid-May	15*s*.	18*s*.	
1597, mid-December	9*s*.–9*s*. 2*d*.		
1598, September	3*s*. 4*d*.	4*s*.–4*s*. 4*d*.	

Source: As for Table 1, except for Dec. 1597, SA, 3365/2630, folder for 1598, no. 3, petition of Thomas ap Edward, miller, accused of offering to buy rye at 9*s*. 2*d*. a bushel when the market price was 9*s*. 0*d*.

throughout the summer. There were a few fair days, but mixed weather began again, so that where rye was 18*d*. or 20*d*. the bushel and wheat 2*s*. 8*d*., it had, by the time the chronicler made his note, reached 3*s*. 2*d*. for rye and 5*s*. 4*d*. for wheat. The chronicler was full of foreboding: 'if God did not send seasonable weather in time, it will be like to fall dearer, but God be praised it came to pass that the end fell out a very fair season to all people's comfort'. He was not alone in his nervousness. There was a general fast in the town on 11 August 1594 when:

> most of the inhabitants in Salop [Shrewsbury] repaired to St Mary's church there to pray and call upon God to send seasonable weather to bring in their corn for the comfort of his people who lamenting their sins and calling to God with such godly sermons made there of the preachers to the comfort of all hearers.[20]

1595 was a difficult year. The chronicler blames high prices in the winter of 1594–95 in part on 'swiftness of rye and the unseasonableness of barley' and the transport of both grains 'stolen out of the land'. Corn was very dear in Shrewsbury early in 1595, rye at 4*s*. 4*d*. or 4*s*. 8*d*., wheat at 5*s*. or 5*s*. 4*d*. the bushel.[21] By March the price had risen further with rye at 5*s*. 8*d*. and wheat at 7*s*.[22] The harvest of 1595 brought no respite: an entry in the Chronicle made late in the mayoral year (so before early October) recorded that prices remained high.

[20] *SC*, p. 331. This may have been part of a national movement rather than a local initiative. Fasting was a common reaction to impending harvest failure in the hope that it might earn divine intervention. See, in general, Steve Hindle, 'Death, fasting and alms: the campaign for general hospitality in late Elizabethan England', *Past and Present* 172 (2001), pp. 44–86. There appears to be no evidence for national fasting days in 1594; see here in an entirely negative sense, Mears, Raffe, Taylor and Williamson (eds), *National Prayers*. Forms of prayers and instructions for fasting were issued in Dec. 1596, ibid., pp. 219–21.

[21] In some unpublished text, the chronicler continued to say that corn was dear all over England, especially in London where it sold for 8*s*. for Rye and 9*s*. or 10*s*. for wheat. Help arrived with supplies by Denmark which brought the price down to 3*s*. 4*d*. the bushel, otherwise the people would have perished. Dr Taylor's Ms, fo. 203r.

[22] *SC*, p. 332. The Chronicle also contains an account of how Stourbridge fair was washed out that autumn. Dr Taylor's Ms, fo. 202v.

Even at the end of the year wheat was 7*s*. 6*d*. and rye 6*s*. 'God for His mercy sake amend it and help the poor'.[23] Unfortunately He kept His distance. In January 1596 the river Severn flooded badly, but the chronicler noted that from November 1595 to January 1596, the wind had 'remained very ruggid in the west and north west for the space of nine or ten weeks, very unquiet and mutable weather without any great frost or snow to speak of contrary to usual time'.[24] This sounds like episodes of rain but mild temperatures. The chronicler says nothing further about conditions in 1596 until late in the calendar year. From Michaelmas (the end of September) to late in the year (the account is not specific as to when these conditions lifted) there was a persisting 'tempest of thunder, wind and rain'. This would have made it hard, if not impossible, to plough and sow winter grains.[25]

Then, looking back over 1597, the chronicler tells us that the bailiffs and aldermen of the town had procured Baltic corn at London imported:

> to ease all England and especially London of the excessive prices which corn bare all England over and especially in Shrewsbury so that there was provided above 3200 bushell[s] at least for Shrewsbury and came by way of Bristol and was sold to the commons there after the at a rate of 8*s*. the bushel of rye which was in the market at 12*s*. and better, and wheat at 14*s*. and 15*s*.[26]

Forty bushels of the rye was reserved to be baked for the poor by the town's bakers in penny, twopenny, threepenny and fourpenny loaves. We will consider these relief efforts further later in this paper, but note for the moment that rye at 12*s*. was a full 50 per cent ahead of the maximum price recorded in 1586 (of 8*s*.) and wheat, at 14*s*. or 15*s*. was 50 per cent over the rate of 1586 (9*s*. 0*d*.). The chronicler's note ended with a prayer, that:

> God most mighty send plenty that his chosen flock perish not and die for want as many in all countries in England die and go in great numbers miserably a begging and leave their houses and be not able to live.[27]

There was an influx of people into Shrewsbury looking for relief. On 20 January 1597 the decision was taken to expel 'inmates and idle persons pestering the town' back to their own countries:

> for that they [had] repaired in great numbers out of sundry countries to live idly and loitering, overcharging and hindering the cheapness of corn, being so exceedingly dear, by which means the poor inhabitants had less relief to their utter undoing. God amend it when his will is. Amen.[28]

It was in these desperate circumstances that the chronicler reported that on 13 April, about four in the afternoon, it rained wheat in Ludlow for a time. Perhaps God was laughing at them;

[23] *SC*, p. 333.
[24] *SC*, p. 334.
[25] *SC*, p. 335.
[26] We have some prices from Market Drayton, a market town to the north of Shrewsbury, from 1596: the peak price there was 19*s*. 6*d*. for wheat and 16*s*. for rye. These prices though may well relate to 1597 when they would be in line with Shrewsbury prices. Palliser, 'Dearth and disease', p. 61.
[27] *SC*, pp. 335–6.
[28] *SC*, p. 336.

certainly the chronicler ended his note of this extraordinary event with a cry that God should 'take pity upon us and give us all grace to repent and amend'.[29]

It was to get worse. The Chronicle suggests that prices peaked about the middle of May 1597 with wheat at about 18*s*. a bushel, rye at 15*s*. 'and all other victuals after the like rate'.[30] The Chronicle then goes silent. There is no comment about the harvest of 1597 nor conditions in 1598, but 1598 was certainly a high price year (we have a reference to rye selling at 9*s*. or 9*s*. 2*d*. in December 1597) and, as we shall show, there were attempts to buy in foodstuffs in 1598. When the Chronicle returns, it is to tell us (by implication) that the crisis had passed; at the end of September 1598 prices had returned to something close to 'normal': rye was sold at 3*s*. 4*d*. the bushel, and wheat at 4*s*. or 4*s*. 4*d*.[31]

II

Shrewsbury was one of the larger English provincial towns with a population at the end of the sixteenth century of about 6000.[32] The town was an entrepôt, dealing in the trade between England and Wales, particularly in textiles. Although apparently inland, it could be accessed from the Bristol Channel up the Severn using barges based at Bewdley which would unload at the town's own quays. River access to the sea must have given it a considerable advantage in the crisis years over land-locked towns. Shrewsbury had corporate status: unusually for an English town, its authority also extended over a rural hundred (the Liberty of Shrewsbury). The town's government took the form of two bailiffs elected annually, a council of 12 aldermen and a large council of 24 assistants. Decisions taken within the inner circle had to be put to the commons for their approval but this seems to have been largely a formality. The bailiffs also acted as JPs in the town. The town's governors therefore had the administrative capacity to address crises and to enforce their will on the town at moments of disorder. It may reasonably be argued that the reaction of the corporation in Shrewsbury to crisis was typical of English towns as a whole in the late sixteenth century but better documented than most.[33]

The Chronicle shows that the town was certainly not without resource when it came to the dearth. The borough authorities were quick to take action before the harvest of 1586. In the spring and early summer of 1586 they were monitoring the quantity of corn being brought into the town's markets in accordance with the Book of Orders. It seems likely that the end of the previous harvest's grain brought some disturbances even if these are obscure. There was a 'tumult' at the High Cross on 29 July which saw a baker imprisoned for unspecified offences. Another baker was 'in ward' at the same time for weighing bread without authority. Four other bakers made their submission for breaking the assize of bread, perhaps at the same time. We can suggest that for whatever reason, high prices brought disputes with the town's bakers.[34]

[29] *SC*, pp. 336–7.

[30] *SC*, p. 337.

[31] *SC*, p. 339.

[32] For Shrewsbury see the recent VCH Shropshire, VI (i), *Shrewsbury, general history and topography* (2014).

[33] There is enough evidence on towns entering the grain market in the 1590s in Walter, 'Social economy of dearth', pp. 118–20 and P. Clark, 'A crisis contained', in Clark (ed.), *Crisis of the 1590s*, p. 59 to make one believe that this was general.

[34] SA, 3365/2624, probably a year file for 1586.

This was too big a crisis to be resolved by the implementation of the Book of Dearth Orders and the maintenance of discipline amongst the bakers.[35] In October the town commissioned Richard Mechen and Richard Anderson to travel 'to such places as ye shall think most meet where ye shall find store of provision to be had for ready money'. They were instructed to procure a whole shipload of 'good and sweet rye' to the quantity of 80 or 100 tons for the best price they could obtain, which it was hoped would be under 20*s*. a quarter. They were then to get a letter from the Lord Chancellor licensing the transport of the grain. It would seem that Mechen and Anderson went to Ipswich carrying with them £400. They managed to procure 40 last of rye, each last containing two tons, so making 80 tons, from a man called Edward Hunting. All of this was in Ipswich measure: in Ipswich bushels the price was 3*s*. 6*d*. a bushel, a last containing 80 bushels. The total cost was therefore £560, carriage to Bristol included. Hunting was to load the grain at Ipswich on or before the end of November: he was to deliver the grain at Bristol in the King's Road (the part of the Severn normally used for loading and unloading ships) on or before 10 December. If he could add another 20 lasts to the load to make it up to 60 lasts, then he was to do so, which would have made the total cost £840. The grain was to be paid for within a month of it being received at the King's Road. It was then up to the town to arrange the transport of the grain up the Severn to Shrewsbury.

It is not altogether clear how the town raised the money to pay for this grain. From the surviving memoranda and accounts, it seems that some of it was raised from the guilds and private individuals, but the lists of contributions are incomplete and do not, in total, amount like the sum needed for this venture. What they did with the grain is explained by the chronicler. It was sold to the poor at a rate of 5*s*. a bushel.[36] This was still four times more than they might expect to pay in a good year and so one cannot expect that it was a complete solution to a very difficult problem. It does raise the possibility, though, that the town, by being its own corn factor, could cover its costs and perhaps even make a profit on a relief effort such as this.

Shrewsbury again entered the market in 1597 and 1598. In the first of the two years, the chronicler tells us that they procured 3200 bushels of grain from Danzig (Gdansk) and Denmark through London, and had this shipped to Bristol. The grain, which from what he says may have been mixed rye and wheat, was sold to the commons at 8*s*. the bushel for rye when the market was at 12*s*. Forty bushels a week were also reserved to be baked by the town's bakers in small loaves priced at 2*d*., 3*d*. or 4*d*. to be sold to the poor who were evidently unable to afford anything more than this: they were 'so unruly and greedy to have it that the bailiffs, six men and other officers had much a do to serve them': in effect that there were disorderly crowd scenes when the bread was sold, so great was the demand for it.[37] One William Medlycott was

[35] The following is based on SA, 3365/728 (an unlisted and unnumbered package of papers). The borough minute books for this period are missing although it is possible to reconstruct them to a limited extent from extracts made whilst they remained in the custody of the borough, a task that I am undertaking. There is a large late sixteenth-century archive but it is fragmentary, broken and scattered between unlisted bundles. There are no extant engrossed accounts for these years. It will almost certainly be possible to enlarge on this account when the borough archive is fully catalogued.

[36] *SC*, p. 307.

[37] *SC*, pp. 336–7.

sent to meet this consignment at Tewkesbury where he had the opportunity of buying a further 200 quarters of Rye for the town at 5*s*. 8*d*. a quarter.[38] He sought the sanction of the bailiffs to buy this and their permission appears to have been given. If the 60 last procured in 1586 amounted to 4800 bushels of grain, then this relief effort seems somewhat smaller than that of 1586. It does imply though an outlay of at least £800.

This may not be all. There are signs that the bailiffs and town tried to secure more grain in the winter of 1597–98. We have a small body of correspondence from early 1598.[39] It would appear that an attempt to buy corn in Norfolk and have it transported to Shrewsbury came to nothing because it proved impossible to secure the appropriate licences from the Privy Council.[40] A letter to the corn factor engaged to procure this corn, a Mr Acton, dated 10 March 1598, drew attention to his failure to supply the corn on the due date of 26 February (whilst admitting that it was not his fault) and sought recompense from him as the town had been at some expense sourcing corn from elsewhere. At some time during the winter the town, doubting whether Acton could deliver, issued a commission for the acquisition of 2500 bushels of foreign corn to be delivered as quickly as possible at Bristol. Whether this was fulfilled is unknown. It seems likely that it did arrive. Confronted with the failure of Acton to deliver, at the beginning of March, they wrote to a Mr Browne in London for news of the state of the London grain market and drafted instructions for the purchase of more corn. What they wanted was 200 quarters, a much smaller quantity, to be delivered on May Day either at Bristol or Shrewsbury. They had been offered corn at Bristol for 40*s*. a bushel by the Bristol measure but wanted to undercut this price. Browne found a merchant who was willing to send a ship to Bristol, but pointed out that 200 quarters was much less than a fully laden ship. The merchant was unwilling to promise to deliver on May Day but offered to deliver during May. Browne also mentioned that the London price had increased from the 30*s*. he had quoted in an earlier letter to 34*s*. or 35*s*. a quarter after 4,000 quarters had been sent to Ireland. The price when carriage was included would be 40*s*. at Bristol. As the town had said that it could procure rye at that price at Bristol, Browne proposed not to proceed until he heard further from Shrewsbury. Here the extant correspondence ends, but what we have makes clear that the borough was anticipating shortages in the summer of 1598.

Other towns are known to have entered the market for grain in these years including Chester to the north of Shrewsbury and, lower down the river Severn, Worcester and Gloucester.[41] At Tamworth, in a land-locked position 50 miles to the east, a note in the parish register tells us that the famine was broken by the arrival of Polish grain.[42] At Shrewsbury the lost minute books of the borough would doubtless contain much more detail on how the money was raised

[38] H. Owen and J. B. Blakeway, *History of Shrewsbury* (2 vols, 1825), I, p. 400, n.1 (citing lost corporation minute books).

[39] For what follows, unlisted papers in SA, 3365/2706.

[40] SA, 3365/2706 also contains a petition to the earl of Pembroke as Lord President of the Council of Wales asking for his help in securing a licence from the privy council for the transport of 600 quarters of wheat and other grains supplied by one Thomas Oxwick of Walsingham from Norfolk to Bristol. In common with most of the other documents in the file, it is undated but comes from the winter of 1597–98.

[41] P. Clark, 'A crisis contained. The condition of the English towns in the 1590s', in Clark (ed.), *European crisis of the 1590s*, pp. 44–66. For Worcester, A. D. Dyer, *The city of Worcester in the sixteenth century* (1973), pp. 167–8.

[42] Palliser, 'Dearth and disease', p. 62.

and expended. The extracts from the books allude to the management of the crisis only when it impinged on matters of interest to an eighteenth-century copyist. The town had certainly had amassed a fund of £400 by about 1593 or 1594 which was to be spent in buying an endowment for the town's public preacher. A corporation order (which is undated in the extant extracts) instructs that this money was to be deployed to buy corn and the preacher's stipend raised instead by a levy amongst the occupations (guilds) and private individuals. A later order instructs the bailiffs of the borough to disburse £820 for the purchase of 900 quarters of corn for the relief of the inhabitants. As the bailiffs could not access enough money from the town's resources, they were authorised to borrow the balance. Again the extract is undated, but by convention the order had to be put to an assembly of the commons for its approval and this met on 5 January 1598.[43] A quite different eighteenth-century source which also drew on the lost minute books commented that 'the money was soon received again by the corn being sold at prime cost'.[44] The signs are that the town raised the money by borrowing from itself, from its richer inhabitants, and from its guilds, but recovered most, if not all, of the money it laid out from its inhabitants.

III

We also have some additional (and exceptional) evidence from Shrewsbury which shows that in one (and perhaps more) of the famine years of the 1590s the grain supply ran out in the weeks before the harvest. One Richard Gardiner of Shrewsbury published a manual for vegetable growing in 1603 explaining how to manure and plant a kitchen garden and gather seeds.[45] As his title page said, this was to be 'very profitable for the common wealth and greatly for the help and comfort of poor people'.

In a reflective passage towards the end of the pamphlet, Gardiner called on Christ to accept his enterprise:

> in respect I desire the benefit of this commonwealth herein and is a special mean to help and relieve the poor as by experience was manifest in the great dearth and scarcity last past in the county of Salop and elsewhere, for, with less garden ground than four acres planted with carrots, and above 700 close cabbages, there were many hundreds of people well refreshed thereby for the space of 20 days when bread was wanting amongst the poor in the pinch or few days before harvest. And many of the poor said to me they had nothing to eat but only carrots and cabbages, which they had of me for many days and but only water to drink. They had commonly six wax pounds of small close cabbages for a penny to the poor. And in this manner did I serve them and they were wonderfully glad to have them, most humbly praising God for them.[46]

[43] SA, 6001/290, pp. 15, 17, 34.

[44] SA, P257/X/2/1, 'Mr Hotchkiss's case of St Mary's church', fo.11r.

[45] Richard Gardiner, *Profitable instructions for the manuring, sowing and planting of kitchen gardens* (1603), printed in *Trans. Shropshire Archaeological Soc.*, sec. ser. 4 (1892), pp. 241–63. Page numbers are to this reprinted version.

[46] p. 260. See also the encomium of Gardiner on p. 246. It would be interesting to know whether Gardiner is referring to the days before the harvest as 'The Pinch'. *The Oxford English Dictionary* recognizes

Gardiner recommended eating carrots boiled and buttered ('a good dish for hungry or good stomachs'): 'carrots in necessity and dearth are eaten of the poor people after they be well boiled instead of bread and meat'.[47] It is possible then that Gardiner's vegetables bridged the gap between the grain from the last harvest running out and that from the new harvest becoming available.

IV

Given that what was done was quite different in character to modern famine relief, was the relief effort of any consequence? We have parish registers for three of the four Shrewsbury parishes covering the last quarter of the sixteenth century (Figure 1).[48] Both show a clear crisis in 1587 and a smaller episode in 1591. In 1596, oddly, the parishes show a fall in mortality: in 1597 and 1598 there is a clear crisis.[49] The difficulty is that this might be read as showing that the relief effort was insufficient, or it might be read as alleviating a much greater crisis which would have occurred if there had been no attempt to maintain the food supply. But, as may be seen from the figure, none of the three crisis years really compares with the epidemic crisis year of 1604 when the mortality in St Mary's was around 3½ times the average of the 20 years 1586–1605. (The register for St Julian's refers to plague deaths, but if the register is complete, then the parish seems to have largely escaped.) Given that the Chronicle suggests episodes of wet and cold weather in 1586–87 and 1594–98, it would not be too surprising if there had been a heightened mortality, especially amongst the old, from pulmonary diseases brought on by exposure to inclement weather even if the food supply was maintained to a satisfactory degree. It hard to see any obvious difference between the experience of Shrewsbury and that of the Staffordshire towns examined by Palliser.[50]

Shrewsbury, and one might suppose other towns too, engaged in a project to secure corn for the provision for its inhabitants. As we have noted earlier, this was not famine relief as would be understood today: the grain may well have been sold at near to market rates, but it was not sold so cheaply as to make a loss on the initial outlay. We have to see this as a process of borrowing, whether from the town's own reserves or from its guilds or citizens, but the fact remains that the town could access money on a large scale which allowed it to enter the corn market on its own behalf. The exact motivation must remain unclear. It may have been genuinely altruistic: it may have been to meet the expectations placed on them by the townsfolk; it may have been to avoid social unrest and disturbance. It was also to serve the needs of the town alone: we have noticed the expulsion of the poor who had come into the town looking for charity or work in 1598. Charity, if such it was, started at home and stayed

Note 46 *continued*
that 'pinch' has a meaning in the sense of 'stress or suffering caused by cold, hunger, poverty, etc.; hardship', as in the phrase 'to feel the pinch' and gives a late sixteenth-century example, but does not recognise 'The Pinch' as a time of the year when people felt the pinch of hunger.

[47] Ibid., p. 261.

[48] The register of the fourth parish, St Alkmunds has a succession of gaps of three or more consecutive months in its burial register including five months in 1588 and so is not drawn on here.

[49] Other writers have attributed the crisis mortality in 1587 to typhus. VCH Shropshire VI (i), p. 137.

[50] Palliser, 'Dearth and disease', *passim*.

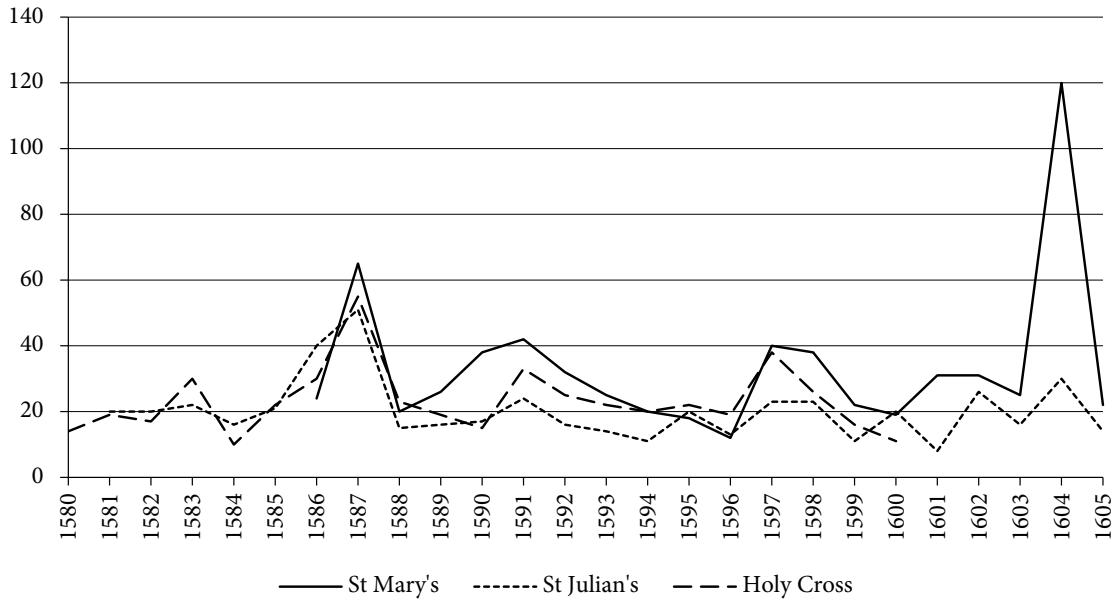


FIGURE 1. Annual numbers of burials in three Shrewsbury parishes, 1580–1605 (calendar years)

Source: Figures are the author's own count from the parish register transcripts in the search room of Shropshire Archives.
Note: There is no complete data for St Mary's before 1586. There are months without recorded burials in 1595 and 1596. Holy Cross: the burial register runs continuously from 1580 to May 1601 but with evident deficiencies in August and September 1584. St Julians: the register runs continuously from 1581 to 1605. Registration at St Alkmunds appears to be too incomplete (with runs of months without any burial registered) to be used.

at home. And so we can note a further paradox. Larger towns, normally dependent on the supply of grain from surrounding villages, had the resources – financial as well as logistical – to procure grain over long distances in famine years. Rural parishes, who normally supplied towns with their grain, must in most cases have lacked the institutional and financial means to enter distant corn markets. Towns may therefore have had an easier time in famines than the countryside and it is in the latter where we perhaps ought to look for episodes of famine mortality. In the case of Shrewsbury, we have noted that mortality in the crisis years is far from spectacular. If we look at Wem, a small market town with a large rural parish just 12 miles north of Shrewsbury and without a resident lord (Figure 2), we find that Wem suffered gravely in 1595 and 1596, but in 1604 there is little trace of the plague mortality so marked in Shrewsbury. This is suggestive and could be pursued further if only parish register survival allowed it, but there is a hint here that famine relief in Shrewsbury allowed mortality levels to remain low where in Wem they soared. Conversely in 1604 we can speculate that quarantine protected Wem when plague ran riot in Shrewsbury. On the other hand, villages and rural communities might have had a great greater resilience if farmers were willing to sell to their neighbours at the farm gate, especially at less than the prevailing price, or if cottagers had access to gardens. These matters lack clear-cut answers.

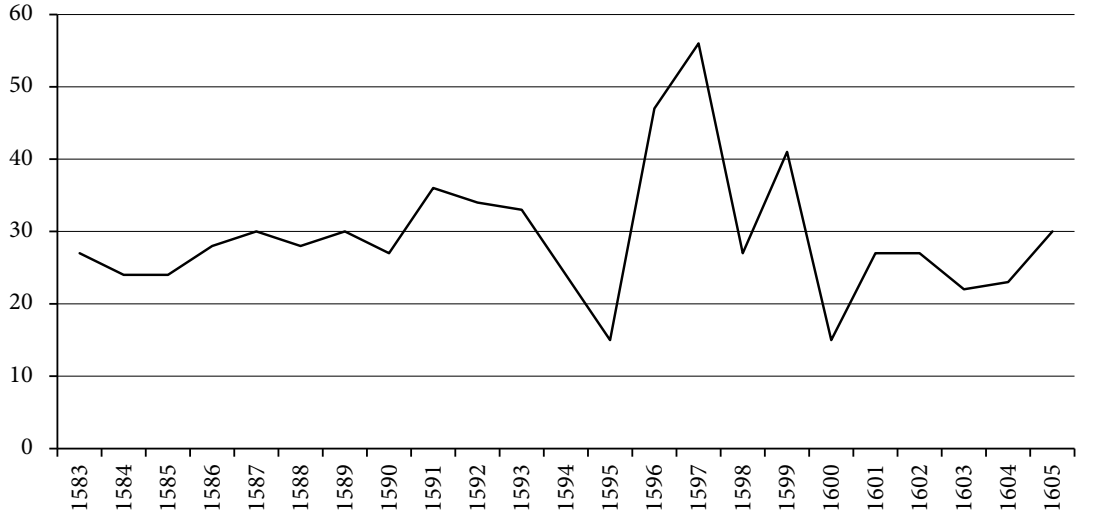


FIGURE 2. Annual burials at Wem (Shropshire), 1583–1605

Source: Figures are the author's own count from the parish register transcripts in the search room of Shropshire Archives.

V

The Shrewsbury Chronicle makes the context for the crisis of the 1586–87 and 1594–98 clearer. Both were periods of extreme wet in western England. The weather was unsettled for protracted periods. Agriculture was disrupted at both the sowing and harvest stages. Prices increased over the years of crisis and became astronomically high. In two of the three major crisis years and perhaps all three, the town of Shrewsbury procured corn which it sold at less than the market price but probably at a rate sufficient to cover its costs. (It is therefore significant that people still had money with which to buy food.) Other steps to manage the crisis were taken including the expulsion of migrants seeking work or charity and at least some management of the town's bakers. It is impossible to say with confidence that the town authorities were successful in preventing famine deaths. By their refusal in 1598 to assist those for whom they felt they had no responsibility, they probably caused deaths. Shrewsbury's reputation as a well-ordered town was doubtless preserved, the town authorities acting with proper responsibility and conscience. They even extended their 'pity' to a man convicted of stealing a bag of corn: he was taken out to be executed but reprieved 'considering the extreme dearth and scarcity of the year'.[51] As this shows, the urban elite were not without understanding of, and even empathy for, the plight of the poor, and tried to manage circumstances well beyond their control.

Even though Shrewsbury seems to have had some success in securing additional supplies, and these may have reduced the price of grain from what would otherwise have been the prevailing price, the price of grain remained far above that which people would pay in a 'normal' year.

[51] *SC*, p. 337.

That there was grain available to buy does not solve the mystery of how people with limited means survived the crisis. Gardiner's vegetables may have been a part of the answer, but even these had to be bought. Quite exceptionally, on one occasion, we hear something of the voice of the poor, which gives us hints of their survival strategy. Joyce, the wife of Meredith Meighan, corvisor, petitioned the bailiffs for relief after the crisis.[52] She had lived through these 'extreme dear years' and survived, but to support herself and her four children she had sold all her possessions ('all she ever had'), and had been 'glad to eat horse bread a long time to relieve them for pining for want of meat'. Joyce never mentioned what had happened to her husband: evidently not dead, but whether he had deserted her or been impressed is not explained. Lacking his support, she intended to go to London where she hoped that her friends would help her. She asked the bailiffs for financial help and a passport. They, recognizing a bargain when they saw one, offered her 10*s.* for her travel expenses if one of her husband's brothers would stand surety that she would never come back to be a burden on the town.

Late sixteenth-century society was neither passive nor defeated in the face of adverse weather conditions. We have noticed the practice of re-sowing with barley if there was a likelihood that rye had failed, and the trading down in bread grains. We have seen endeavours to secure new supplies of grain, some of which came from the Baltic, and to mobilise the financial strength of the borough and its inhabitants to do this. We have seen the self-help of Richard Gardiner and the cultivation of carrots and cabbages as famine foods. We have also seen the desperate state to which Joyce Meighan was evidently reduced: the poor sold household goods to buy bread, and the bread they bought was of the lowest quality. Times were plainly hard, but people approached the problems with some resource. Survival in such hard conditions might depend on income, access to work and relief as well as the supply of grain organized by borough corporations such as Shrewsbury. The root of their problem was not markets, speculation or hoarding, all of which they could try to manage and overcome, but the weather, which they could not.

[52] SA, 3365/2625 (unlisted and unnumbered bundle).

Henry L. Moore and the application of institutional economics to the cotton market in the early twentieth century

by Éric Chancellier

Abstract

In this paper, our aim is to analyse the work of Henry L. Moore on the cotton commodity market in the 1910s in the United States. Moore put into practice the institutional approach to economics on two aspects of the cotton economy. The first section of the paper presents Moore's development of better methods for the prediction of yields. He used the hypothesis of a causal relationship between meteorological phenomena and crop yields to overcome the limitations of the census methods employed by the United States Department of Agriculture. The second section considers Moore's approaches to fair pricing-related research. In the context of the farmers' suspicions of speculators and in an effort to stabilize cotton futures markets, the United States Federal Government passed the Cotton Futures Act in 1914, implemented the following year. Its purpose was to standardize the quality of cotton offered in the futures markets. Using the correlation coefficient, Moore validated the effectiveness of this legislation.

> One task of modern agricultural meteorology is to study the relation between the climatic variations and those of agricultural production.[1]

> An examination of the historical record suggests that the U.S. cotton exchanges were […] vulnerable to manipulation.[2]

> In critical times of crop development, prices have typically been found to be more volatile because of the uncertainty about crop conditions. Market participants likely become acutely sensitive to new information during these times.[3]

At the beginning of the twentieth century, the United States experienced a complete restructuring of the agricultural sector. The Federal government, through the United States Department of Agriculture (USDA) became increasingly involved in the agricultural sector to facilitate

[1] A. Wallén, 'Notiser. Production and Climate in Australia', *Geografiska Annaler* 1 (1919), p. 395.

[2] S. C. Pirrong, 'The self-regulation of commodity exchanges: the case of market manipulation', *J. Law and Economics,* 38 (1) (1995), p. 184.

[3] D. Hudson and K. Coble, 'Harvest contract price volatility for cotton', *J. Futures Markets* 19 (1999), p. 719.

its mechanization and regulate its operations.[4] Specifically, with the development of futures markets for farming products at the end of the nineteenth century, farmers, in a corporate movement, accused the financial markets of destabilizing commodity prices, thereby negatively impacting on their income.[5] On the other hand, economic agents doubted the effectiveness of the price of commodities to incorporate all the information available to the market, but there were also doubts about the accuracy of the available agricultural statistics.[6]

One author, the economist Henry L. Moore (1869–1958), whose contribution to agricultural economics is now largely overlooked, perfectly illustrates this environment. Moore is considered an atypical author in the field of economic thought, particularly in regard to his representations of economic mechanisms where he placed weight on natural phenomena.[7] Stigler and Mirowski have outlined Moore's professional path.[8] His academic training began in Europe.[9] Later, in 1906, as a political economy professor at Columbia University, Moore began research to link economic statistics through the use of correlation coefficients. It was at Columbia where he participated in the development of a new academic project: institutional economics.[10] As shown by Rutherford, Columbia was the major academic centre for economics and the social sciences between the two World Wars. Moreover, Columbia is where the combined use of quantitative methods – statistics – and multidisciplinary approaches developed. Additionally, as J. B. Clark's student, Moore developed his competence in technical mathematics and statistics, and particularly in cyclical analysis, evidenced in his work of 1914, *Economic cycles: Their law and cause*. As such, the institutional context of Columbia University was a major influence on Moore's work.[11]

More specifically, Moore's 1917 book – *Forecasting the yield and the price of cotton* – clearly reveals the importance of this environment to Moore. His book focuses exclusively on cotton because the cotton market had been the subject of a number of scandals related to speculations in cotton futures markets.[12] In 1915, the United States Federal Government legislated to

[4] A. D. Sheingate, *The rise of the agricultural welfare state: Institutions and interest group power in the United States, France, and Japan* (2001).

[5] Y. Simon and D. Lautier, *Marchés dérivés de matières premières* (2006); C. B. Cowing, *Populists, plungers, and progressives: A social history of stock and commodity speculation, 1890–1936* (1965).

[6] F. H. Sanderson, *Methods of crop forecasting* (1954).

[7] See P. Le Gall, 'A world ruled by Venus: on Henry L. Moore's Transfer of Periodogram analysis from physics to economics', *Hist. Political Economy* 31 (1999), pp. 723–52. Moore published a succession of papers which used statistical data related to commodities but employed the periodogram tool – the ancestor of spectral analysis – to define cyclic periodicities. See T. F. Cargill, 'Early applications of spectral methods to economic time series', *Hist. Political Economy* 6 (1974), pp. 1–16.

[8] G. J. Stigler, 'Henry L. Moore and statistical economics', *Econometrica* 30 (1962), pp. 1–21; P. Mirowski, 'Problems in the paternity of Econometrics: Henry Ludwell Moore', *Hist. Political Economy* 22 (1990), pp. 587–609.

[9] Moore took mathematical statistics courses with Karl Pearson in London before obtaining a Ph.D. at John Hopkins University in 1896. Furthermore, his travels also led him to meet Pareto, Edgeworth, Walras, and Cournot.

[10] In particular, in 1918 Walton Hamilton first used the term institutional economics in his article 'The institutional approach to economic theory'. M. Rutherford, 'Institutional economics at Columbia University', *Hist. Political Economy* 36 (2004), pp. 31–78.

[11] As stated by Rutherford, 'Institutional economics', p. 36, 'at this point, particularly with J. B. Clark and Moore, the department probably possessed more strength in neoclassical theory than any other leading department in America'.

[12] Pirrong, 'Self-regulation of commodity exchanges.

regulate the cotton market – The Cotton Futures Act – in order to restore some confidence in the markets' operations. As Garside and Hubbard show, the analysis of the cotton market in the very early twentieth century was based on two quite distinct fields: an increasing interest in meteorological impacts on the crop; and the developments in financial markets, particularly strategies of hedging on futures markets.[13] Moore's work announced what would be the institutional approach insofar as it focused on a multidisciplinary approach – Agricultural Meteorology – as well as on the role of the institutions – The Cotton Futures Act – to regulate the market.[14] Also, Moore used the statistical methods of correlation and regression in order to validate the different methodological approaches. Therefore, his work belongs to the emerging field of institutional economics. As Rutherford has explained, 'the institutional approach 'was to be focused on institutions and their role in affecting economic behavior and outcomes … to be relevant to issues of "social control", and to utilize proper "scientific" methods, including quantitative and statistical research'.[15]

As we will show in the first part of this paper, agricultural meteorology was made possible by the pioneering work of the Norwegian physicist Vilhelm Bjerknes, who outlined the importance of better weather forecasting for agricultural purposes as well as aviation. As Friedman notes, as early as 1917, Bjerknes developed a statistical-climatological approach to weather forecasting. He then developed a new cyclone analysis model to allow better forecasts. The key variables in Bjerknes' work are temperature and rainfall.[16] Thus, Moore puts into practice the methodological orientation of the institutional approach in regard to two issues of the agricultural economy.

This paper is organized as follows. The first section will present Moore's method of analysis, which allows for a better prediction of yields. The agricultural meteorology on which Moore drew was a new method of analysis gaining considerable momentum at the very end of the nineteenth century. Monteith describes this period as the golden age of agricultural meteorology because its foundations are clearly delimited to exogenous explanations of crops – climate, rainfall, and temperature – and to the statistical tool of correlation.[17] Moore is part of this approach: he uses the hypothesis of a causal relationship between meteorological phenomena and crop yields to overcome the limitations of the census methods employed by the USDA. Our second section will be devoted to Moore's different approaches to fair pricing-related research. In the context of the farmers' suspicion of speculators and to stabilize cotton's futures markets, the Federal government passed the Cotton Futures Act in 1914. Its purpose

[13] A. H. Garside, *Cotton goes to market: A graphic description of a great industry* (1935); W. H. Hubbard, *Cotton and the cotton market* (1923).

[14] In 1922, the USDA launched a vast institutional reform project when it developed agricultural cooperatives as a means of regulating the market and supporting farmers' purchasing power. E. Chancellier, 'Les coopératives agricoles comme bien commun: un projet multiforme. Le cas du marché du coton aux Etats-Unis dans les années 20. *Transversalités,* Supplément 4 (2016), pp. 93–110.

[15] Rutherford, 'Institutional economics'.

[16] R. M. Friedman, *Appropriating the weather: Vilhelm Bjerknes and the construction of a modern meteorology* (1989), pp. 110–13, 163. Bjerknes (1862–1951) was a Norwegian geophysicist, mathematician and physicist. Described by Friedman as the 'father of modern meteorology', he showed that weather forecasts based on isobaric surfaces are more reliable (p. 6).

[17] J. L. Monteith, 'Agricultural Meteorology: evolution and application', *Agricultural and Forest Meteorology* 103 (2000), pp. 5–9.

was to standardize the quality of cotton offered in the futures markets. Using the correlation coefficient, Moore validated the effectiveness of this regulation as he noticed that futures prices evolved in parallel with spot prices. In addition, to legitimize the role of economic theory in explaining fluctuations in the price of cotton, Moore used Marshall's work – the law of demand – to show its effectiveness in predicting cotton prices, thus favouring the real sector – supply and demand – to determine the price of cotton.

I

In his comparative history of the development of agricultural institutions in the United States, France, and Japan from the beginning of the twentieth century to the present, Sheingate noted that the first agricultural institutions in the United States appeared in the late nineteenth century with the establishment of the USDA in 1862. [18] Since its foundation, the USDA posited a close relationship between farmers and meteorological phenomena. The Weather Bureau prepared weather maps and made weather predictions for farmers, as illustrated by Ward who presented the geographic distribution of different crops in the United States based on the type of farming (Map 1). So:

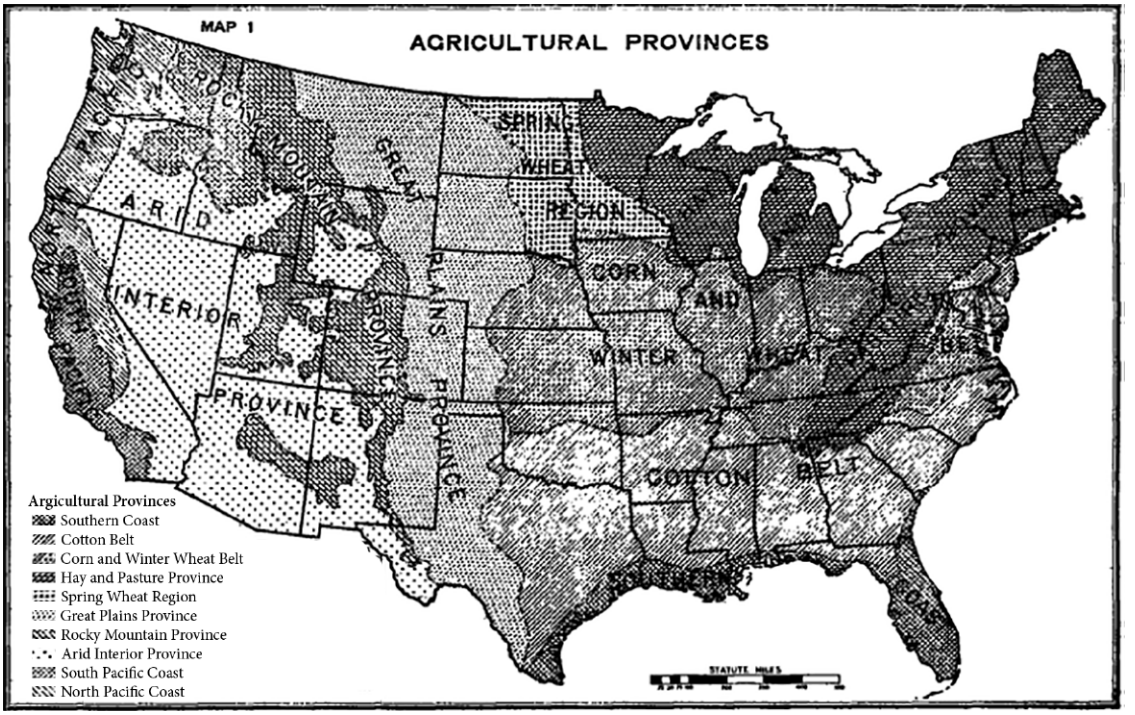
> the country is conveniently divided into two major divisions, separated by … the 'dry farming-line'. The half of the country east of this line has sufficient rain in normal years and produces annual summer crops cultivated by ordinary farming methods. … The West is a region of irrigation, of dry farming or grazing.[19]

As seen in Map 1 and as explained by Sheingate, from the end of the 1870s to the 1920s, the authorities implemented aid policies for farmers to specialize in crops appropriate to the climates of the different regions in the country. Consequently, 'by the end of the century, regional product specializations were clear: the Corn Belt stretched from western Ohio through Indiana, Illinois, and Iowa; wheat dominated from the Canadian border to the Texas Panhandle; the Upper Midwest specialized in dairy; and the South specialized in cotton, tobacco, and rice'.[20] Mapping therefore became an important element for the farmer and for the authorities, allowing them to control the development of agricultural acreage, especially as

[18] Sheingate, *Agricultural welfare state*, p. 5; V. Wiser, 'Weather, USDA, and the Farmer', *Agricultural Hist.* 63 (1989), pp. 51–61. The USDA replaced the Smithsonian Institution, created in 1849, and intended to provide forecasts based on telegraphic reports to the military and farmers: 'An agreement for cooperation was adopted with the Patent Office using its franking privilege for the return of the meteorological reports. This gave the work an agricultural emphasis and farmers had access to weather data in Patent Office publications' (V. Wiser, 'Weather, USDA, and the Farmer', *Agricultural Hist.* 63 (1989), p. 52). Other institutions or governmental decisions relating to the agricultural sector appear at the end of the nineteenth century. In 1862, the United States Congress passed the Homestead Act to accelerate the migration of people to the West and the Pacific Railway Act intended to release credits to link by railway areas of agricultural productions located in the center and south of the country with the urban areas in the east. The Morrill Act (1862) started agricultural education in American universities. In 1887, the Hatch Act sought to develop scientific research organizations in the field of agriculture.

[19] R. De C. Ward, 'The larger relations of climate and crops in the United States', *Monthly Weather Rev.* 47 (1919), pp. 238–40.

[20] Sheingate, *Agricultural welfare state*, p. 15.



MAP 1. The dry-farming line lay on the east side of the Great Plains Province.

Source: Adapted from R. De C. Ward, 'The larger relations of climate and crops in the United States', *Monthly Weather Rev.* 47 (1919), p. 238.

these acreages increased dramatically between 1870 and 1914.[21] Hence, it became necessary to create effective statistical tools to estimate crop yields.

Thus, weather data and the factors determining agricultural yields were of great interest to the USDA. As such, the Weather Bureau, through its journal, *The Monthly Weather Review,* offered advice and provided meteorological information that would help optimize harvests. This information was practical, and it concerned the organization of farm work, as Kincer indicates in his monthly note 'Effect of weather on crops', for June, 1919:

> Farm work: the continuation of frequent rains from Missouri and eastern Kansas northward were unfavorable for farm work during much of the month and planting and cultivation were delayed in that area. … Much of the month was fairly favorable for cotton in the eastern portion for the belt, but it was too cool and rainy as a rule for this crop, particularly in the western cotton growing districts.[22]

As Azzi wrote in 1918, 'the problem of agricultural meteorology is of high importance for crop yield'.[23] Therefore, international authorities established meetings to homogenize

[21] The corn acreage increased by 157%, that of wheat by 161%, and that of cotton by 290% (Sheingate, *Agricultural welfare state,* p. 15).

[22] J. B. Kincer, 'Effect on weather on crops, June, 1919', *Monthly Weather Rev.* 47 (1919), p. 433.

[23] G. Azzi, 'Le problème de la météorologie agricole',

analysis procedures for defining the best yields according to weather conditions. In 1911, the International Institute of Agriculture in Rome assumed control of the International Meteorological Committee and appointed a commission in 1912 to develop an international organization for agricultural meteorology. The link between weather and crop yields was among the themes addressed. Weather conditions were thus factored into economic forecasts for crops from the beginning of the twentieth century.[24] A multidisciplinary field was established that connected meteorological aspects such as weather cartograms, weather bulletins, and agricultural meteorology stations; the phenological aspects such as plant growth and the optimal period of plant flowering; and purely agricultural aspects such as crop yields per hectare, production, and available arable land. State administrations signed partnerships to develop a true network of informational analysis. In 1905 Cleveland Abbe (1838–1916), from the Weather Bureau in the USDA, published the *First Report on the relations between climates and crops*.[25] This report was 'a rapid compilation from a wide range of sources, and presents a preliminary view of the condition of our knowledge at that time as to the effect of climate upon the growth and distribution of our staple crops'.[26] As Kaïgorodoff noted in 1929, the goal of bringing meteorology and agriculture together was to allow for an increase in agricultural productivity.[27] It is in this context that Moore would publish his investigating the prediction of cotton yields based on the available weather data. Thus, Moore's work coincides with the birth of agricultural meteorology. We note in the first subsection that agricultural meteorology was developed to resolve the problems of crop censuses based exclusively on the farmers' returns. We show in the second subsection how the work of Moore is based on methods of correlation used in the development of agricultural meteorology.

(i) The shortcomings of the crop reporting service and the alternative crop weather service

Between 1914 and 1929, the USDA attempted to forge ties with farmers from different regions. To accomplish this, it deployed a multitude of agents in different American states to provide farmers with technical advice intended to increase crop productivity.[28] During this period, the USDA's interests and responsibilities also broadened from an initial concentration on

Note 24 *continued*
Revue Générale des Sciences Pures et Appliquées 29 (1918), pp. 307–11 (Author's translation).

[24] In a broader context, Le Gall shows that some French economists in the nineteenth century used a paradigm based on a natural order where the weather partly explains agricultural prices. P. Le Gall, *A history of econometrics in France: from nature to models* (2006), pp. 86–126.

[25] Cleveland Abbe (1838–1916) was a meteorologist. He developed a system of telegraphic weather reports, daily weather maps, and weather forecasts. Congress in 1870 established the U.S. Weather Bureau and inaugurated the use of daily weather forecasts. He founded the scientific journal, *Monthly Weather Review*, in 1872, initially as a government publication under the United States Army Signal Corps. In 1891, the Signal Office's meteorological responsibilities were transferred to the under the United States Department of Agriculture J. W. Smith, 'Agricultural Meterology', *Monthly Weather Rev.* 48 (1920), p. 281.

[26] Smith, 'Agricultural meterology', p. 282 explains that by 1920 the connection between weather and agriculture was established in most industrialized countries: Russia (1896), Canada (1915), England (1875), Brazil (1910), Germany (1911), France (1912). All these countries developed a system to collect weather data – in different weather stations located throughout the country – and to collect crops statistics.

[27] A. Kaïgorodoff, 'Agricultural Meteorology and raising agricultural productivity', *Monthly Weather Rev.* 57 (1929), pp. 374–5.

[28] Sheingate, *Agricultural welfare states*, pp. 99–102.

biology and chemistry to include a focus on economic and sociological issues. As such, 'the Office of Markets and the Rural Organization Service, both created in 1913, studies marketing, production, and trade. The creation of the Bureau of Crop Estimates in 1914 increased department resources for the collection and analysis of statistics'.[29]

The problem of the estimation of yield is not new, and has interested many international organizations, as discussed by Clark as early as 1910.[30] Specifically, as Irwin explained, Western countries had difficulty accurately estimating crop yields as the estimates were based solely on the statements of the farmers.[31] In addition, as Godfrey explained in a review of national practices in 1910, if each country had singularities in their technique of crop forecasting, they all relied on the census technique. With respect to the United States, 'they possess what is probably the oldest and most highly organized system of monthly crop reporting in existence' and which was based on the system of harvest census.[32]

> Forecasts of acreage are made partly subjectively by asking reporters to express the acreage as a percentage of the usual acreage, partly by a sampling process of securing reports from individual farmers who report the acreages on their farms under each crop in the current and previous years, and partly by 'field count methods', such as counting by means of a special speedometer the number of feet along the road under each kind of crop. Forecasts of yield are made by asking reporters for estimates of the condition of the crop in term of the normal as 100.[33]

The census technique was the subject of considerable criticism because of its low level of accuracy. For instance, Sanderson in 1954 conceded that the crop reporting service '[had] in general, yielded fairly satisfactory results' but he admitted that the weak point was the unwillingness of farmers to provide the necessary statistics to the United States government. Indeed, 'questionnaires are sent to about 320,000 farmers; on the average about 25 per cent of these are returned'.[34] This shortcoming had the capacity, as indicated by Murray when he outlined the historical development of agricultural statistics between 1900 and 1920, to impart errors into the estimation of agricultural areas and yields.[35] Therefore, the USDA attempted to secure new

[29] Ibid., p. 100.

[30] C. C. Clark, 'Annual Report of the Bureau of Statistics for Fiscal Year 1906–7', *The Crop Reporter* 9 (1907), 95–9.

[31] J. O. Irwin, 'Crop estimation and its relation to agricultural meteorology', *Supplement to J. Royal Statistical Soc.* 5 (1938), pp. 1–45.

[32] Godfrey analyses the systems of crop forecasting for the United Kingdom, France, Germany, Austria, Hungary, Russia, Sweden, the United States, Canada, of Argentina, Australia, South Africa and India. He notes that 'in all countries that have established any sort of system for recording the progress of growing crops and of estimating areas and yields, dependence has to be placed largely upon the services of correspondents'. E. H. Godfrey, 'Methods of crop reporting in different countries', *J. Royal Statistical Soc.* 73 (1910), pp. 257–83; also L. M. Estabrook, 'The use of crop reports by farmers', *J. Farm Economics* 5, (1923), pp. 28–34 and N. C. Murray, 'The crop reporting system', *Annals of the American Academy of Political and Social Science* 38, pp. 91–103 for a detailed explanations of the techniques of the crop reporting systems.

[33] Irwin, 'Crop estimation', p. 4.

[34] F. H. Sanderson, *Methods of crop forecasting* (1954), pp. 138–46.

[35] N. C. Murray, 'A close-up of the development of agricultural statistics from 1900 to 1920', *J. Farm Economics* 21 (1939), pp. 707–17. To illustrate, here is what we read in *The Crop Reporter* (1906, p. 9): 'The Department is convinced that the estimated planted acreage in cotton of about 28,686,000, issued June 4, is near the truth; but the increase of 1,686,000, or 6.2 per cent, it should be understood, is not all of this year.

sources of information in order to reduce 'the bias of farmer crop reporters' and to diversify its crop forecasting techniques by incorporating the impact of weather on crop yields.[36]

The shortcomings of the crop reporting service were the starting point for Moore's 1917 book. First, he noted the consequences for the price of cotton for failing to estimate accurately the cotton yield and, ultimately, the consequences for the income of the farmers. 'An error in an official crop report which should lead to an ultimate depression of one cent a pound in the price of cotton lint would cost the farmers $80,000,000, or more'.[37] The consequences of an unsound yield estimate on cotton prices was acknowledged by the C*ensus Bureau*. To minimize fluctuations in the market price of cotton on the stock exchange, a rigorous protocol to control the disclosure of cotton production statistics was implemented. Every year, a synthesis of the state of the supply of cotton was published in *The Crop Reporter*. [38] It is important to note that *The Crop Reporter* was aware of the economic dimension of its publications, as one of its responsibilities was to make the most reliable statistics possible available to stakeholders. *The Crop Reporter* was aware of possible errors in forecasts and strived to modernize its estimation methods to improve the accuracy of its reports. For example, in 1907 Clark questioned the accuracy of the methods used by *The Crop Reporter* concerning the estimation of crop acreages: 'should there be a tendency to underestimate or overestimate under this percentage system it may result at the end of a term of years in a deviation from the true situation'.[39] Moore adopted the same criticisms toward *The Crop Reporter* publications and devoted an entire chapter to them in his book. One of his major criticisms of the forecasting methods implemented by *The Crop Reporter* was the lack of homogeneity and reliability in forecasting techniques:

> Without a measure of the degree of accuracy and reliability of the forecasts the Crop-Reporting Board has no proper ground of choice between methods of forecasting; farmers, brokers, and consumers are without adequate guidance in the planning of their enterprises; and scientific economists have no empirical tests of the degree of error in their analyses of the interrelation of phenomena.[40]

In particular, Moore presented the sources of cumulative errors in the methodology employed by The Crop Reporting Board method, which based its forecasts on the 'full normal crop' concept.[41] Moore criticized this approach.

Note 36 *continued*
The Census Bureau's final report of the crop of 1905 was about 400,000 bales more than was estimated by the Bureau of Statistics on the 4th of December last'.

[36] Murray, 'Close-up view', p. 709.

[37] Moore, *Forecasting the yield and price of cotton* (1917), p. 3.

[38] '*The Crop Reporter* is a publication of the Bureau of Statistics, under the authority of the Secretary of Agriculture, and all communications in relation to it should be addressed to the Chief of the Bureau of Statistics, Department of Agriculture' (*Crop Reporter*, 1906, p. 1).

[39] C. C. Clark, 'International Crop Reporting Service', *Publications of the American Statistical Assoc.* 12 (1910), pp. 181–98.

[40] Moore, *Forecasting*, pp. 66–7.

[41] *Crop Reporter* (1908, p. 97) gives a precise definition of the concept of full normal condition: 'a full normal condition is *not* an *average* condition, but a condition *above* the average, giving promise of *more than an average crop*. Furthermore, a full normal condition does *not* indicate a *perfect crop* … The full normal indicates something *less* than this, and thus comes between the average and the possible maximum, being greater than the former and less than the latter. The full normal may be described as a condition of perfect healthfulness'.

> The method of the Crop Reporting Board in making the forecast of the yield per acre of cotton is … to assume that the ratio of the yield per acre for any given year to the mean yield per acre for the preceding five years is equal to the ratio of the condition of any given month to the mean condition for the given month during the preceding five years. … Is there any relation between the two series, and if so, how closely are they related, and what is the error made in using the condition-series to forecast the yield-series?[42]

Moore then proposed to overcome the limitations of these techniques by using new sources of information from meteorological data obtained from the Weather Bureau.

> We shall consider … the possibility of forecasting the yield per acre of cotton simply from the current reports of the Weather Bureau as to rainfall and temperature in the several cotton states.[43]

Moore drew extensively on the work of J. W. Smith,[44] a forerunner in the field of agricultural meteorology, to present an alternative methodology for the forecasting of crop yields. While Smith published many articles in *The Monthly Weather Review,*[45] in an article published in 1914, he analysed the effects of weather on the yield of corn, showing that rainfall was the most significant variable: 'In places where the temperature and sunshine are generally sufficient the development of the plant and more especially the crop yield depends most largely upon the rainfall'.[46]

Thus, it is evident that between the end of the nineteenth century and the 1920s, agricultural meteorology witnessed an important development. Moore called on recent developments in this new field of analysis to predict the yield of cotton, drawing his inspiration from the works of Smith and using the variables of rainfall and temperature to establish possible connections between these two meteorological phenomena and cotton yields. All of Moore's views incorporated the concepts used by the agricultural meteorology analysts, especially those of the Climate and Crop Service.

> Throughout the period from the first of May until the end of September, the growth of the cotton plant is watched with anxious solicitude. The change of the weather may convert a crop that is flourishing at the first of June into a comparative failure at the time of harvest, or the damage of excessive heat in July may be off-set by a beneficial rainfall in August. The effects of temperature and rainfall upon the crop vary from state to state, but in all cases the effects are cumulative, and the probable consequences of a rain or drought at any point in the growth season are dependent upon the quantity and distribution of rainfall and temperature preceding the time in question. … The economist who … seeks to forecast the yield of cotton at harvest must be able to measure the effects upon the crop of the accumulated variations in temperature and rainfall up to the time in question.[47]

[42] Moore, *Forecasting*, pp. 66–7.

[43] Ibid., p. 93.

[44] J. W. Smith was a professor of Meteorology at the United States Weather Bureau. The Division of Agricultural Meteorology was created in 1916. Smith published numerous articles on the relationship between weather and crop yields of grain and cotton. Sanderson, *Methods of crop forecasting*, pp. 214–15.

[45] Attached to the Department of Agriculture, *The Monthly Weather Review* was founded in 1872. Weather reports are given to farmers – *Climate and Crop Service*.

[46] J. W. Smith, 'The effect of weather upon the yield of corn', *Monthly Weather Rev.* 42 (1914), pp. 78–92.

[47] Moore, *Forecasting*, pp. 100–1.

The contribution of the Weather Service became all the more necessary because weather conditions influenced the quality of cotton. Accordingly, it became necessary for the American authorities to set up a system to reference the quality of cotton – the system of US Government Standards – which became effective on 30 June 1909 and was amended in 1914 and 1916 by the Cotton Futures Act. The objective was to establish universal standards criteria for the cotton market in the United States. Thus, the authorities set nine reference grades: middling fair, strict good middling, good middling, strict middling, middling, strict low middling, low middling, strict good ordinary, and good ordinary.[48] These grades were then referenced in measurement and comparison standard boxes. As Miller noted in his book of 1915, there are no mechanical means to determine the grade of cotton. The cotton must therefore be visually examined by qualified technicians in order to determine the correct grade. Certain rules must be respected, and the technician must refer to universal standards in order to classify the quality of cotton. The Cotton Classer differentiates broken leaf, large leaf, small leaf; stems; broken seed; immature seed; dirt, gin cuts; naps, and discolourations. The less these elements are found in the cotton, the better its quality. It should also be noted that the length of the cotton staple does not play a major role in the quality of the cotton.[49] As Miller also noted, the quality of middling cotton was the benchmark in all markets. It is from this grade that all other cotton qualities are referenced. This middling quality is white or nearly white cotton and contains only a small amount of foreign matter.[50] Miller clearly showed that moisture can alter the quality of cotton, and this is all the more true because farmers might not allow cotton to dry enough if they are trying to save time between harvesting and packaging into cotton bales.[51] Thus, to validate the hypothesis that weather affected crops, Moore employed correlation techniques already exploited in the field of agricultural meteorology.

(ii) The validation of the hypothesis of the influence of weather on crops through the use of correlation

If the first attempts to establish a causal connection between weather conditions and crop yields occurred in the mid-nineteenth century, it was with Hooker's article of 1907 that the use of correlation coefficients applied to the relationship between meteorology and crop yields was first employed.[52] Thereafter, many authors would use correlations to calculate the importance

[48] The Cotton Exchange recognizes 23 grades of cotton including the Tinges and Stains and Half and Quarter subdivisions.

[49] T. S. Miller, *Cotton Trade Guide and Student's Manual* (1915), pp. 12–16.

[50] T. S. Miller, *The American cotton system historically treated: Showing operations of the cotton exchanges: also cotton classification with numerous practical domestic and foreign commercial calculations* (1909), pp. 37–9.

[51] Miller, *Cotton Trade Guide*, pp. 13–16. Cotton is packed, stored and transported in units called bales. A cotton bale consists of cotton fibers removed from the seed during ginning and packaged to facilitate handling, storage and transportation. The bales are formed after ginning, drying and cleaning by accumulation of cotton fibers in a baling press. A cotton bale weighs approximately 200 kg.

[52] Sanderson, *Methods of crop forecasting*, pp. 212–13. R. H. Hooker, 'Correlation of weather and crops', *J. Royal Statistical Soc.* 70 (1907), pp. 1–51. Hooker wished to put an end to the debate between Shaw and Thomas concerning the influence of fall precipitation on wheat crops in England. So, 'the method of correlation might quite possibly enable us to determine whether the meteorological conditions during autumn were or were not the predominant factor in our wheat supply' (p. 1).

of weather in explaining agricultural yields. Many articles appeared in *The Monthly Weather Review* in which the correlation coefficient was extensively used to predict crop yields based on weather data.[53] It was in this context that the work of Moore appeared in 1917. He claimed to be able to predict cotton yields for the months of May, June, and July based on climate data by employing the correlation coefficient.[54] Moore was inspired by the work of J. B. Kincer of the Weather Bureau who had proposed in an article of 1915 to apply the emerging approach of agricultural meteorology by using the correlation technique to define the possible links between atmospheric phenomena – rainfall and temperature – and the production of cotton.[55] In a paper of 1911, J. Warren Smith, the father of agricultural meteorology, had applied the correlation technique to potato yields. He clarified the difficulty of calculating the influence of rainfall and temperature, respectively, on the level of the yield: 'In a study of the effect of weather conditions upon the growth of crops it is often necessary to combine the influence of two different factors, as rainfall and temperature'. Smith then advocated the use of a partial correlation.[56] Thus, Moore drew on both Kincer's work, in the sense that he used the two weather variables namely, temperature and rainfall, and Smith's work, which incorporated the correlation technique. So:

> the cotton crop is affected not only by the weather of May and June but also by that of July and of August. The coefficients for both temperature and rainfall in August have significant values. If at the end of August we should wish to forecast the yield of cotton from accumulated effects of past weather – for example, of the May rainfall, the June temperature, and the August temperature – we have only to extend the principles of multiple correlation to cover four variables.[57]

The results showed negative correlations between gaps in cotton yields as compared with normal yields and between gaps in temperature as compared with normal levels, except for the months of June and September, whereas correlations between gaps in cotton yields as compared with normal yields and gaps in rainfall as compared with normal levels are negative, except for the month of August. Thus, the most significant values of the correlations included the months of June and August for temperature and the month of May for rainfall. At first, if the use of the correlation allowed Moore to select weather phenomena to retain rainfall and temperature, in a second attempt, Moore retained only the most significant periods – the months – to predict cotton yields. For that, Moore drew on the work of Smith, which showed how to determine critical growth periods, an approach belonging to the domain of agricultural meteorological analysis.[58] Smith held that 'we believe it will show the methods used [multiple

[53] C. N. Moore, 'On the coefficient of correlation as a measure of relationship', *Monthly Weather Rev.* 48 (1916), pp. 274–6.

[54] Moore, *Forecasting*, pp. 103, 105.

[55] Joseph Kincer (1874–1954) was the principal meteorologist of the Weather Bureau. His work was critical in determining the influence of meteorological factors on cotton production. See his 'A correlation of weather conditions and production of cotton in Texas', *Monthly Weather Rev.* 43 (1915), pp. 61–5; 'Relation of weather to the amount of cotton ginned during certain periods', *Monthly Weather Rev.* 45 (1917), pp. 6–11.

[56] For Smith, see his 'Correlation', *Monthly Weather Rev.* 39 (1911), pp. 792–5.

[57] Moore, *Forecasting*, pp. 108–9.

[58] In his *Agricultural meteorology: the effect of weather on crops* (1920), Smith set the foundations that came to characterize agricultural meteorology. The concept of

	Values of the Coefficient of Correlation				
	May	June	July	August	September
Temperature-Ratio	—.097	.551	—.032	—.499	.082
Rainfall-Ratio	—.410	—.411	—.254	.426	—.188

FIGURE 1. Georgia. Correlation between the yield-ratio of cotton and the temperature-ratio and rainfall-ratio

Source: H. L. Moore, *Forecasting the yield and the price of cotton* (1917), p. 109.

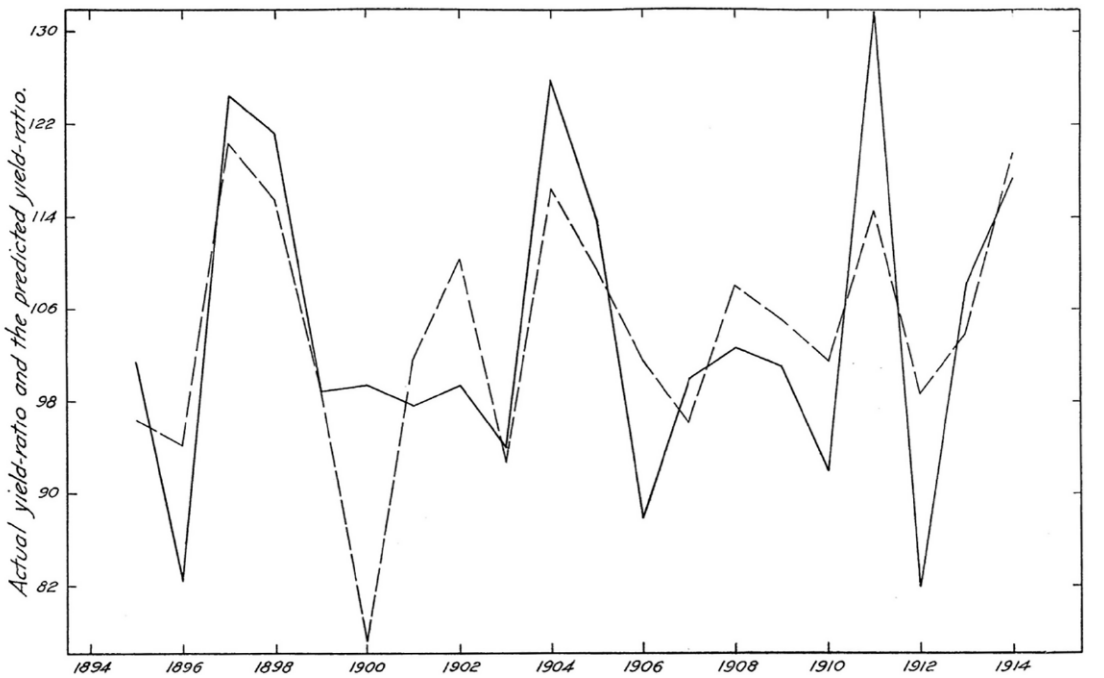


FIGURE 2. Georgia. The actual yield-ratio of cotton, —, and the yield-ratios as predicted, at the end of August, from the accumulated effects of the weather, — — —

Source: H. L. Moore, *Forecasting the yield and the price of cotton* (1917), p. 112.

correlation], however, and help to point out the most critical period in the growth of this important crop and the kind of weather that most affects the final yield'.[59] He then used a multiple correlation coefficient to determine the variables that were significant in explaining corn yields.[60] As for Moore, he kept three significant variables – x_1 = ratio of May rainfall, x_2 =

Note 59 *continued*
a critical period of growth and how to determine it were part of the field of agricultural meteorology.

[59] Smith, 'Effect of weather upon the yield of corn', p. 79.

[60] Smith, 'Effect of weather upon the yield of corn', tested numerous hypotheses of correlation: July rainfall and corn yield, correlation for shorter periods than months, weather effects during different periods of development, thermal and rainfall correlation and corn yield, rainfall and rate of growth of corn.

		Months				
		May	June	July	August	September
Error of the Forecasts	S′	17.28	15.20	12.17	11.92	11.08
	S″	12.67	11.28	9.94	9.46	9.46

FIGURE 3. Relative accuracy of the forecasts of the yield per acre of cotton (1) from the condition of the crop, by the official method, and (2) from the weather reports, by the method of correlation. Georgia.

Source: H. L. Moore, *Forecasting the yield and the price of cotton* (1917), p. 114.

ratio of the temperature in June, and x_3 = ratio of the temperature in August – which, when combined with the multiple correlation coefficients, provided a prediction for the yield of cotton (Figure 2).[61]

Finally, to compare the value of the adjustment of the linear regression performed with weather data with the method of the USDA census, Moore calculated forecast errors (Figure 3).[62] Thus, we notice that forecasting errors S″ were lower for whatever month was chosen when meteorological data were used to compare data coming from the calculations performed with the help of the official census method S′. Therefore Moore noticed that:

> as far as the state of Georgia is concerned we have proved our thesis: That it is possible, by means of the weather reports and mathematical methods, to forecast the yield per acre of cotton with a greater degree of precision than the reports of the official Bureau with its vast organization for the collection and reduction of data referring to the condition of the growing crop.[63]

We have shown in this first section that Moore was inspired by developments in agricultural meteorology to overcome the limitations of the census technique used by the USDA and to identify a better method for predicting crop yields. We argue in the second section that Moore's approach to better predict harvests was linked to the stability of commodity markets, in particular, that of cotton. Specifically, an improved methodology for the prediction of cotton crops would allow for better information in financial markets, which should stabilize cotton's market price, especially given the severe criticisms of the role of futures markets which had emerged. Moore would favour a pricing method based on the economic theory of the law of demand developed by Marshall.

II

Between the end of the nineteenth century and the end of the 1920s, the United States experienced a revolution in the organization of its financial markets. The development of futures markets gave rise to the fear that these markets could, through speculation, be

[61] Moore, *Forecasting*, p. 111:

[62] With σ standard deviation and r2 coefficient correlation.

[63] Moore, *Forecasting*, 115.

transmitted to the spot market and induce distortions in the price of products underlying futures contracts.[64] The social consequences linked to such pricing distortions were also part of the problems addressed at Columbia University.[65] Nourse has explained how price-making is intimately linked to the approach taken in institutional economics and that

> the great expansion and refinement of price behavior studies in the United States during the two decades traces largely to two workers, Wesley C. Mitchell and Henry L. Moore … [Moore's] work on the law of demand and his monograph on *Forecasting the Yield and Price of Cotton* became the stimulus to a large amount of activity in price behavior and statistical price analysis in the United States Department of Agriculture and in the experimental Stations.[66]

More specifically, Banzhaf and Chancellier have placed emphasis precisely on the preoccupations of the USDA between 1910 and 1930 when priority was given to studies linked to price-making and to identifying functions of supply and demand.[67] Moore had very close connections with H. A. Wallace,[68] who wrote in 1915 to Moore indicating his keen interest in Moore's work on the law of demand and asking him to continue his research in order to establish policies to support farmers.[69] Thus, Moore's work also takes into consideration the issue of commodity pricing as he tested the effectiveness of the 1915 Cotton Futures Act to stabilize the relationship between the spot price and the futures price of cotton. This issue will be the subject of our first subsection. This period also questioned the fundamentals of the market according to which supply and demand determined the prices of commodities.[70] In a second subsection, we will analyse the works that address the importance of taking into account cotton production to determine the price of cotton. Moore rehabilitated the elements of supply and demand in determining the price of cotton.

[64] C. B. Cowing, *Populists, plungers and progressives: A social history of stock and commodity speculation, 1890–1936* (1965) and B. E. Baker and B. Hahn, *The cotton kings: Capital and corruption in turn of the century, New York and New Orleans* (2016).

[65] Rutherford, 'Institutional Economics', p. 24.

[66] E. G. Nourse, 'The meaning of "price policy"', *Q. J. Economics* 55 (2) (1941), pp. 175–7. Mitchell and Moore knew each other and corresponded.

[67] H. S. Banzhaf, 'The Other Economics Department: Demand and Value Theory in early Agricultural Economics', *Hist. Political Economy* 38 (suppl., 2006), pp. 9–31. E. Chancellier, 'Les premières années du Bureau of Agricultural Economics. La modélisation des récoltes, 1922–1930', *Histoire et Sociétés Rurales*, 42 (2) (2014), pp. 113–147 recounts the first years of the BAE – Bureau of Agricultural Economics – concerning econometric techniques applied to harvest modeling.

[68] Before becoming vice president of the United States under Roosevelt (1941–1944), Henry Agard Wallace had a career in journalism and agribusiness. He was the son of a wealthy farmer – Henry Cantwell Wallace, Secretary of State for Agriculture in 1920 (see Chancellier, 'Les premières années' for the role of H. C. Wallace in the creation of the Bureau of Agricultural Economics in 1922) – and was the editor of *Wallace's Farmer* magazine and *Farm Progress*.

[69] K. A. Fox, 'Agricultural economists as world leaders in applied econometrics, 1917–33', *American J. Agricultural Economics* 68 (2) (1986), pp. 381–6. H. A. Wallace, *Agricultural Prices* (1920) referred to Moore's work on crop yield estimates (p. 77).

[70] Sheingate, *Agricultural welfare state*.

(i) Moore and the 1915 Cotton Futures Act: the hypothesis of the relationship between the futures price and the spot price

The history of cotton is linked to American industrial and financial history. Cotton cultivation began in Virginia at the very beginning of the seventeenth century. In the middle of the eighteenth, it had spread to Louisiana and the eastern Mississippi. The major difficulty in cotton production is separating the cotton from its seed, which is a difficult and labour-intensive job. Moreover, a mechanical process was developed to gin cotton.[71] By the beginning of the nineteenth century, cotton was attracting more and more investors and speculators. Banks were created in the region to finance planters' projects. The annexation of Texas in 1845 allowed the United States to benefit from the cotton cultivation on its immense plains and the United States soon achieved cotton supremacy in the world. The Civil War (1861–65) put an end to the cotton prosperity of the United States insofar as the North imposed a maritime blockade on the South, preventing cotton exports. During the fifty years following the Civil War, American reconstruction took place partly with the rebirth of cotton cultivation, which was accompanied by the development of commodity exchanges and the use of futures markets.[72] The use of futures markets was far from habitual among US cotton producers, as most were small farmers with limited knowledge of financial markets. On the other hand, the big producers had understood the interest of the futures markets: they could guarantee themselves a selling price before planting. Nevertheless, financial markets attracted speculators who, by taking positions on futures markets, have been able to destabilize prices and thus instil a feeling of suspicion amongst producers.[73] Protest movements began at the end of the nineteenth century in what was called 'the Agrarian Crusade' and lasted into the 1920s.[74] The Agrarians explained the erratic movements of the prices of commodities through the behaviour of speculators, specifically by artificially creating excesses in a commodity's supply by exchanging the same contract several times, thereby lowering market prices.

> To them [the anti-futures forces] the fact that many times as much grain or cotton was sold in New York, Chicago, and New Orleans as was produced in the nation annually was prima facie evidence of perversion of the market system. To agrarians it seemed as if this tremendous activity, this passing of the same bushel or bale through so many hands, meant less money for the farmer and more money for the brokers and traders. If professional traders in Chicago having no wheat could, for example, offer to sell 10,000 bushels, did not this artificially bear the market by creating an apparently excess supply? The offering of nonexistent quantities of wheat by professionals – at harvest time when the farmer was trying to sell crop – was, to farm spokesmen, no coincidence; it was a deliberate effort by

[71] It was a French farmer – Mr. Dubreuil – from New Orleans who invented the first ginning machine in 1742.

[72] The New York Stock Exchange created a cotton futures contract in 1870, the Liverpool Stock Exchange in 1872 and the New Orleans Stock Exchange in 1880.

[73] In 1881, Ranger held the entire stock of Liverpool Cotton and set his brokers a high daily selling price to dry up the Lancashire cotton spinners market. In 1903 in New Orleans, Brown and Hayne used futures markets to destabilize markets.

[74] S. Buck, *The Agrarian Crusade: A chronicle of the farmer in politics* (1920).

big speculators to depress the market temporarily in order to buy cheap from the farmer and later sell dear to the miller.[75]

Pirrong distinguishes three types of manipulation in commodity markets: market power manipulation (corners and squeezes), trade-based manipulation, and information-based manipulation.[76] The first – market power manipulation – is the most important form of manipulation used in raw materials markets. It consists of forcing market participants to liquidate their open positions – and therefore to close out their positions – on the futures markets at any price.[77] This form of manipulation causes dry losses that result from the imbalance between the futures market and the physical market. However, and even more important, this leads to instability in the base,[78] which further reduces the effectiveness of the cover and thus the attractiveness of this type of contract to hedgers. Agricultural futures markets are primarily intended to hedge farmers against the risk of falling crop prices by adopting a short hedge strategy.[79] Price manipulation consists of adopting a long hedge or buying hedge strategy in order to destabilize forward prices. This can be disastrous for farmers, who then lose confidence in the financial markets to help cover their risks of falling crop prices. These dry losses provide a justification for regulation or legislation to deter or prevent manipulation, particularly with the obligation that any futures contracts result in delivery to the physical market, assuming a well-determined and stable product quality. The second type of manipulation – trade-based manipulation – consists of manipulating commodity prices via trade. Specifically, requests to buy or sell products require market intermediaries – market-makers – to take positions in futures markets that they must then liquidate. Each market intermediary has its own private information. Market-maker decisions then influence market prices. Thus, market-makers infer that an order from their clients to buy – or sell – might reflect the fact that the issuer of the order has favourable – or unfavourable – private information. Thus, information leads to rapid price changes resulting from constant changes in supply and demand. Price manipulation results not only from the purchase or sale of the product in large quantities but also from the asymmetry of prices in relation to the quantities requested and offered.[80] The third strategy – information-based

[75] Cowing, *Populists, plungers and progressives*, pp. 8–9.

[76] S. C. Pirrong, 'The economics of commodity market manipulation: A survey', *J. Commodity Markets* 5 (2017), pp. 1–17.

[77] For example, if the farmer fears a drop in prices, he forward-sells his crop at a price fixed in advance. He will then have to settle its position by buying back its contracts. The forward market result is the difference between the sale price and the repurchase price of the contracts. In order to make a profit, he must buy back his position cheaper than he sold it, otherwise he suffers a loss. Some market operators may be tempted to manipulate futures prices by buying contracts on a massive scale in order to drive up prices and thus cause a loss for farmers. As the maturity date approaches, farmers have no choice but to close out their positions at a loss, i.e., buy back their contracts at a higher price than they sold them.

[78] The basis represents the difference between a forward price and a physical price (a spot price).

[79] Farmers who fear a drop in crop prices will therefore adopt a short hedge strategy, which consists of forward selling at the outset. Then, when the deadline approaches – when the harvest begins – the farmer closes out his futures position by buying back his contracts and sells his harvest on the physical market at the spot price. This whole hedging strategy works correctly as long as the basis remains stable at maturity.

[80] Chancellier, 'Les premières années' shows to what extent the price elasticities of demand and supply prices applied to agricultural commodities are effective analytical tools to account for the stability of an agricultural market.

manipulation – is based on the disclosure of false information. Rumours concern the state of stocks and the quality of products. If the information is wrong, then economic actors make sub-optimal decisions, disrupting the market.

So, between the end of the nineteenth century and the 1920s, there were suspicions regarding the role of speculators in determining the market price of agricultural products. The major problem of the time concerned the possible manipulation of agricultural prices. The protests of farmers against apparent profiteering at their expense had a political impact in the United States that resulted in the regulation of financial markets.[81]

As Pirrong has explained, cotton, which was traded primarily on the New York Cotton Exchange and the New Orleans Cotton Exchange, experienced a significant stock crisis due to financial actors manipulating market prices:

> corners and squeezes were a regular event, with some especially spectacular manipulations of the New Orleans Cotton Exchange and New York Cotton Exchange (NYCE) contracts occurring in 1870 (4 different months), 1871, 1874, 1875, 1879 (2 months), 1881 (5 months), 1882, 1883, 1885, 1887, 1888, 1889, 1895, 1896, 1901, 1903, 1904, 1906, and 1910.[82]

For example, in 1904, Daniel Sully speculated on cotton by purchasing all of the cotton available on the New York Stock Exchange. By drying the market, he hoped to increase the futures market prices and obtain a sale profit.[83] The farmers' loss of confidence in financial markets was obvious given that market prices, both spot and futures, were based on the information available to the market, in particular, the statistics of crop yields issued by the USDA. In addition, the market authorities were also accused of playing the market in the early twentieth century. The law allowed all of the personnel of the Crop Reporting Board to speculate on futures even though the information asymmetry was obvious.[84]

The distrust towards financial markets led to a decrease in traded volumes on the spot market in the New York Cotton Exchange. '[T]he troubles of the New York Cotton Exchange originated in a decline in 'spot' dealings in cotton at New York. From sales of over 430,000 bales annually in the '70s, the annual average in the '90s fell to less than 160,000 bales'.[85] As Lipartito explained, the futures markets faced the problem that they no longer reflected the underlying price:

> The trouble arose after the Exchange adopted a system of fixed differentials or fixed differences. Essentially, the fixed differences system meant that the Exchange chose to set the ratios of value between different grades of cotton in the futures market, rather than

[81] Sheingate, *Agricultural welfare state*, pp. 110–13. Between 1880 and 1920, nearly 200 bills were passed by the U.S. Congress to regulate the commodities futures markets. R. E. Pirrong, 'Commodity market regulation after financial crisis: a comparative approach', *Economic Affairs* 31 (2010), p. 45).

[82] Pirrong, 'Self-regulation of commodity exchanges', pp. 184–6.

[83] K. J. Lipartito, 'The New York Cotton Exchange and the Development of the Cotton Futures Market', *Business Hist. Rev.* 57 (1983), pp. 50–72.

[84] Murray, 'Close-up view', pp. 709–11; A. Hobson, 'A foreign agricultural information service', *J. Farm Economics* 12 (1930), pp. 57–68 and Sanderson, *Methods of Crop forecasting*, pp. 142–3.

[85] L. Conant Jun., 'The United States Cotton Futures Act', *American Economic Rev.* 5 (1915), pp. 1–11.

> letting them fluctuate with economic conditions as they would from the price of spot market cotton.[86]

This structural problem, related to the intrinsic characteristics of cotton, tended to destabilize the market price. The cotton market had the opportunity to offer multiple qualities or grades of its product in quantities which varied from one year to the next. Therefore, it was impossible to open a futures market for each quality: 'one grade ("Middling Uplands") is selected as a basis to which the prices of cotton futures refer'. Thus, if the seller offered a cotton lower in quality than *middling uplands*, he had to pay a penalty to complete the transaction; whereas if he offered a quality superior to *middling uplands*, he would receive a bonus.[87] The problem was to estimate correctly the amount of bonuses or taxes based on all the qualities offered on the market. The complexity of the system was that 'it became increasingly easy to manipulate the prices of the various grades, and hence the differences between grades'.[88]

To regulate cotton futures markets, the authorities passed the Cotton Futures Act on 18 August 1914 and this came into effect on 18 February 1915. The objective was to limit the number of grades being exchanged on the cotton market and to take into consideration the physical market, that is, the spot market price, to calculate accurately the bonuses and taxes for the development of futures markets:

> In 1914 the New York Exchange therefore adopted a plan of monthly revision of grade differences, and instructed its revision committee to take into account as nearly as practicable the quotations which they obtained from the southern spot cotton markets. … Grades differences at New Orleans as well as at New York are now based upon the 'average actual commercial differences in value' prevailing in not less than five spot markets designated by the Secretary of Agriculture.[89]

This reform highlighted the importance of determined cotton prices on the physical market, as spot prices were the basis for calculating and determining futures prices. Thus, as Markham states in his book on the history of financial speculation in commodities, 'The Cotton Futures Act did not broadly regulate cotton futures trading, but established a commercial difference system for pricing and the use of federal standards for the grading of cotton'.[90] More generally, as described by Simon and Lautier in their book on the functioning of commodity markets, futures markets allowed operators to reveal their expectations concerning the future state of the spot market. Thus, 'thanks to the futures markets, the spot price was a true balanced price'.[91] It was in this context that the Cotton Futures Act was enacted to ensure that cotton

[86] Lipartito, 'New York Cotton Exchange', p. 64.

[87] The cotton futures contract differs from other agricultural futures contracts in that it does not specify the exact quality that the seller undertakes to deliver. This is called a basis contract, which simply specifies the price of a certain quality of cotton – Middling Uplands – which will serve as a basis for comparison with the actual quality the buyer will receive. This means that the seller – the farmer or the cooperative – has the right to deliver the quality that is available at the moment.

[88] L. D. H. Weld, *The marketing of farm products* (1916), pp. 330–3.

[89] G. G. Huebner, *Agricultural commerce, the organization of American commerce in agricultural commodities* (1915), pp. 146 and 148.

[90] J. W. Markham, *The history of commodity futures trading and regulation* (1987), p. 11.

[91] Simon and Lautier, *Marchés dérivés de matières premières,* pp. 306–8 (author's translation).

futures prices did not destabilize spot prices. Financial theories assumed a link between spot price and futures price from the beginning of the use of the futures markets. Killough and Killough (1926) analysed the links between the different financial locations where the cotton was exchanged. They showed that markets specializing in futures contracts were in constant contact with the physical market: 'Monthly prices of American middling cotton at New Orleans, New York, and Liverpool, and monthly prices of cotton on farms in the United States bore a close relation to each other'. Thus, the cotton spot price and the futures price were linked: 'spot prices have a strong influence in determining bids and offers for future deliveries or that the set of immediate causes which make spot prices has a dominating influence in the making of futures prices also'.[92] Numerous significant variables could explain the causality between spot prices and futures prices such as the speculators' expectations on the future state of the market and the estimation of crop demand. If the cotton market had the characteristic to be structurally in contango, that is, if the futures price is superior to the spot price, it would justify the storage theory's explanation of the price of a futures contract: 'New Orleans and New York prices are to be expected to range above farm prices because of marketing costs … The uniformity of month to month movements of American cotton prices in different markets gives universal application to a study based on one series of monthly average prices'.[93] Nevertheless, relationships between the spot prices and futures prices were not always constant, as Huebner indicated:

> Futures and spot cotton prices, however, have not in the past borne the definite relationship to each other – they have not maintained the substantially exact parity which is maintained in the grain trade … The failure to maintain a parity between the prices of spot cotton at the large cotton markets and the price of futures has obliged such cotton buyers to base the country price primarily upon the price of futures contracts.[94]

This instability between futures prices and spot prices can be explained by the lack of standardization of exchanged products: 'The failure to establish the "differences" between the various deliverable grades with exactness, cotton futures have frequently sold at an abnormal discount as compared with the prices paid for spot cotton at the large spot markets'.[95] To address these uncertainties, the Cotton Futures Act should have brought spot prices closer to futures prices by reducing the number of qualities of cotton likely to be exchanged on the markets.

The financial stakes lie in the stability of the basis – the spread between the futures price and the spot price must remain stable – as a necessary condition for the proper functioning of

[92] H. B. Killough and L. W. Killough, 'Price making forces in cotton markets', *J. American Statistical Assoc.* 21 (153) (1926), pp. 47–54.

[93] Killough and Killough, 'Price making forces in cotton markets', p. 47. In the early twentieth century, the term 'marketing costs' had a somewhat broader definition than today. As an illustration, we use the definition of Weld in 1916: 'Marketing costs include those of handlings at local points, transportation, handling by the various classes of wholesalers, including storage in many instances, drayage and delivering to retailers, and handling through retail stores, including delivery to consumers.', Weld, *Marketing of farm products,* p. 175.

[94] G. G. Huebner, *Agricultural commerce: The organization of American commerce in agricultural commodities* (1915), p. 111.

[95] Ibid.

agricultural financial markets.[96] Garside explains very well the dilemma in which the actors of the agricultural world find themselves: futures markets make it possible to hedge against a price risk but not against a basic risk. So:

> a merchant who hedges a fixed price forward shipment sale of spot cotton by a purchase of futures cotton, that is, by a purchase of cotton for future delivery on a futures exchange, thereby eliminates the risk of loss through a rise in the full price of spot cotton but by his hedging he bases his operations on the basis price, and he has to assume the risk of a rise in the basis price before he buys the spot cotton which he needs to fill the forward sale. A hedging merchant thus takes positions on the basis price, instead of taking positions on the full price. … The basis cannot be hedged.

Therefore, the 1910s and 1920s gave way to questions relating to the ability of financial markets to balance the exchange of primary materials in general and particularly that of cotton. This rises from the questions of institutional economics which, according to Nourse, 'presses on past the effort to learn the fundamental nature of the economic forces involved in price-making to examine also the organic mechanisms through which these forces perform their work and how these institutional agencies impress their character on the product'.[97] In this context, Moore became interested in the matches between the cotton spot price and the futures price using the correlation coefficient:

> How can one measure the degree of association between futures and spot values? Or, to put the question in another form, suppose one knew the probable spot values in the South, how could one forecast the price of futures on the cotton exchanges at New York and New Orleans?[98]

Moore used a chart to represent futures prices, as fixed by the New York Stock Exchange and spot prices[99] from daily data between 11 September 1915 and 30 October 1915.[100] (Figure 4). It is evident that the cotton market was in contango inasmuch as futures prices were higher than spot prices. This situation appeared to be the situation of reference as indicated by Weld: 'During a single crop year the future price should be higher than the cash price at any one time by approximately the cost of carrying until the month of delivery'.[101] The standard theory of the time was based on the cost of storage until the expiry date of the futures contract to determine the futures price. Moore also noted a clear visual correlation between spot and futures prices.[102] 'It is clear that, as the fluctuations of average spots increase or decrease, the fluctuations of New York futures increase or decrease'. Moore wanted to validate the effectiveness of the Cotton Futures Act, whose objective was to limit speculation on futures markets so that spot prices reflected a good approximation in the development of futures

[96] For the following, Garside, *Cotton goes to market*, pp. 247–88.

[97] Nourse, 'The meaning of "price policy"', p. 176.

[98] Moore, *Forecasting*, p. 13.

[99] The spot price is an average price – quality cotton Middling – calculated from the listing of several physical markets: Norfolk, Augusta, Savannah, Montgomery, New Orleans, Memphis, Little Rock, Dallas, Houston, Galveston (Moore, *Forecasting*, p. 12).

[100] The period used by Moore matched with the period when the Cotton Futures Act was enacted.

[101] Weld, *Marketing of farm products*, p. 318.

[102] For the following, Moore, *Forecasting*, p. 29.

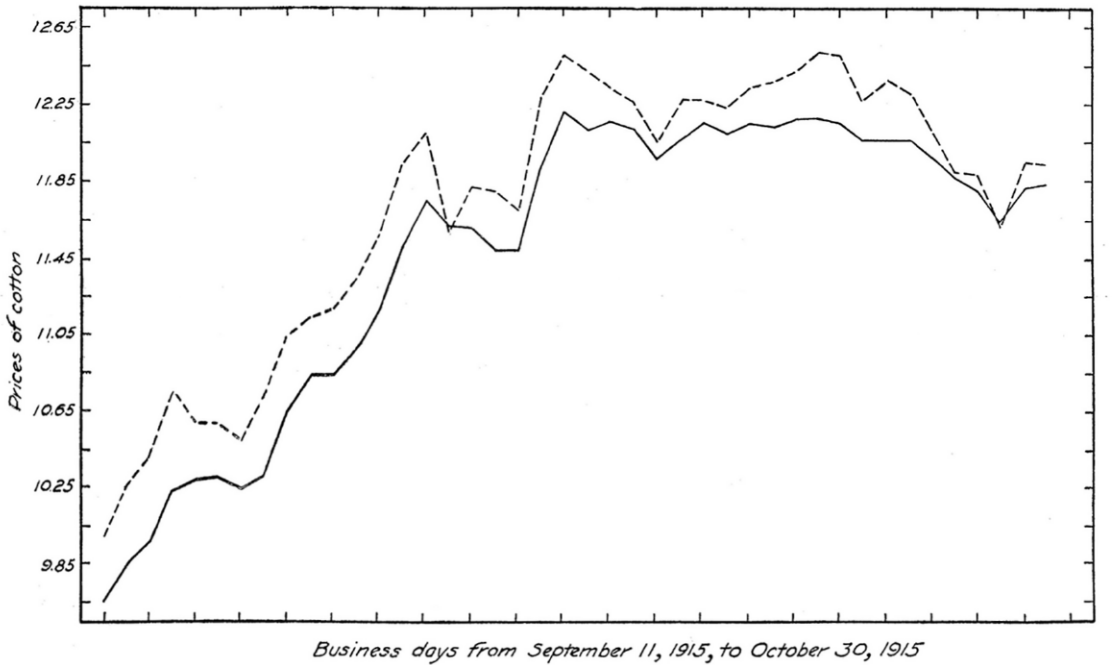


FIGURE 4. The prices of spot cotton in the South, —, and the prices of cotton futures in New York, – – –

Source: H. L. Moore, *Forecasting the yield and the price of cotton* (1917), p. 14.

prices. Therefore, Moore considered that spot prices had to determine futures prices. To test this hypothesis, he used the correlation coefficient:

> There is obvious association between the two variables [spot cotton price and futures cotton price], and the substance of our problem is to measure the degree of the correlation and to find the statistical law description of the manner in which the one variable is connected with the other.

Thus, by using linear regression, Moore could calculate the variations of futures prices from the variations of spot prices.[103] To determine the correct adjustment of the linear regression, Moore calculated the level of forecast errors at 6 per cent.[104] The parameters of the linear regression were positive, which meant that an increase in spot prices led to an increase in futures prices and vice versa. Thus, the underlying theory was that it was the physical determinants – offer and demand – of spot prices that influenced futures price. Furthermore, Moore demonstrated the effectiveness of the Cotton Futures Act in establishing a constant relationship between futures prices and spot prices. Indeed, a near parallelism between the two market prices indicated that arbitration operations worked properly. In other words, the decisions of professionals were based on product qualities and thus conformed to what professionals in the sector expected. Even though the work of Moore showed that the Cotton Futures Act appeared to be

[103] With x = the variations of spot prices and y = the variations of futures prices in New York (Moore, *Forecasting*, p. 50).

[104] With $\sigma_y = 0.085$ and $r^2 = 0.06$.

effective, cotton producers remained suspicious of futures markets. Therefore, Moore decided to develop a new pricing method for cotton by calculating the possible correlations between the number of crops and the cotton prices.

(ii) 'King Cotton': The hypothesis of the link between cotton harvests and the price of cotton with the challenge of identifying the law of demand

As we showed, the financial markets dealing in commodities were subject to fraud, resulting in the loss of confidence of economic actors and in problems concerning the methods of rating. As Weld explained, errors in determining the prices of commodities also come from 'the impossibility of measuring either demand and supply accurately'. This difficulty is partly explained by the fact that the world of cotton underwent major technological changes that destabilized the old methods of forecasting supply and demand.[105] In was in 1890 that T. J. King of Louisburg, North Carolina, discovered a new variety of early-maturing cotton, Early or King Cotton. By the 1920s, this strain of cotton had become very commonly grown. With the development of intensive mechanization, this variety also offered increased productivity. Agriculture also adopted a business model of a rational production process, the view being that 'farmers needed to be brought in line with other modern industries, and that would entail mechanization, rationalizing farm operations, and routinizing agricultural practices'.[106] We have already seen how farmers believed that commodity prices could be manipulated by speculators on futures markets, which led to the idea that the prices of commodities would be manipulated as well:

> The commodities prices are being manipulated without any reference to demand and supply. … The Minnesota Union of the Equity at its annual convention in December, 1913, passed a resolution declaring that 'the doctrine of supply and demand is false' and that prices are made 'artificially by the modern business combinations', and that 'hence the only true basis upon which food products may be priced is on their cost at their source on the farm'.[107]

Thus, the debates at the time were directed towards new methods of price determination using the source price, that is, the price that the farmers received following the sale of their product from the farm and not the final sale price, The purpose of these debates was to ensure a satisfactory income for farmers: in the end they gave birth to the concept of parity price.[108] Suspicion about the functioning of the markets forced the Federal Government to intervene so as to ensure a certain level of prices for the farmers.[109] More specifically, the Price Committee created in 1917,[110] though only for wheat, had the objective of defining a fair price in order

[105] Weld, *Marketing of farm products,* p. 246.

[106] D. Fitzgerald, *Every farm a factory: The industrial ideal in American agriculture* (2003), pp. 21–2, 45.

[107] Weld, *The marketing of farm products,* p. 247.

[108] J. H. Shideler, 'The development of Parity Price Formula for agriculture, 1919–1923', *Agricultural Hist.* 27 (1953), pp. 77–84. The Agricultural Adjustment Act of 1933 establishes the law for parity. The law should allow 'the right of farmers to a fair purchasing power, measurement of purchasing power by a relationship between prices of farm produce and prices of other goods, comparisons made with a base period in the past when a supposed equilibrium and stability existed, and such government intervention as was necessary to bring about a condition of "parity"'.

[109] Sheingate, *Agricultural welfare state.*

[110] Note that the United States entered the World War I in 1916.

to guarantee the income of farmers. Additionally, despite the massive industrialization of cotton harvesting techniques at the end of the nineteenth century – which led to productivity increases – the fact remains that the US domestic market stagnated while supply continued to increase. The United States entered a period of overproduction. The essential challenge of the moment was therefore to return to economic fundamentals from the real sphere – the analysis of demand and supply – in order to better understand the conditions for the emergence of a 'correctly' determined price.

Some economic and institutional actors of the early twentieth century doubted the ability of the market to set a price representative of the economic situation. The fact remains that from a theoretical point of view, '*primary market prices* are determined largely by conditions of supply and demand'.[111] More precisely, the role of supply and demand in the analysis of the price of commodities was part of the essential characteristics of the agricultural economy. As a result, calculations of elasticity were decisive in capturing the responsiveness of the commodities market based on Marshall's contribution on the elasticity of demand. If Moore pays tribute to a number of neoclassical economists such as Cournot and Walras, he nevertheless sees his work as directly inspired by Marshall in order to differentiate himself from the neoclassical approach, described as deductive and abstract.[112]

First, Moore, therefore, drew on concepts discussed in agricultural economics and applied them to the cotton market. He questioned the ability of the law of demand as developed by Marshall to predict the price of cotton.[113] As such, he subscribes to the questions raised at the beginning of the 1910s that address the econometric issue of identification. As a number of authors have explained, the first treatments of the problem of identification were the works of Lenoir in 1913 and Lehfeldt in 1914.[114] The objective of Lehfeldt's research was to model a demand curve econometrically while removing the effects of supply on the price. Indeed, the difficulty lies in the fact that price, supply, and demand are closely intertwined. As such, Moore first calculated the correlation coefficient between the ratio of the production of cotton and the ratio of the price of cotton. The coefficient was high and negative, $r = -0.706$, indicating that an increase in cotton production lowers the price.[115] Furthermore, Moore also analysed market dynamics by calculating the correlation coefficient, $r = -0.819$, between the

[111] Heuber, *Agricultural commerce*, pp. 89–90.

[112] Moore, *Forecasting*, pp. 172–3.

[113] Moore's first tests on the connection between crops and prices of commodities date back to his 1914 book in which, in a cyclic environment based on the periodogram, he calculated the correlation coefficients between the production of different commodities – hay, oats, and potato – and their associated prices. He noticed negative correlations between prices and the produced quantities. He then calculated the correlation coefficients between the rates of price growth and rates of production growth. Here, again, the correlations were negative.

[114] M. S. Morgan, *The history of econometric ideas* (1990), pp. 136–42, also D. F. Hendry and M. S. Morgan (eds), *The foundations of econometric analysis* (1995) pp. 18–22 and D. A. Bessler *et al.,* 'Econometric developments in agricultural and resource economics: the last 100 years', *American J. Agricultural Economics* 92 (2010), pp. 573–4. Lehfeldt proposed to measure the elasticity of demand for wheat and believed that if he could find the quantity supplied under conditions in which demand is constant, then the movement of the supply curve should trace the constant demand curve.

[115] As evidenced, Moore determined the line of linear regression in the following manner: $y = -0.975x + 206.03$ with x = the production ratio as the ratio between the production of a year and the total production of three years and y = the ratio of the price of cotton as the ratio between the price of cotton in a year and the average price of cotton over a period of three years (Moore, *Forecasting*, p. 143).

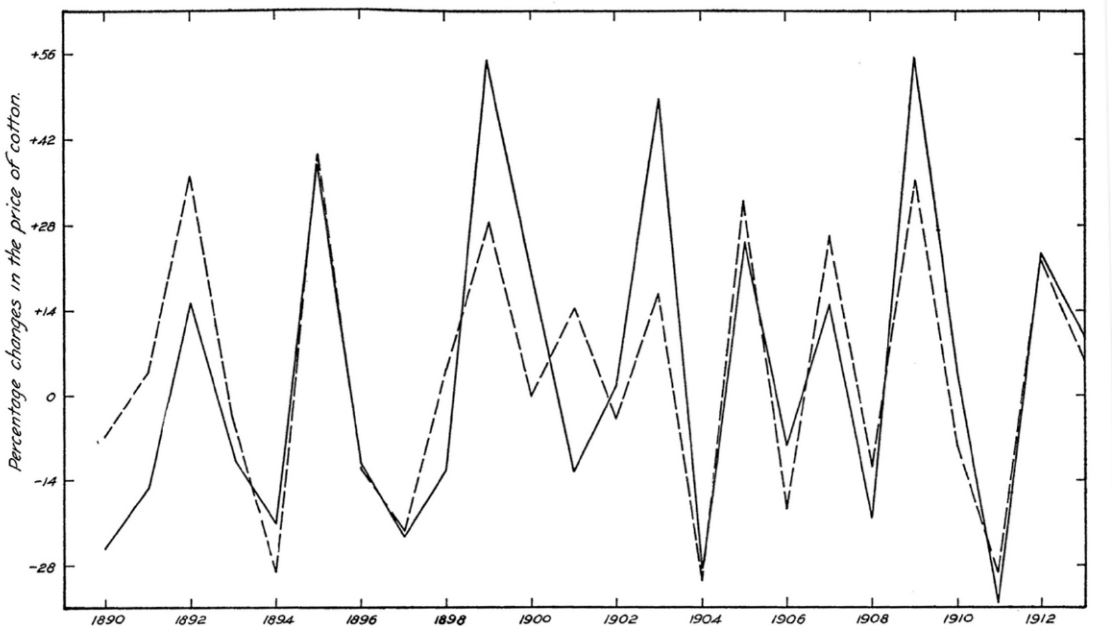


FIGURE 5. The actual percentage changes in the prices of cotton, —, and the percentage changes as they are predicted, – – –, by means of the dynamic law of demand for cotton, $y = -1.08x + 8.81$

Source: H. L. Moore, *Forecasting the yield and the price of cotton* (1917), p. 146.

rate of growth of cotton production and the rate of growth of the cotton price. Here again, the correlation coefficient was high and negative. This result indicated that an increase in the rate of the growth of cotton production was related to a decrease in the rate of growth of the cotton price. Moore then performed the calculation using a linear regression between the rate of growth of cotton production (x) – and the rate of growth of the cotton price (y). The result of the regression, $y = -1.08 + 8.81x$, is illustrated in Figure 5.

The results suggest the market dynamics and their sensitivity towards fluctuations in cotton production. Indeed, an increase of 1 per cent in the growth rate of cotton production caused a decrease of 1.08 per cent in the price of cotton. That is, the rate of growth of the price of cotton was sensitive to the rate of growth of cotton production inasmuch as the growth rate of the price overreacted more so than that of the unit. 'Our law of demand is a dynamic law; it is a summary description of a routine in concrete affairs'.[116] Moore thus used the dynamic law to determine the movements of the general level of prices between two different dates.

Nonetheless, Moore wished to convert this dynamic law into a Marshall-like static law. As such, he takes up again the law of demand formulated by Marshall, which consists in establishing a link between the decrease in price and the increase of demand, and conversely between the increase in price and the decrease of demand. In addition, Marshall's theory holds true only given a certain number of conditions, particularly that the prices of all other goods must remain constant, and it assumes that consumer tastes and habits remain unchanged.

[116] Moore, *Forecasting*, p. 147.

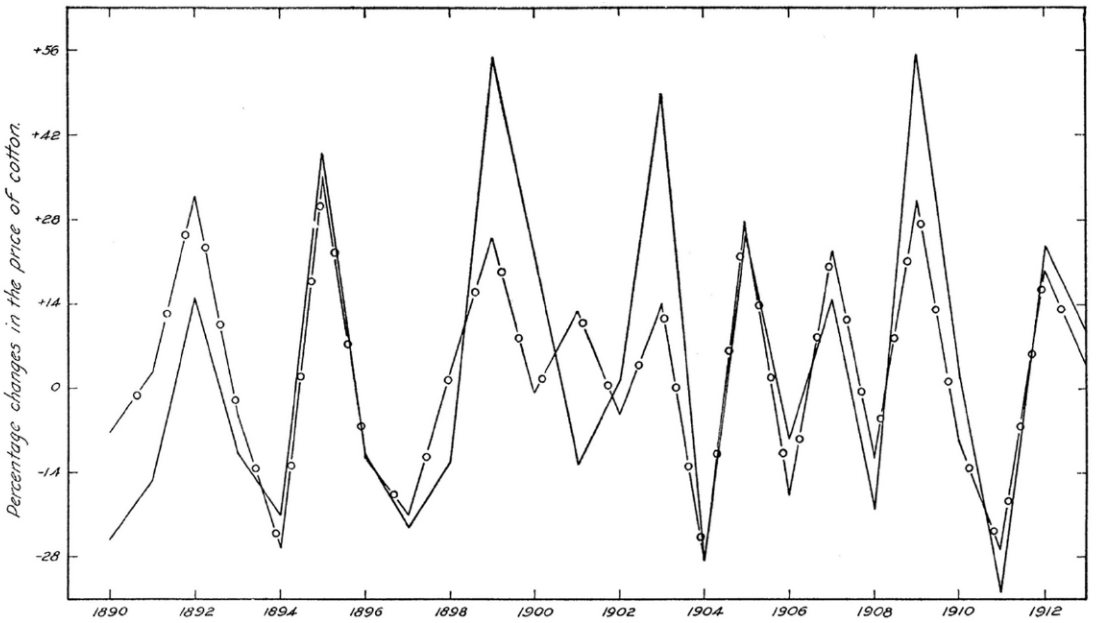


FIGURE 6. The actual percentage changes in the prices of cotton, —, and the percentage changes as they are predicted, —o—, by means of the statical law of demand for cotton, $x_2 = -0.97x_1 + 7.11$, where the purchasing power of money is supposed to remain constant

Source: H. L. Moore, *Forecasting the yield and the price of cotton* (1917), p. 160.

Finally, this is a supposed static theory in that Marshall does not take into account the purchasing power of money. Specifically, if we spend more for one good, there is less money to spend on other goods, and consequently the value of money increases for all other purchases. Moore's chosen strategy is therefore to employ the statistical approach of multiple correlation. Specifically, in cancelling out the general movement of prices by using multiple correlation techniques and in disassociating general price movement from the particular movement of cotton, he formulated the static law of cotton: namely, the relationship between quantities of cotton and the price of cotton while assuming the general movement of prices is constant:

> We have now a solution of the first part of our problem. We know how to forecast the changes in the price of cotton when account is taken of the changes in the amount demanded and of variations in the purchasing power of money. … We next enter upon the second part of our problem: What is the relation between the changes in the prices of cotton and the changes in the amount demanded when there are no changes in the purchasing power of money?[117]

Moore estimated an equation explaining the variation of price according to two variables: the variation of the production of cotton and the variation of the general price index.[118] In

[117] Moore, *Forecasting*, p. 158.

[118] $x_0 = -0.97x_1 + 1.60x_2 + 7.11$ with x_0 = percentage change in the price of cotton; x_1 = percentage change in the amount of cotton produced; x_2 = percentage change in the index number of general prices.

assuming that the variations in the price index remain unchanged, Moore determines the static law of Marshall-like demand.

So Moore says 'it is possible not only to deal with the dynamic law of demand in all of its natural complexity, but also to ascertain the static law of demand giving the relation between x_0 and x_1 when all the other variables are equal to zero'.[119] Moore showed that it was possible to determine the price of cotton from elements related to the real sphere such as the size of the crops, and as a result, in the context of the suspicion towards financial markets, it was possible to obtain an estimate of the cotton price that would be the reference price on the market.

III

Throughout this article, we have placed the work of Moore in the context of his time. We showed how Moore built on the work of agricultural meteorology to produce better predictions of cotton yields. Using the correlation coefficient method to relate weather and yields of cotton, he demonstrated that this technique was more reliable than the census technique used by the USDA. In the second section, we elaborated on the financial and economic aspects of the cotton market. Moore demonstrated the effectiveness of the Cotton Futures Act in stabilizing the correspondence between the futures price and the spot price. He also rehabilitated the economic theory based on supply and demand in its role in determining the price of cotton. Moreover, we have situated Moore's work within an economic, financial and institutional environment that proves the complexity of the functioning of an agricultural market insofar as it depends on exogenous variables derived from meteorological data while maintaining its effectiveness at providing a fair price. The goal is to give economic actors the possibility of hedging themselves against this price risk. This period shows the extent to which the public authorities were still seeking legitimacy in the agricultural world of cotton. It was not until 1922 with the creation of the Bureau of Agricultural Economics (BAE) that the discipline of the agricultural economy came under the spotlight in agricultural policy in order to help agricultural sectors – cotton in particular – to develop.

[119] Moore, *Forecasting*, p. 162.

'Something significant to show for our efforts?' British perspectives on the *Stocktaking of the Common Agricultural Policy**

by Alan Swinbank

Abstract

In the early 1970s the CAP was subject to review on four occasions, but survived each more-or-less unscathed. Soon after the 1973 enlargement of the EEC, the Commission of the European Communities launched a debate to 'improve' the CAP, to the surprise of Edward Heath's administration. In a period of inflation, currency fluctuations, and the emergence of a world commodity price boom, that initiative had produced meagre results by the time Harold Wilson's Labour government displaced Heath. Labour's attempts to renegotiate the terms of membership had little impact on the CAP, despite the government assertions to the contrary. Moreover, any hope that the USA could secure changes through the GATT negotiations triggered by enlargement had proven illusory. Similarly the German Government's insistence on budget cuts and a CAP 'stocktaking' had lost its way by the time Heads of State assembled in Rome in December 1975.

The Common Agricultural Policy (CAP) – which had been gradually, and painfully, developed during the 1960s – was a core concern for the United Kingdom (UK) through successive negotiations, as the British sought to gain membership of the European Economic Community (EEC). When the UK did join, in 1973, on its third attempt, it largely accepted the basic principles of the CAP as a *fait accompli*, although transitional arrangements applied, which are outlined briefly in section I. As Davies, in his semi-official history of the role the Ministry of Agriculture, Fisheries and Food (MAFF) played in the accession negotiations, has noted: 'it was the Government's first aim that was of overwhelming importance: we had to get in – we could not in any circumstances tolerate a third failure'. But, he also claims that although MAFF had become 'increasingly dissatisfied' with the British system of farm price support, 'it was certainly not enamoured of the common agricultural policy'.[1]

* The author was a junior administrator in DGVI (the Directorate-General for Agriculture) in the Commission of the European Communities from October 1973 to September 1977, but had no substantive input into the events outlined in this article. He is grateful to Simon Harris, the *Review*'s previous editor, Richard Hoyle, and two anonymous referees for helpful comments, but retains sole culpability for the contents of this text.

[1] On the development of the CAP in the 1960s, see for example Ann-Christina L. Knudsen, *Farmers on welfare: The making of Europe's Common Agricultural Policy* (2009). J. H. V. Davies, 'The Attempt that Succeeded', in

Similarly the Prime Minister at the time, Edward (Ted) Heath, who had doggedly pursued EEC membership throughout his ministerial career, asked himself somewhat rhetorically at the Conservative Party's annual conference in Blackpool in October 1973: 'Should there be changes in the Common Agricultural Policy?' To which he answered: 'Certainly. And it is precisely because we are now members of the Community that it has been agreed that plans for change should be set in hand'.[2] The 'plans for change' to which Heath was apparently referring were in a communication from the Commission of the European Communities – hereafter the CEC – entitled *Improvement of the Common Agricultural Policy*.[3]

The fate of that document, the 1975 *Stocktaking of the Common Agricultural Policy*, and the achievements of Heath's government, and that of his Labour successor Harold Wilson, in securing an 'improvement' of the CAP are the focus of this article.[4] Based largely on government papers in the National Archives (TNA) at Kew the article examines: the Heath administration's response to the *Improvement* document, the CAP component in the renegotiation of the UK's EEC membership, the GATT Article XXIV negotiations, and finally Wilson's response to the *Stocktaking*. Unlike subsequent developments in CAP 'reform' (milk quotas, stabilizers, the MacSharry reform, etc.) these events have to date received little coverage in the literature.

By way of background it can be noted that it had long been recognized that adoption of the CAP would be challenging for the UK. Both the UK and the EEC had sought to support farmers by raising their revenues. But the CAP did this by taxing imports, raising market prices, whereas British policy had been more focused on taxpayer-funded payments to augment market prices (known as 'deficiency payments') and selective subsidies on fertilizers and other inputs. Thus adoption of the CAP meant higher food prices. These import taxes threated the UK's traditional suppliers, particularly from the Commonwealth, and so access for New Zealand butter and Caribbean sugar were politically sensitive issues. The CAP was the EEC budget's biggest expenditure item, but relatively little of that spend would be destined for the UK, whereas the import taxes charged on food (and other) imports into the UK, and credited to the EEC, would make the UK a significant net contributor to the EEC budget. Those payments, and the higher price the UK would now pay for food imports bought from other Member States in the protected EEC market, would increase the unit cost of the UK's food imports.[5]

Edward Heath hoped that the development of other EEC spending policies – for example a Regional Development Fund – would help redress the adverse impact of the CAP on the UK's net budget contributions and economy. Harold Wilson's administration had an election manifesto commitment to renegotiate the terms of EEC membership, including CAP reform, better access for Commonwealth supplies, and a revised budget settlement.

Note 1 *continued*
Michael Franklin (ed.), *Joining the CAP: The agricultural negotiations for British accession to the European Economic Community, 1961–1973* (2010), p. 322.

[2] Heath, Edward, 'Leader's speech, Blackpool 1973' (1973), *BritishPoliticalSpeech: Speech Archive* (http://www.britishpoliticalspeech.org/speech-archive.htm?speech=120, accessed 10 Oct. 2018).

[3] CEC, *Improvement of the Common Agricultural Policy*, COM(73) 1850 (1973).

[4] CEC, *Stocktaking of the Common Agricultural Policy*, COM(75) 100 (1975).

[5] T. K. Warley, *Agriculture: The cost of joining the Common Market*, European Series No. 3 (1967).

I

Following the UK's accession to the EEC on 1 January 1973, the CAP was implemented from 1 February. Conventional import tariffs were progressively eliminated between the new Member States (Denmark, Ireland and the UK) and the existing EEC and, similarly, tariffs on imports from third countries were aligned with the EEC's common external tariff (CET), with the process completed on 1 July 1977.[6]

For products subject to a common organization of the market under the CAP (the main exceptions being mutton and lamb – sheepmeat in EEC jargon – and potatoes) there was to be a progressive harmonization of the levels of market price support, with common prices in force from 1 January 1978 at the latest. This, in the main, meant an *increase* in market prices in the UK. During the transition period, however, as the UK's intervention and other support prices were gradually increased, Accession Compensatory Amounts (ACAs) were applied, bridging the gap between the UK's level of market price support and that prevailing in the original Member States. On the UK's trade with third countries, these ACAs were *deducted* from the import levies and export refunds that would otherwise apply; and on intra-Community trade they were a subsidy on the UK's imports, and a tax on its exports, to other Member States.

However, the expected transition to a 'common' price level proved more difficult than had been envisaged, as the role of ACAs was swamped as a result of currency upheavals resulting in the need to apply Monetary Compensatory Amounts (MCAs) – in addition to ACAs – on both trade with third countries and on intra-Community trade. Irving and Fearn, two MAFF economists, detail the origins of the 'green money' system, its evolution and the need for MCAs, and its operation in the early 1970s. Support prices in national currencies were determined by applying a conversion rate (known as the 'green' rate) to an EEC price fixed in units of account. A depreciation of a currency against the unit of account would increase the price recorded in national currency terms. Thus, as the pound depreciated on international currency markets, both the Heath and Wilson governments, worried about the impact on food prices, were reluctant to allow the value of the green pound to sink as quickly, and to the same extent. Consequently, CAP prices in the UK were lower than they would have been had the theoretical level of common pricing prevailed. This gap was bridged by a *negative* MCA. Germany, with its currency moving in the opposite direction, resisted green deutsche mark revaluations as these lowered the level of price support to German farmers in national currency terms, and the resulting gap was covered by a *positive* MCA.[7]

Expenditure on intervention, export refunds, and other market support mechanisms was funded through the Guarantee section of the European Agricultural Guidance and Guarantee Fund (EAGGF), more often referred to by its French acronym FEOGA (fonds européen d'orien-

[6] Act Concerning the Conditions of Accession and the Adjustments to the Treaties, *Official Journal of the European Communities* (special edn, 27 Mar. 1972). CAP's market price support mechanisms are outlined in Simon Harris, Alan Swinbank, and Guy Wilkinson, *The food and farm policies of the European Community* (1983).

[7] R. W. Irving and H. A. Fearn, *Green money and the Common Agricultural Policy*, Centre for European Agricultural Studies Occasional Paper No. 2 (1975). For further explanation of the green money system see Christopher Ritson and Alan Swinbank, 'Europe's green money', in Christopher Ritson and David Harvey (eds), *The Common Agricultural Policy* (sec. edn, 1997).

tation et de garantie agricole). Expenditure on structural policy was in part funded by the Guidance section of FEOGA with the Member States responsible for the remainder of the eligible expenditure incurred in their jurisdictions. Revenues arising from agricultural levies, and the common external tariff, formed part of the EEC's 'own resources'. For the new Member States, the 'own resources' system was only to be fully applied from the end of the transition period.[8]

A number of issues were left unresolved, including the future of the Milk Marketing Boards, a follow-on for the Commonwealth Sugar Agreement, and support for hill farming, none of which will be explored here.[9]

II

That accession to the EEC and adoption of the CAP would have an upward impact on retail food prices, and increase the balance of payments cost of a given volume of food imports, had been widely recognized in the deliberations and debates over EEC membership.[10] For understandable reasons, Edward Heath's government was sensitive to any suggestion that its policies had resulted in food price inflation. Thus when the Ministerial Committee on Europe discussed the Commission's CAP price proposals for 1972/73 on 8 March 1972, ten months before accession, it was noted that the UK 'had already taken a number of opportunities to make known to the Community our views on these proposals' and 'had argued strongly that price increases should in general be kept to a minimum', particularly for cereals. Under the circumstances, 'it would be necessary to prepare [a] thorough defensive briefing which would be ready for use by Government spokesmen as soon as it became known in this country that the Community had reached agreement on price increases. In particular, it would be desirable to bring out clearly the extent to which world food prices had increased in recent months'.[11]

As Heath later explained:

> Prices were the overwhelming obstacle in people's minds to joining Europe. Our opponents at home claimed that domestic prices would rise dramatically after our accession, because of the Common Agricultural Policy. In fact, domestic prices, including food prices, were already rising considerably faster in the UK than within the Community before our entry.[12]

Retail prices, as measured by the year-on-year movement in the Retail Price Index (RPI), had indeed been increasing at a faster rate in the latter part of 1972 than earlier: in January 1973 the

[8] Daniel Strasser, *The finances of Europe* (publ. as *Les finances d'Europe*, 1975, trans. 1977).

[9] For introductions to these topics see: Roland E. Williams, *The political economy of the Common Market in milk and dairy products in the European Union*, FAO Economic and Social Development Paper 142 (1997), Section IX (http://www.fao.org/3/W7415E/W7415E00.htm, accessed 24 Sept. 2019); Carole Webb, 'Mr. Cube *versus* Monsieur Beet: the politics of sugar in the European Communities', in Helen Wallace, William Wallace, and Carole Webb (eds), *Policy-making in the European Communities* (1977); Rosemary Fennell, *The Common Agricultural Policy: continuity and change* (1997), pp. 254–60.

[10] Tim Josling, 'The agricultural burden: a reappraisal', in John Pinder (ed.), *The economics of Europe: What the Common Market means for Britain* (1971). Douglas Jay, 'The economic burden of entry', in Douglas Evans (ed.), *Destiny or delusion: Britain and the Common Market* (1971).

[11] TNA, CAB 134/3501, Ministerial Committee on Europe: 2nd Meeting, 8 Mar. 1972.

[12] Edward Heath, *The course of my life: my autobiography* (1998), p. 376.

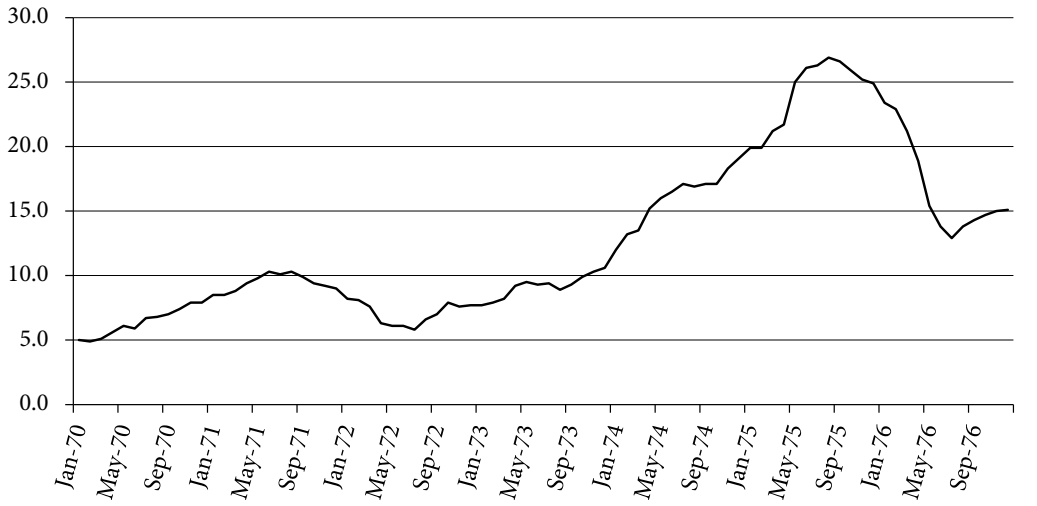


FIGURE 1. Annual Movements in the Retail Price Index, Monthly Data, January 1970 to December 1976

Source: Office of National Statistics, *RPI All Items: Percentage change over 12 months: Jan 1987=100* (https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/czbh/mm23, accessed 25 October 2018).

RPI was 7.7 per cent higher than it had been a year before (see Figure 1). Thereafter inflation increased, peaking (on this measure) at 26.9 per cent in August 1975.

It is not the ambition of this article to explain the inflationary pressures present in the British economy in the 1970s, but two dimensions are relevant for the present discussion: the depreciation of the pound sterling on international currency markets, and a steep rise in international commodity prices.

The late 1960s and early 1970s, were turbulent times for the foreign exchange markets. In autumn 1971 President Nixon suspended the convertibility of the US dollar into gold, and the whole Bretton Woods system began to crumble. Sterling came under pressure, and on 23 June 1972 Edward Heath's government, deciding that a fixed exchange rate could no longer be defended, allowed the pound to float, with market forces determining its value. Although Heath was later to write 'the pound did lose some value … but there was no dramatic collapse', in fact it did fall steeply against some currencies, notably the German Deutsche Mark (see Figure 2).[13]

The monthly average data that underpins Figure 2 shows that by January 1973 the Pound had depreciated by nearly 9 per cent against the German Deutsche Mark; and more was to follow. By July 1973, only seven months into the UK's EEC membership, the pound was only worth 72 per cent of its June 1972 value against the Mark. This was not entirely the result of the weakness of Sterling: the Mark had appreciated too. But these currency gyrations wreaked havoc on the CAP's pretensions to 'common' pricing.

Figure 3 indicates how prices for wheat, sugar, and crude oil evolved from 1970 to the end of 1976. The significant surge in oil prices followed the Yom Kippur War (the 1973 Arab–Israeli War) of October 1973, and the decision of the Organization of the Petroleum Exporting

[13] Ibid., p. 410.

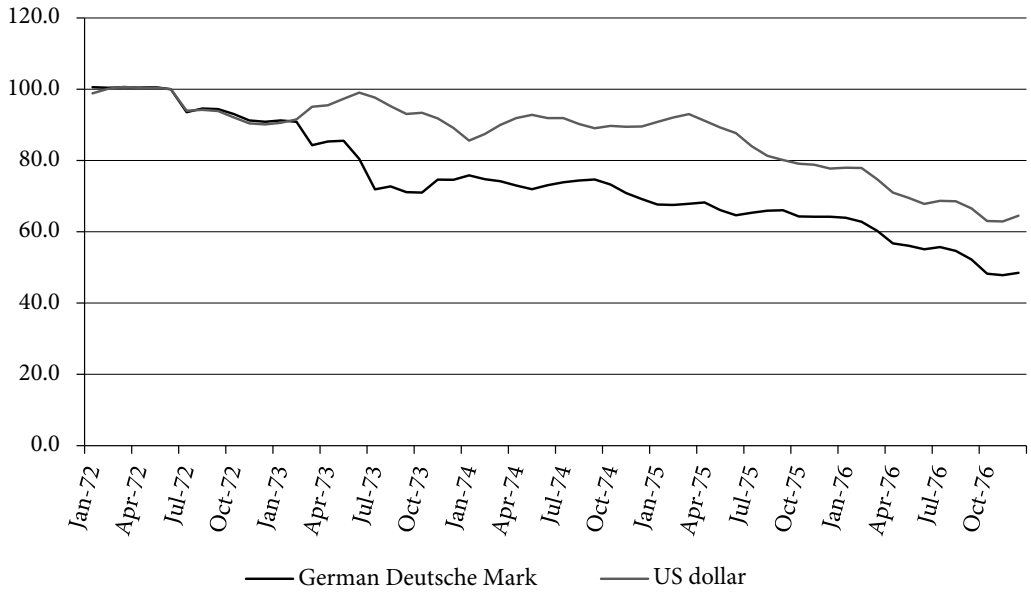


FIGURE 2. Index (June 1972 = 100) of the Value of Sterling in German Deutsche Marks and US Dollars, Monthly Averages

Source: Author's calculations from Bank of England, Table M.14 of the Excel spread-sheet, *A millennium of macroeconomic data* (https://www.bankofengland.co.uk/statistics/research-datasets, accessed 25 October 2018).

Countries (OPEC) to limit oil production. The price of agricultural commodities had been rising before that. By January 1973 the international wheat price (as recorded in Figure 3) was nearly twice its average level of 1970, where it stayed for six months. Following this brief period of stability, the international wheat price in August 1973 showed a 50 per cent increase on its level in July.

Sugar prices were also rising, but the price peak in the latter part of 1974 would be a particular problem for Heath's successor as Prime Minster, Harold Wilson. The sugar saga cannot be documented in this article, other than to note that as well as imposing export taxes on sugar, cereals, and rice, in October 1974 the EEC adopted a number of 'measures to cope with the sugar shortage throughout the Community, but felt more sharply in the United Kingdom'. In particular sugar imports were subsidized.[14]

Writing soon after these developments, Cooper and Lawrence noted that:

> An extraordinary increase in commodity prices occurred in 1973–74. Even leaving aside crude oil as a special case, primary commodity prices on one index more than doubled between mid-1972 and mid-1974, while the prices of some individual commodities, such as sugar and urea (nitrogenous fertilizer), rose more than five times.

This, they say, 'startled most observers, for it came on the heels of apparent oversupply in 1970–71'. They highlight two potential explanatory factors for the surge in agricultural

[14] *Bulletin of the European Communities*, 10-1974, Points 2228 and 2231.

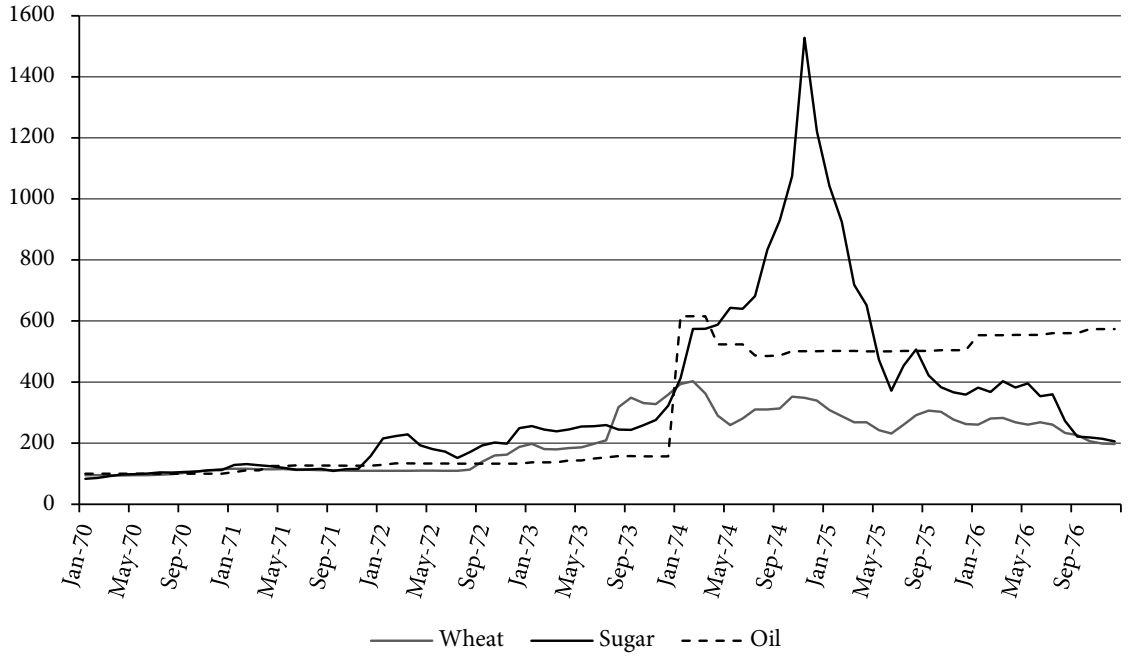


FIGURE 3. Price Indices for Wheat, Sugar, and Crude Oil, Monthly Data in US$, 1970–1976 (1970 = 100)

Source: Compiled by the author from UNCTADSTAT, *Free market commodity prices, monthly*, January 1960 – December 2017 (https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=28769&IF_Language=eng, accessed 26 October 2018).
Wheat: United States, n° 2 Hard Red Winter (ordinary), FOB Gulf
Sugar: average of ISA daily prices, FOB and Stowed, in bulk, Caribbean ports
Crude Oil: simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai Fateh

commodity prices. One was a 'sharp reduction in the Peruvian anchovy catch', by 62 per cent between 1970 and 1972, and a further 50 per cent in 1973. '[T]his loss of protein-rich animal feed put upward pressure on the market for soybean meal and other animal feeds, in the face of rapidly growing demand for red meat throughout the world'.[15] In the US, planting restrictions ('set-aside') were relaxed, and then on 13 June 1973 a short-lived export embargo on 'soybeans, cottonseeds, and their products' was announced. Although the embargo was rescinded on 2 July 1973, export restrictions applied until 1 October 1973.[16]

The other factor Cooper and Lawrence mention is 'poor harvests in the USSR and in southern Asia in 1972, combined with a change in USSR policy regarding the maintenance of cattle stocks in the face of bad harvests, result[ing] in a world shortage of grains.'[17] In what was dubbed the Great Grain Robbery, in July and August 1972 the USA's wheat sales to the

[15] Richard N. Cooper and Robert Z. Lawrence, 'The 1972–75 Commodity Boom', *Brookings Papers on Economic Activity*, 1975(3) (1975), pp. 671–715, at pp. 671, 678.

[16] United States International Trade Commission, *U.S. Embargoes on agricultural exports: Implications for the U.S. agricultural industry and U.S. exports: Report on investigation No. 332-157 Under Section 332 of the Tariff Act of 1930*, Publication 1461 (1983), p. 3.

[17] Cooper and Lawrence, 'Commodity Boom', p. 689.

Soviet Union were 'more than the total U.S. commercial wheat exports for the year beginning in July 1971', and 'equivalent to 30 per cent of average annual U.S. wheat production during the previous five years'.[18]

III

The fourth meeting of the UK's Ministerial Committee for Europe, on 8 March 1973, discussed strategy in anticipation of the CEC's forthcoming proposals on CAP support prices for 1973/74. These had been delayed, according to the Minister of Agriculture, to avoid 'the embarrassment of having Commission proposals on the table just before the French elections.' Given the UK's 'general aim to reduce the cost of the CAP and our particular preoccupation with inflation, there is little doubt that it would be in our interests to secure reductions in the relatively high Community price levels.' In discussion it was noted that the UK 'had accepted considerable burdens under the CAP as part of the price for entry to the Community. It was now entirely reasonable for us to pursue a strongly self-interested attitude.' However, Ministers cautioned: 'We should arouse considerable antagonism if our attitude were to be interpreted as a deliberate attack on the CAP'.[19]

The CEC's price proposals were tabled on 21 March 1973. A particular concern the CEC sought to address was 'the need to restore as far as possible the common price system on which the common market in agriculture is based, which has been disrupted by developments in the monetary field'. Inflation was a problem but, somewhat differently to UK Ministers' concerns, producer rather than consumer interests appeared to be to the fore: 'As a result of the disquieting continuance of inflationary tendencies, there has been a marked increase in the price of agricultural inputs'. Consequently, 'an increase in the general level of common prices for agricultural products continues to be necessary to enable modern farmers to keep up with the trend of wages and salaries outside agriculture'. This was true even for milk, despite 'the serious difficulties caused … by the surplus of butterfats'. Thus the CEC was proposing that the intervention price of butter should be reduced by 'approximately 11 per cent', offset by an increase in the intervention price of skimmed milk powder 'of approximately 24 per cent', whilst the target price for milk would be increased, in two stages, by almost 4.8 per cent.[20]

There was indeed a problem with butter. As reported to the House of Commons on 11 April 1973, the CEC had 'approved the sale of 200,000 tons of butter now in the hands of intervention agencies of the six original Member States': destined for the Soviet Union. The CEC, within whose competence the matter rested, had received a favourable opinion from the Management Committee for Milk and Milk Products, and so the Council of Ministers had not intervened. This, MPs were told, 'is one of the features of the common agricultural policy which needs changing.'[21]

[18] Clifton B. Luttrell, 'The Russian Wheat Deal – Hindsight vs. Foresight', *Review – Federal Reserve Bank of St Louis* (1973), pp. 1–9.

[19] TNA, CAB 134/3611: CAP Prices for 1973/74. Note by the Minister of Agriculture Fisheries and Food, 6 Mar. 1973. TNA, CAB 134/3610, Ministerial Committee on Europe: 4th Meeting, 8 Mar. 1974.

[20] CEC, Commission Proposal to the Council relating to the fixing of prices for certain agricultural products and certain related measures, COM(73) 445 (1973), pp. 2–7.

[21] Parliamentary Debates, Commons, Fifth ser. 854, c.1327, The Minister of State for Agriculture, Fisheries and Food (Mr Anthony Stodart).

British Ministers were, however, drawn to one element in the CEC's price proposals: the conclusion that 'agricultural price policy … cannot settle all the problems that arise as a result of disparities within the agricultural sector itself', and the Commission's 'intention to carry out an in-depth examination of the problems'. Indeed the Commission invited the Council 'to arrange a planning discussion on this subject for October', which would inform the Commission's 'overall proposals for the next agricultural year'.[22]

The Prime Minister and President Pompidou discussed the CAP at the Elysée Palace on 21 May 1973. According to the British record the discussion was wide ranging, touching for example on the principle of 'Community preference' (that is, giving farmers prices higher than those that might prevail on world markets, and implemented, according to the CEC, by 'a system of variable levies and the common customs tariff'), the recent sale of butter to the Soviet Union at knock-down prices, and the difficulties that exchange rate change, and the use of MCAs, caused for farm policy. According to Pompidou, the EEC 'would only manage to avoid these difficulties when Ministers of Agriculture were no longer allowed to discuss agricultural issues'. Indeed, he mused, they 'should really be called Ministers of Farming'. Apparently the Prime Minister agreed. The tenor of the record is that Pompidou was largely sympathetic to British views on the CAP.

Heath, apparently, reassured the President that: 'The British attitude to the Common Agricultural Policy remained as he had described it in the past … We accepted the Policy and should continue to support it.' Heath suggested that:

> both recognised that … there was a problem of reconciling a fair price for the producer with the lowest possible price for the housewife. … [I]t seemed that there were signs of agreement emerging within the Community that some form of special measures might be required to help those poorer producers who could not get a satisfactory return from the price mechanism, without this entailing an exaggeratedly high price being paid to the bigger producers. … It should be possible to resolve these problems in various ways, but within the framework of the Common Agricultural Policy. He hoped this would be the purpose of the review that was due to take place in the autumn.[23]

The German Government too seemed to be sympathetic to the British quest for CAP reform. In Bonn, a week after Paris, Helmut Schmidt, then Minister of Finance, but later Chancellor, in an after-dinner conversation, reportedly opined that the EEC's 'existing agricultural policies' were 'a scandal'; with Chancellor Willy Brandt agreeing that 'there was much wrong with the CAP in its present form'.[24] However, Germany was very reluctant to cut its support prices. As Georges Pompidou had earlier noted in his discussions with Edward Heath in Paris, 'the Germans refused to accept' that 'a reduction in agricultural prices' should follow a currency revaluation.[25]

[22] CEC, *COM(73) 445*: p. 8a.

[23] CEC, *COM(75) 100*: p. 4. TNA, PREM 15/2075: Record of conversation between the Prime Minister and the President of the French Republic at the Élysée Palace at 4.15 p.m. on Monday 21 May 1973.

[24] TNA, PREM 15/1577: Record of a conversation between the Prime Minister, the German Chancellor, and members of the German Cabinet in the Federal Chancellor's house in Bonn-Venusberg after dinner on Tuesday 29 May 1973.

[25] TNA, PREM 15/2075, Record of conversation, 21 May 1973.

At the time, Germany had the highest CAP support prices in the EEC, with its positive MCA standing at 6.9 per cent according to Irving and Fearn.[26]

The CEC's text, *Improvement of the Common Agricultural Policy*, which Neville-Rolfe labels the Lardinois Memorandum, appeared in early November 1973.[27] When the Ministerial Committee for Europe met on 14 November 1973 it had before it two papers from the Minister of Agriculture, Joseph Godber. The first of these memoranda reminded the Committee that the 'government has stated that it accepts the basic principles of the CAP'. It went on to say, however, that, 'Acceptance of these principles does not in itself inhibit us from seeking to modify either the mechanisms of the CAP or its price levels, but it does place some limitations on the extent to which the CAP can be challenged.' Later, the text declares: 'We must recognise that there is no prospect of spectacular gains as an immediate result of the review'. MAFF was no longer as optimistic as it once had been about a switch away from high support prices to selective subsidies to small farmers:

> A ten-cow level for selective support for milk would include 80 per cent of German and 60 per cent of French producers but only 15 per cent of British. A 25-acre farm size for cereals would include 61 per cent of cereals farmers in the EEC as a whole but only 10 per cent of British. Such a system would help us argue for a reduction in end-prices and so some saving on our import costs, but this could well be outweighed by the increase in our contributions to Community funds.[28]

In discussion it was suggested that 'Only the French Government were likely to raise difficulties about a more fundamental approach to the CAP Review; the German Government in particular was dismayed by the increasing and uncontrolled costs of the CAP.' But other voices urged caution:

> We were in a delicate negotiating position over the Regional Development Fund and the move to the second stage of economic and monetary union which were due … to take effect from the beginning of 1974. Beyond that date it might be possible to take a more robust line over the CAP … But we should remember that we were bound by the terms of the Treaty of Accession and our acceptance of the Community acquis. We could not call in question the principles of the CAP.[29]

But by now the days of the Heath government were numbered. The National Union of Miners imposed a ban on overtime, constraining coal supplies to the power stations for the generation of electricity, and compounding the problems caused by the OPEC oil embargo. To curtail energy usage, the government imposed a three-day week, restrictions on electricity supplies to industry, and a 10.30pm shutdown for television. Miners voted for a strike on 4 February 1974. Two days later Heath sought the dissolution of parliament, prompting a General Election on 28 February.[30]

[26] Irving and Fearn, *Green money*, p. 49.

[27] Edmund Neville-Rolfe, *The politics of agriculture in the European Community* (1984), p. 340.

[28] TNA, CAB 134/3613, Review of the Common Agricultural Policy: Note by the Minister of Agriculture, Fisheries and Food, 2 Nov. 1973.

[29] TNA, CAB 134/3610, Ministerial Committee on Europe, 25th Meeting, 14 Nov. 1973.

[30] Heath, *Course of my life*, pp. 503–11.

The CEC's farm price proposals for 1974/75, 'along the guidelines already set out in the Memorandum on improving the CAP', together with 'an initial batch of measures as part of the 1973–78 improvement plan', had been tabled in January 1974. They were discussed by the Council on 11–12 February, and again on 18–19 February 1974, but 'delegations came up against considerable problems in reaching agreement' and decisions were deferred until March. By then the UK had a new government.[31]

IV

In its Manifesto for the February 1974 election, the Labour Party said that 'the terms of entry to the Common Market' accepted by Heath's government had 'involved the imposition of food taxes on top of rising world prices, crippling fresh burdens on our balance of payments, and a draconian curtailment of the power of the British Parliament'. Accordingly it committed to renegotiating those terms of entry, and first of its list of 'main objectives' was to seek: 'Major changes in the COMMON AGRICULTURAL POLICY, so that it ceases to be a threat to world trade in food products, and so that low-cost producers outside Europe can continue to have access to the British food market'.[32]

After the election, and the formation of Harold Wilson's government on 4 March 1974, Peart, who in opposition had been highly critical of the CAP – see for example his address to the Agricultural Economics Society conference in July 1972, as later published by the Society – was made Minister of Agriculture. In office, however, he adopted a more conciliatory approach. Michael Tracy, a senior official in the Secretariat of the Council of the European Communities, who was in an unrivalled position to watch European ministers in action, has a prosaic explanation. He suggests that the change of heart began with Peart, 'a sociable character' who 'enjoyed his beer', and the German Minister, Josef Ertl, 'enjoying a drink together' in 'the bar on the top floor of the Charlemagne building next to the Council chamber.' Nicholas Spreckley, in his record of the *Renegotiation and Referendum*, suggests that, as Minister of Agriculture, Peart's was a 'key appointment', in maintaining 'a line on the CAP in any way acceptable' to the other Member States.[33]

The first meeting of the EEC's Council of Ministers that Wilson's new ministerial team was able to attend was that of ministers of agriculture on 21–23 March 1974, which 'set the common farm prices applicable for the 1974/1975 marketing year'.[34] Afterwards, on 25 April, Peart reported to the newly created Ministerial Committee on European Community Strategy, which was discussing the Labour Government's Manifesto promise to renegotiate the UK's

[31] CEC, Proposal from the Commission to the Council concerning the fixing of prices for certain agricultural products and certain measures specified in the Memorandum on the Improvement of the Common Agricultural Policy, COM(74) 30 (1974). *Bulletin of the European Communities*, 1-1974, Points 1201-2 and 2-1974, Points 2428, 2430.

[32] Labour Party, *Let us work together – Labour's way out of the crisis*, February 1974 Election Manifesto (http://www.politicsresources.net/area/uk/man/lab-74feb.htm, accessed 9 Nov. 2018).

[33] F. T. Peart, 'International Aspects of Agriculture', *J. Agricultural Economics* 24 (1973), pp. 13–21. Michael Tracy, *A European life from war to peace: memoirs* (2010), p. 65. Nicholas Spreckley, *The Common Market renegotiation and referendum, 1974–1975* (1975), p. 7.

[34] *Bulletin of the European Communities*, 3-1974, Point 2424.

terms of entry into the EEC, particularly with regard to the CAP. Peart said that from his 'own experience in the Council of Agricultural Ministers' he was 'optimistic about getting what we want.' Others present clearly expressed some contrary views, with the minutes suggesting that although the proposal set out by MAFF 'would represent some small improvement in the CAP, it was desirable to seek much more far-reaching changes.' 'It was wrong', from this perspective, 'to base our planning on current price relativities and unrealistic to pin any faith on the Commission's proposals for changing the CAP. The CAP continued to generate surpluses which were costly, wasteful, and disruptive to trade'.[35]

The Cabinet on 2 and 4 July 1974 had a lengthy discussion about 'the tactics of renegotiating' the UK's 'terms of membership'. With regard to the CAP, critical voices contrasted the Election Manifesto's pledge to secure 'fundamental changes' to the CAP with the Foreign Secretary's speech to the Council of Ministers in Luxembourg on 4 June in which he had said that the UK 'sought changes consistent with the broad principles on which the CAP was based'. However in rebuttal it was claimed that the government was 'engaged in serious negotiations'; and that it had 'already driven, in effect, a coach and horses through the principles of the CAP by insisting on national subsidies for certain commodities during the Community price negotiations in March 1974, and by refusing to apply permanent intervention arrangements for beef'.[36]

V

Following the USA's failure to secure EEC acceptance of new international disciplines on farm support in either the Dillon (1960–62) or Kennedy (1964–67) rounds of GATT (General Agreement on Tariffs and Trade) negotiations, enlargement of the EEC had opened up a new avenue for the US to explore. GATT Article XXIV does provide for the establishment, or enlargement, of customs unions, in derogation from GATT's most-favoured-nation dictum; but conditions are attached. Paragraph 5 states that the resulting 'duties and other regulations of commerce … shall not on the whole be higher or more restrictive than the general incidence of the duties and regulations of commerce applicable in the constituent territories prior to the formation' of this new customs union. To facilitate such an outcome, Article XXIV:6 provides for the necessary tariff negotiations to compensate GATT's other Contracting Parties for any upward adjustment of tariffs, previously bound in GATT. In acceding to the EEC the new Member States would progressively apply the EEC's Common External Tariff (CET), and the UK's adoption of the CAP raised particular concerns. The EEC had tabled its first offer in January 1973, and a settlement was eventually achieved in May 1974 following 'difficult and delicate negotiations'. As the CEC records: 'The withdrawal of the three acceding countries' concessions for cereals was one of the crucial points of the negotiations'.[37]

[35] TNA, CAB 134/3745, The Common Agricultural Policy. Note by the Minister of Agriculture, Fisheries and Food, 22 Apr. 1974; and Ministerial Meeting on European Community Strategy, 4th Meeting, 25 Apr. 1974.

[36] TNA, CAB 128/54, Cabinet Conclusions, 23rd Meeting, 4 July 1974.

[37] CEC, Report on the tariff negotiations which it conducted under Article XXIV(6) of the General Agreement on Tariffs and Trade (GATT), COM(74) 1090 (1974), pp. 1 and 13.

In a long letter to the UK's new Secretary of State for Commonwealth and Foreign Affairs, James (Jim) Callaghan, the UK's Permanent Representative to the EEC, Sir Michael Palliser, set out the scope and evolution of the negotiations, and the outcome. In the initial phase (the Article XXIV:5 deliberations):

> A number of third countries – prominent among them the United States … – prepared a great attack on the Community's agricultural system aimed at showing that the incidence of agricultural protectionism was far higher in the new Member States after entry than before and that it could not be said that this was off-set by the reductions in industrial protectionism.

The CEC 'clung tenaciously' to its defence of the CAP, and 'did not make any concessions'. The third countries concerned:

> For reasons of their own – among them the prospect that the argument about agricultural support might go on indefinitely as it frequently has in the GATT – … broke off the engagement and reorganised their forces for the potentially much richer prize of the negotiations under Article XXIV:6, broken bindings.

'Inevitably', Palliser reports, as those Article XXIV:6 discussions evolved, 'the trouble that brewed was largely between the Community and the United States; and inevitably also cereals trade bulked large in it. The Americans laid claim to compensation for the unbinding of United Kingdom and other tariffs on cereals'. In a rather curious comment reflecting on the UK's detachment from the European project, Palliser confides that: 'We gave the Americans copious advice on how to play their hand and they fully realised how much we were doing to help them from inside'.

There was, though, no resolution of the cereals dispute. The Americans realized 'that they could not find in the Article XXIV:6 negotiations a jemmy with which to prise open the Common Agricultural Policy'. Thus 'further serious discussion about the organisation of world trade in cereals' was deferred to the new round of Multilateral Trade Negotiations (MTN) that had been launched at the GATT Ministerial meeting in Tokyo the previous September.[38]

VI

According to one contemporary account, the 'crisis in agriculture had been growing steadily worse since the autumn of 1973. The principal cause was the unprecedented rise in production costs'.[39] The EEC's farm ministers, and its Agricultural Commissioner, Pierre Lardinois, came under considerable pressure to ameliorate farmers' distress. In response, and quite

[38] TNA, CAB 134/3760: Palliser to Callaghan, 24 June 1974. The classic contemporary text on the Tokyo Round is Gilbert R. Winham, *International trade and the Tokyo Round Negotiation* (1986). For an analysis of subsequent interactions between international trade rules and negotiations, and the progress of CAP reform, see Carsten Daugbjerg and Alan Swinbank, *Ideas, institutions, and trade: The WTO and the curious role of EU farm policy in trade liberalization* (2009).

[39] Trevor Parfitt, 'CAP – Beginning to take stock', *The World Today*, 30 (1974), pp. 466–71 at p. 467.

exceptionally, the CEC proposed a second, mid-year, increase in support prices.[40] The Council of Agriculture Ministers considered this at a marathon session lasting from 17 to 20 September 1974. What emerged was an agreement *ad referendum* – subject to the subsequent endorsement of the German government.

Agriculture ministers, together with Foreign ministers, then met on 2 October 1974 'to iron all this out'. 'At this meeting', Spreckley reports:

> which both Mr Callaghan and Mr Peart attended, despite the fact that the [British General] Election was only a week away, the Germans withdrew their objections … but insisted with strong British support that there should be a general stock taking of the CAP. This corresponded to one of the many British renegotiation requirements and represented a considerable step forward.

Spreckley's rather misplaced conclusion was that the Minister of Agriculture was now able 'to pursue Britain's renegotiation objectives entirely within on-going Community discussions and often with the support of other members'.[41] But others did not necessarily share this quest for reform. According to Seidel, for example, a 'document from the cabinet' of the Commission President suggested that 'the purpose of the Stocktaking memorandum should be to justify the core principles and instruments of the CAP'.[42]

The Labour Government was re-elected, and Wilson, Callaghan, and Peart retained their respective ministerial roles. When the German Chancellor Helmut Schmidt spoke at the Labour Party's special conference in London on 30 November 1974 he managed to convince the political editor of *The Times* that the British Government would 'find him a ready ally ... in a radical remodelling of the common agricultural policy'.[43] Schmidt hoped that 'the agricultural stock-taking exercise … by the European Commission … will bring to light the mistakes of the past regarding CAP and enable us to correct them'.[44]

Later at Chequers, the Prime Minister's official residence, Schmidt and Wilson discussed the need for CAP reform, Wilson stating for example that:

> the British people did not understand why they could not go on buying New Zealand butter. … If the British people were to be persuaded to support continued membership of the Community in a referendum, it would help for him to be able to say to them that Britain would be able to go on buying food from abroad when it was cheaper to do so.

On world food prices, Wilson conceded 'that Community food was cheaper than food from other world sources at present.' But, he went on, 'it could not be assumed that that state of affairs would necessarily last. On the grain side, for instance, two good harvests could

[40] CEC, Proposal for a Regulation (EEC) of the Council amending the prices applicable in agriculture for the 1974/75 marketing year, COM(74) 1446 (1974).

[41] Spreckley, *Common Market*, p. 91.

[42] Katja Seidel, 'The Challenges of enlargement and GATT Trade Negotiations: Explaining the resilience of the European Community's Common Agricultural Policy in the 1970s', *International Hist. Rev.* (2019), pp. 4–5.

[43] David Wood, 'Herr Schmidt wins ovation after reproving delegates over EEC', *The Times*, 2 Dec. 1974, p. 4.

[44] Helmut Schmidt, 'Fraternal Greetings', in *Report of the Seventy-Third Annual Conference of the Labour Party* (1974), pp. 315–8.

transform the situation'.[45] Based on German archival sources, Haeussler concludes that the discussion 'made little impression on Schmidt, who afterwards mused with Giscard on the phone whether Wilson "realizes that the period of cheap food prices on the world market is over for the time being" and that the EC's agricultural policy was actually keeping British prices down at that stage'.[46]

Despite the weekend discussions, Schmidt still felt that the UK had 'not yet made clear in sufficient detail' its renegotiation demands. In response, referring to the CAP, Wilson wrote:

> Since we formulated our objectives on the CAP and Fred Peart described them in the Council of Ministers on 18 June, the Community has itself, on your initiative and with our support, put in hand a comprehensive stocktaking. This will, I am sure, take care of many of the points on which we are looking for some change.

After reiterating the UK's renegotiation objectives, he continued:

> the greater flexibility that has been introduced as a result of changes agreed in the Council of Ministers of Agriculture this year has gone a long way to help us on a number of these points – notably on beef marketing, and on support to cattle and pig producers and dairy farmers. We are looking for further progress in the context of a new Community beef regime, of the determination of CAP prices for 1975/76, and above all of the stocktaking.[47]

When the Prime Minister met his Cabinet on 6 March 1975, prior to attending the Dublin Summit on 10–11 March 1975, he declared that 'main renegotiation items for discussion in Dublin would be our contribution to the Community budget and access for New Zealand dairy products.' Others present clearly thought that further negotiations on the CAP should also be pursued. The minutes record: 'It could be argued, for example, that our approach to the Common Agricultural Policy (CAP) had not hitherto been sufficiently fundamental and that we should press for further changes on tariffs and levies in order to improve access for food imports.' Wilson, however, rebuffed the idea that the renegotiation topics to be raised in Dublin should extend beyond 'the small number of outstanding items which he had mentioned'. If the UK were to remain a member of the EEC, the government 'would continue to pursue a number of our objectives further in the continuing business of the Community – for example in the stocktaking of the CAP and in the multilateral trade negotiations.'[48]

Wall is fairly dismissive of Harold Wilson's negotiating success at Dublin. Officials had suggested that the main issues on the agenda from a British perspective were arrangements for continuing access for New Zealand butter and an amelioration of the burden of the UK's net contribution to the EEC budget. On the budget, Wilson accepted a scheme 'carefully calculated to give Britain nothing at all'. However, 'From Wilson's perspective, he had done

[45] TNA, PREM 16/101, Record of Conversations at Chequers on Saturday 30 Nov. 1974 at 10.15 p.m.

[46] Mathias Haeussler, 'A Pyrrhic Victory: Harold Wilson, Helmut Schmidt, and the British Renegotiation of EC Membership, 1974–5', *International Hist. Rev.* 37 (2015), p. 768–89. Following the death of Georges Pompidou in Apr. 1974, Valéry Giscard d'Estaing had been elected President of France.

[47] TNA, PREM 16/101, Wilson to Schmidt, 5 Dec. 1974.

[48] TNA, CAB 128/56: 11th Meeting, 6 Mar. 1975.

enough to be able to sell the results of renegotiation to the Cabinet and to the country. The budget issue had never interested him'. It would be a later Prime Minister, Margaret Thatcher, who would achieve a 'successful negotiation of a lasting budget settlement.' On New Zealand, Wall comments, 'the outcome was satisfactory and enduring'.[49] Whether a longer-term review of access for New Zealand to the British market would endorse this conclusion is a more open question, not pursued in this article. Wilson's concern about New Zealand butter is legendary. Reminiscing years later, John Fretwell, former Head of the European Integration Department (Internal) in the Foreign Office, recalled Wilson's 'particular fixation about New Zealand butter', explaining that 'when we got near a point that we thought we'd got something locked up and just about saleable, he would inject New Zealand butter, which raised all sorts of thorny problems because that too went to the heart of the Common Agricultural Policy'.[50]

Following the Dublin Summit, the Foreign and Commonwealth Secretary reporting to Cabinet on the results of the renegotiation 'considered the position reached on the CAP to be acceptable'. Others clearly disagreed, and 'argued that there had been no change in the fundamental structure of the CAP'; that even if 'we could not alter the principles of the CAP …, we should have obtained a derogation from them for the United Kingdom'; that it 'was doubtful whether there had been a fundamental change in world food factors: events of the last two years might constitute only a temporary change.' Countering these criticisms it was said that 'We were likely to wish to expand our own agriculture for import-saving reasons, and the CAP could assist that'; and that 'The stocktaking of the CAP would be an important forum in which to pursue our objectives'. The following day, after further discussion, the Prime Minister declared that 'by a significant majority the Cabinet agreed that the United Kingdom should remain a member of the EEC. This would therefore be the Government recommendation'.[51]

The government's White Paper, *Food from our own resources*, appeared in April 1975, before the referendum. Its 'basic conclusion that a continuing increase in the output of our own agriculture over the next five years will be economically worthwhile' was 'drawn from an assessment of the price and availability of imported food and feed'. This conclusion, the government said, would remain valid '*whether* or not the United Kingdom decided to stay within the European Community'. The White Paper was rather coy in specifying how remaining within the EEC might differ from leaving, but if world market prices were to fall, the *In* and *Out* scenarios could be rather different. As two MAFF economists explained to the annual conference of the Agricultural Economics Society in July 1975:

> The starting point for an exercise of this kind, given our position as a net importer of most foodstuffs, must be the cost of obtaining from overseas the food and feedingstuffs which could technically be produced here. This turns on the prices expected which in present

[49] Stephen Wall, *The official history of Britain and the European Community*, II, *From rejection to referendum, 1963–1975* (2013), pp. 576–7.

[50] John Emsley Fretwell, 'Interview of Sir John Fretwell by Jane Barder on 15 February 1996' (https://www.chu.cam.ac.uk/media/uploads/files/Fretwell.pdf, accessed 8 Feb. 2019), p. 13.

[51] TNA, CAB 128/56, 13th Meeting, 17 Mar. 1975 and 14th Meeting, 18 Mar. 1975.

> circumstances is related to the level of Community prices, although the prospective level of world prices is also relevant.[52]

Fred Peart does appear to have been convinced that, as a result of world market price movements and his own prowess in the renegotiations, the CAP was no longer the threat to the British people that he once feared. The text of his speech to be delivered to the Food Manufacturers' Federation lunch, on 22 April 1975, had him say:

> I … believe that, given the fundamental changes which have taken place over the last two or three years in world prices, and the shortages of some commodities, it [the CAP] provides the best assurance for the consumer – and indeed for the food manufacturer – that supplies of essential foodstuffs will be available. In other words, it would be foolish to suppose, as some would have us to, that we can return to the situation of some years ago and rely on cheap supplies from overseas.[53]

A few days later, Norton-Taylor reporting from Brussels, wrote:

> In a confident and relaxed mood, Mr Peart, Minister of Agriculture and former anti-Marketeer, appeared here today as the champion defender of the common agricultural policy and appealed to the British people to vote 'yes' in the EEC referendum. 'I used to be a sceptic, but seeing it working and looking at my own negotiations, my advice to the British people is that we should remain in,' he said.[54]

The world commodity price boom *had* changed some analysts' and policy-makers' perceptions of the CAP. Food prices in the UK had been kept down, for the time being at least, as a result of the CAP's export taxes and, for sugar, import subsidies, augmented by the operation of ACAs and MCAs. Indeed, a group of agricultural economists, writing before the referendum, suggested that over the first two years of the UK's membership 'the cost of food [to British consumers] has been slightly lower than it would have been in the absence of the CAP arrangements'; and the Rapporteur of that group, in early 1975, referred to 'the surprising flexibility which the CAP has shown'. 'In effect', Harris wrote, 'the CAP has been transmuted from a policy of merely supporting producers … to a policy of stabilising market prices for both producers and consumers.'[55]

In the referendum on 6 June 1975, on a turnout of 64.5 per cent, the British public voted by a margin of 2 to 1 to remain in the EEC.[56]

Over the summer of 1975 concerns were expressed about progress on the Stocktaking. Patrick Nairne, in the Cabinet Office, was anxious to manage expectations. In a memo on 2 June

[52] UK Government, *Food from our own resources*, Cmnd 6020 (1975), p. 1. TNA, MAF 317/332, 'Food from Our Own Resources' – Assessing Commodity Priorities: by C. W. Capstick and C. M. Dadd.

[53] TNA, FCO 30/2865, Text of the minister's speech to be delivered to the Food Manufacturers' Federation lunch, 22 Apr. 1975.

[54] Richard Norton-Taylor, 'Peart appeals for EEC yes vote', *The Guardian*, 29 Apr. 1975.

[55] Tim Josling, Simon Harris, Andrew W. Ashby, Michael Butterwick, Edmund Neville-Rolfe and Christopher Ritson, *The CAP and the British consumer: A Federal Trust Study Group Report* (n.d. but probably early 1975), p. 7. Simon Harris, *The world commodity scene and the Common Market*, Centre for European Agricultural Studies Occasional Paper No. 1 (1975), pp. 29, 15.

[56] Wall, *Official history*, p. 588.

1975, after observing that 'The Prime Minister has constantly emphasised the "fundamental" character of the stocktaking', Nairne went on to suggest 'that the current stocktaking is fundamental in the sense that … it is "a thorough study" of all aspects of the CAP.' This, he said, 'does not necessarily mean that it will lead to immediate "fundamental" changes, which will have to come about more slowly.' This nuanced approach, he reasoned, might 'at the least enable Mr Peart to be ready to respond vigorously if any of his [Cabinet] colleagues takes the line that a mouse is emerging from the farmers' haystack.'[57]

A few weeks later a brief prepared for the Chair of the Ministerial Committee on European Questions read: 'While we should be under no illusions about the difficulty of securing improvements in the CAP from the stocktaking exercise, we must … ensure that at the end of the day we have something significant to show for our efforts.' A note prepared by the Cabinet Office after the meeting for Sir Michael Palliser in Brussels reiterated the message: the Chair, in summing-up, had said: 'We needed to have definite improvements in the CAP to show as a result of the exercise and could not afford to let it run into the sands'.[58]

By the autumn there was growing frustration with the German approach to CAP reform via budget cuts. At the end of September the other Member States had rebuffed German attempts to reduce the CAP's budget allocation for 1976.[59] In a policy brief prepared on 24 October 1975, John Fretwell of the FCO's European Integration Department, who wanted to 'ensure that the stocktaking does not just evaporate', asked: 'How should the stocktaking be brought to a conclusion?' Whilst noting that 'Schmidt has attacked the CAP root and branch and wants it discussed at the European Council', he also wrote:

> The Germans may possibly be thinking in terms of setting a cash limit on CAP expenditure and requiring policy decisions to flow from it. This would be very different from the way the Community has operated in the past … It would be difficult to operate and might be totally impractical.[60]

And an earlier brief for the Foreign Secretary read: 'While we sympathise with German demands to spend less, it is not enough to try to cut the estimates: one must change the policies on which the estimates are based'.[61]

The Ministerial Committee on European Questions devoted its session on 27 October 1975 to the Stocktaking. In his summing up, the Foreign and Commonwealth Secretary said:

> It was most important to the United Kingdom that significant changes in the CAP resulted from the stocktaking exercise. To this end we should support moves to have the matter discussed by heads of government at the next meeting of the European Council. The aim should be to secure agreement both on the general guidance to be given to Ministers of

[57] TNA, CAB 193/78, P. D. Nairne to E. J. G. Smith, CAP Stocktaking, 2 June 1975.

[58] TNA, CAB 193/78, Ministerial Committee on European Questions – 25 June 1975, Stocktaking of the Common Agricultural Policy, Brief for the Chairman; D. L. Pearson, Cabinet Office, to Sir Michael Palliser, UKREP, Stocktaking of the CAP, 27 June 1975.

[59] Michael Leigh, 'Germany's Changing Role in the EEC', *The World Today*, 31 (1975), p. 488–97.

[60] TNA, FCO 30/2885, Fretwell to Westbrook, Stocktaking of the Common Agricultural Policy, 24 Oct. 1975.

[61] TNA, FCO 30/2866, Brief No 9, Informal Meeting of Community Foreign Ministers at Lucca, 18/19 October 1975, Common Agricultural Policy, 16 October 1975.

> Agriculture on reform of the CAP, and on the desirability of a regular annual review of Community agricultural policy going beyond the scope of price fixing decisions.[62]

The 365th meeting of the Council of Ministers (Agriculture) was held in Luxembourg on 29–30 October 1975. Shirley Williams, Secretary of State for Prices and Consumer Protection, accompanied Fred Peart. The main agenda item was the Stocktaking. According to the Council Secretariat's Press Release:

> [on] the basis of the Commission communication and in the light of a questionnaire drawn up by the ad hoc Special Committee listing the problems to be examined in the proceedings on the stocktaking of the common agricultural policy the Council held a wide-ranging and constructive discussion of all matters relating to market equilibrium, the problems of productivity and farm incomes, the unity of the market, the cost of the agricultural policy and the specific problems posed by the various agricultural products.

It 'agreed to continue its discussions at its next meeting on 10 and 11 November. It instructed the ad hoc Special Committee to prepare for these discussions in the light of the ideas put forward at this meeting.'[63]

Farm ministers next met on 10–11 November 1975, following which a telex from the UK Permanent Representation in Brussels (UKREP) to London reported: 'The major part of the Council was devoted to the stock-taking of the Common Agricultural Policy and to imports of New Zealand butter. On both these issues the outcome was satisfactory for the UK'. UKREP went on to report: 'The Council finally adopted the text … which was prepared by the high level group after lengthy discussion in the Council and was presented by the Presidency at a final session, to be accepted or rejected as a whole.' The intent was to submit it to a joint Council of Agriculture and Foreign Affairs ministers (expected 24/25 November; but which never took place), and eventually to the European Council at the beginning of December.[64]

Agra Europe was rather less fulsome, however, declaring that:

> Despite reports to the contrary, this week's Council of Agriculture Ministers resulted in absolutely no agreement on the fundamentally important original proposals for reform of the CAP. … In essence, this latest document is less detailed, less precise and less likely to result in action than the Commission's original stockholding document.[65]

This was in sharp contrast to their earlier report that discussions in the earlier Council meeting had 'got off to a good start', with Ministers in their opening statements showing 'a surprising willingness … to reach agreement on what could turn out to be fundamental changes in the

[62] TNA, CAB 134/3899, Ministerial Committee on European Questions, 6th Meeting, 27 Oct. 1975.

[63] Documents relating to the 365th Meeting of the Council (Agriculture) in Luxembourg, 29 and 30 Oct. 1975 (https://archives.eui.eu/en/fonds/449096?item=CM2%2F1975-00097%2F001, accessed 9 Feb. 2019).

[64] TNA, FCO 30/2886, Tel No 5152 of 11 November: 'Council of Ministers (Agriculture): 10/11 November 1975'. See also documents relating to the 367th Meeting of the Council (Agriculture) in Brussels on 10 and 11 Nov. 1975 (https://archives.eui.eu/en/fonds/449099?item=CM2%2F1975-00100%2F001, accessed 9 Feb. 2019). The Council's text was published in the *Bulletin of the European Communities*, 11-1975: point 2226.

[65] 'Panorama from Brussels', *Agra Europe*, 14 Nov. 1975, p. P/2.

common agricultural market support system'.[66] Similarly, *Farmers Weekly* concluded that 'ministers agreed that there would be no fundamental changes to the common agricultural policy'. It reported: 'The Minister of Agriculture, Mr. Fred Peart, emerged "happy and satisfied" from the Council of Ministers' stocktaking meeting. "The agreement allows us to do anything we want," Mr. Peart said'.[67]

Nor was John Fretwell impressed by the news from Brussels, noting on 14 November: 'MAFF evidently take the view that the paper … is satisfactory for the UK. I am not confident that FCO Ministers will take the same view' Amongst his complaints were: 'the main part of the paper is very woolly on the internal aspect of the CAP'; the 'section on the cost of CAP seems to be designed as a defence of present levels of expenditure'; and 'it pays no attention to the interests of Community consumers in getting cheap food from third parties if it is available.' He did not 'think the document would do much harm if it remains as a statement of view of the Agricultural Ministers, although it may be criticised as a disappointing outcome of the stocktaking', but he was concerned that heads of government might be 'asked to endorse this report in the European Council'. Accordingly he drafted a minute that the Foreign Secretary might put to Mr Peart.[68]

Fred Peart's defensive response, dated 27 November 1975, to the minute the Foreign Secretary had sent on 19 November stressed that the Stocktaking was an on-going process; and that the conclusions reached by the Agriculture Council, 'designed as a basis for discussion by the European Council', should be 'regarded ... as a starting point for the negotiations on specific issues where improvements are to be sought.' He suggested that these 'negotiations will undoubtedly start seriously during the annual price-fixing'. The text, 'based very largely on a German draft', was 'in part more complacent and conservative than I and some others would have wished', but it had to 'strike a balance between widely differing views':

> [His] main concern was to ensure that the report recognised the need for improvements and covered all the main areas where we ourselves wish to secure them, notably in pricing criteria related to modern and efficient farms, in measures to avoid costly surpluses and their disposal, and specifically in improvements to the beef, milk and cereals market regimes.[69]

Prior to the European Council, which met in Rome on 1–2 December 1975, the German Chancellor Helmut Schmidt circulated a paper to all Heads of State summarizing deliberations of special meetings of the German Government discussing major aspects of EEC policy. The need to contain the budgetary cost of the CAP figured prominently: 'Community expenditure has increased in leaps and bounds in recent years. … A major cause of this trend is the steep increase in expenditure for the common agricultural policy which accounts for over 70 per cent of the Community's budget'.[70]

[66] 'Panorama from Luxembourg', *Agra Europe*, 31 Oct. 1975, p. P/2.

[67] 'Peart 'happy and satisfied' with Brussels agreement', *Farmers Weekly*, 14 Nov. 1975, p. 47.

[68] TNA, FCO 30/2886: Fretwell. CAP Stocktaking, 14 Nov. 1975.

[69] TNA, FCO 30/2886: Peart to the Foreign and Commonwealth Sectary, 27 Nov. 1975.

[70] TNA, PREM 16/398, Letter from the German Ambassador to the Prime Minister, 17 Nov. 1975, enclosing a letter from Herr Helmut Schmidt to PM of 12 Nov. 1975, and a 'courtesy translation'.

Thus a draft steering brief prepared by the Foreign and Commonwealth Office prior to the Summit explained that the CAP was:

> on the agenda at German insistence, and is in part a consequence of the stand which the Germans took during the Budget Council in September. At that time, the Germans, who had initially demanded sharp cuts in the agricultural estimates, allowed the Budget to go through on the understanding that there would be a discussion of the CAP at the European Council. … The basic problem remains that there is no merit in reducing the estimated cost of the CAP in 1976 if the result makes the estimate inaccurate and leads to a supplementary budget. … The European Council will also have before it a report by the Agriculture Council on the stocktaking of the Common Agricultural Policy. … We should try to ensure that the European Council gives impetus to these improvements (better market balance, more attention to resource costs, specific improvements in commodity regimes), so that they are dealt with at the next price fixing early in 1976.[71]

In the event, discussions in Rome were dominated by Wilson's dogged attempts to secure separate representation for the UK at an upcoming energy conference in Paris. The Prime Minister told the House of Commons that, of the 11 hours the European Council was in session, nine and a half hours were spent on this topic. In his report to the Cabinet the Foreign and Commonwealth Secretary talked about 'long and fierce discussion'; whilst the Prime Minster claimed that 'Press reports of a row between himself and the Federal German Chancellor had been entirely unfounded'.[72]

Under the circumstances it is unsurprising that Heads of State had not discussed the CAP, despite the earlier instance of the German Chancellor. All that had been achieved was a short text that simply 'took note of the report on the stocktaking of the common agricultural policy prepared by the Council (Ministers for Agriculture) and invited the latter to continue its detailed examination of issues raised', which was adopted without discussion.[73]

Thus CAP reform (or lack thereof) was back in the hands of farm minsters and the CEC's Directorate-General for Agriculture (DG VI). An opportunity had been lost. The German quest to secure limits on the overall level of CAP expenditure had not been translated into specific policy proposals to control production or limit expenditure, and CAP spending would continue to mount during the 1970s. According to the CEC, net FEOGA Guarantee expenditure, after allowing for import levies on CAP products and charges on sugar production, rose from 0.35 per cent of EEC GDP (Gross Domestic Product) in 1975 to 0.47 per cent in 1980.[74]

In its price proposals for 1976/77, tabled in December 1975, the CEC invoked the Stocktaking several times. In particular it said that its proposals:

[71] TNA, PREM 16/398, Draft Steering Brief by the Foreign and Commonwealth Office.

[72] 'Mr Wilson agrees to single EEC seat at oil talks in Paris', *The Times*, 3 Dec. 1975: 1. Parliamentary Debates, Commons, Fifth ser. 901, c.1936. TNA, CAB 128/57: 52nd Meeting, 4 Dec. 1975.

[73] TNA, PREM 16/399: A record of the European Council by the European Integration Department (Internal), 9 Dec. 1975.

[74] CEC, *Reflections on the common agricultural policy* COM(80) 800 (1980), Table 3.

> follow the guidelines set out in its Memorandum on the improvement of the common agricultural policy (… of 31 October 1973) and in its stocktaking of the common agricultural policy (… of 26 February 1975) as well as the Council's conclusions on the stocktaking of the common agricultural policy (… of 11 November 1975).[75]

But this had few, if any, implications for policy.

VII

In 1968 the then Commissioner for Agriculture, Sicco Mansholt, had launched a radical reform plan proposing major structural change in European agriculture. This was ridiculed by his opponents and largely ignored by ministers, producing only meagre results.[76] In the changed circumstances of the early 1970s – nine rather than six Member States, soaring commodity prices and inflation, recession – the CEC adopted an incremental approach. This failed too. As Graham Avery – then head of the CEC's coordinating unit for agricultural policy – was to observe, past failures to 'reform' the CAP reflected in part 'a reluctance on the part of the political authorities of the Community to countenance more than gradual change in the agricultural policy'.[77] And Michael Franklin, one-time Deputy Director-General for Agriculture, confessed:

> When I was in DG VI in the 1970s, any talk of reform of the CAP was heresy. Without tackling the fundamental defects in the system, we went through all sorts of convulsions to keep the show on the road, like selling surplus butter to the Russians at knockdown prices, far below the price our own consumers have to pay'.[78]

Heath had accepted the CAP on entry in 1973, and because of this commitment was reluctant to press for an early CAP reform. By the time he lost office, food prices were soaring and CAP pricing looked more benign. Consequently the CEC's *Improvement* document had lost its relevance.

The GATT Article XXIV:6 negotiations had not leveraged any change to the CAP's protective trade regime, despite UK connivance with the Americans. That debate was thus deferred to the Tokyo Round negotiations, and another chapter in the history of the CAP.

Had Wilson really expected to secure significant changes to the CAP in the renegotiation? His Minister of Agriculture, once a noted anti-Marketeer, had been quickly absorbed into the club-like atmosphere of the EEC's farm ministers. Had circumstances been different, with a more committed anti-Marketeer occupying that post, might a more sustained attack on the CAP been pursued? If the World Food Crisis of the early 1970s not intervened, would the Wilson Government's stance have been different?

[75] CEC, Commission Proposals on the fixing of prices for certain agricultural products and on certain related measures COM(75) 600 (1975).

[76] Neville-Rolfe, *Politics of agriculture*, pp. 297–309.

[77] Graham Avery, 'The Common Agricultural Policy: A turning point', *Common Market Law Rev.* 21 (1984), pp. 481–504 at p. 482.

[78] Michael Franklin, 'Postscript', in Michael Franklin (ed.), *Joining the CAP: The agricultural negotiations for British accession to the European Economic Community, 1961–1973* (2010), pp. 324–5.

The *Stocktaking*, and German insistence on cuts to the CAP budget, offered another opportunity, but this too was lost. Might more have been achieved had Wilson not been so preoccupied with maintaining an independent British voice over energy policy at the Rome summit, and taken more ownership with Helmut Schmidt of the quest for CAP reform? Whatever metaphor one wishes to deploy – *a mouse emerging from a haystack, or negotiations running into the sand* – it is difficult to avoid the conclusion that there was little of significance to show for Britain's efforts.

The impact of global commodity prices on the Wilson government's attempted CAP reform, 1974–1975

by William A. Loux

Abstract

After winning the 1974 general election, the new Labour government under Harold Wilson embarked on the renegotiation of the United Kingdom's terms of membership in the European Community. Renegotiation partly centred on the Party's pre-election vow re-make the Common Agricultural Policy as a less budgetarily burdensome programme that would maintain low food prices for British consumers through greater openness with third countries. However, by the time the renegotiation concluded, little was accomplished. This essay will argue that the UK government failed to achieve any of its initial goals on reforming the CAP, because at the exact moment that the negotiators looked to remake the programme, global food prices temporarily spiked well above European prices. Believing higher world prices were only the 'foothills in the mountains ahead', the Labour government thereby concluded it would be more cost-effective – both for the Exchequer and the British consumer – to maintain the status quo rather than structurally reform the programme even as the opposite proved to be true.

In 1974, Harold Wilson's Labour Party returned to power with grand plans to remake the European Community (EC). Most prominently, Labour sought fundamental revisions in the financing and expenditure of the EC and its flagship programme, the Common Agricultural Policy (CAP), both of which – due to Britain's status as a 'latecomer' – had been instituted without regard to the United Kingdom's (UK) interests.

For Britain, arriving late to the EC meant that the CAP functioned in a fundamentally different way than it was accustomed and seemingly to its disadvantage. Through regular meetings of agricultural ministers in Brussels, the European Commission set intervention prices for key agricultural commodities. Essentially, the Commission would commit to buying excess product at the targeted price level, and thereby place an artificial floor on the market, which had the added effect of increasing costs to the consumer. To dispose of the excess production, the Commission then subsidized the exportation of the intervention stocks to developing nations at world market prices. This made for a tremendously expensive farm support system. To pay for and maintain the system, a common Community tariff higher than the intervention price protected European producers from external competition while also creating the primary source of revenue for the Community. Importers of agricultural products then bore the brunt of paying for the CAP while the major producers received the benefits.

The UK, on the other hand, operated in a consumer-centric manner prior to joining the CAP. Rather than force the consumer to pay higher prices for foodstuffs to support farm revenue, food prices were dictated by the global market as the UK imported foodstuffs came from around the world at the lowest price, though trade traditionally came from the Commonwealth nations that maintained preferential market access. Producers were supported by British taxpayers as the government paid direct subsidies to producers, or deficiency payments, which were calculated as the difference between world market prices and a higher target price necessary to support farm income. The deficiency payments ensured farmers were supported while still allowing the market to dictate the price to consumers.

Understandably, joining the CAP was then a rough transition for the UK. As 74 per cent of British agricultural imports came from outside the European Economic Community, the market and budgetary impact of moving into the EC was immediately evident.[1] Consumers had to pay higher prices for food, and the government had to pay a greater amount into the Community budget than most of the other member states. Although the UK government anticipated trade patterns would evolve to accommodate this new environment, the Cabinet estimated that Britain would contribute 24.5 per cent of the total budget by 1980, the second-highest behind West Germany. This was despite the UK having the second-lowest gross national product per capita, which fed into the perception that Britain paid more than its fair share.[2] Compounding this, with its relatively small and efficient farming sector, the UK also failed to reap the fiscal rewards of the Community, wherein agricultural support represented nearly 80 per cent of total costs.[3]

Therefore, one can clearly understand the desire of Wilson and the Labour Party to reform the CAP to lower consumer prices and reduce the drain on UK finances. When Wilson entered Number 10 in March 1974, his government immediately embarked on an effort to remedy the imbalance on both sides of the ledger through a reform of the CAP. As the Labour Manifesto declared, '[n]either the taxes that form the so-called "own resources" of the Communities, nor the purposes, mainly agricultural support, on which the funds are mainly to be spent, are acceptable'.[4]

However, despite the grand ambitions at the beginning of the Labour government's tenure, by the time the renegotiation concluded in 1975, seemingly little was achieved. The Commission conceded an allowance of guaranteed access to 140,000 tons of New Zealand butter to the British market until the end of 1980, and a separate agreement was reached on ensuring adequate supplies of sugar from the Commonwealth, but the structure of the CAP remained intact.[5] Price floors remained the primary method for supporting farm income, no mechanism existed for avoiding surpluses, and the high external tariff and levy system survived. A fundamental reform to these pillars, as promised in the party's Election Manifesto, never materialized.

Indeed, by the end of the decade, the problems Labour agonized over while campaigning in 1974 came to fruition despite the renegotiation.[6] Intervention and subsidy costs nearly

[1] Ministerial Committee on European Community Strategy, 'ECS(74)10: The Common Agricultural Policy' (22 Apr. 1974), TNA, CAB 134/3745, Annex II.

[2] Ibid.

[3] Edmund Neville-Rolfe, *The politics of agriculture in the European Community* (1984).

[4] Harold Wilson, 'Labour Party Election Manifesto: Let us work together – Labour's way out of the crisis' (Feb. 1974).

[5] The European Council, 'Community takes political decision in Dublin: agreed texts', European Community Background Note No. 9/1975 (11 Mar. 1975).

[6] Commission of the European Communities, *The*

quadrupled within six years, overwhelming the Community's budgetary correction mechanism, and surplus food production exploded. Even the European Commission warned that without fundamental reform, the situation would worsen, because it anticipated even greater 'butter mountains' and 'wine lakes'.[7] So why then did Labour, when it came to power with the explicit mandate to reform the CAP, struggle to make any structural changes to the agricultural regime during its renegotiation that could have averted the problems later in the decade?

Fundamentally, this article argues that the Wilson government failed to restructure the CAP or even institute safeguard mechanisms, like quotas or expenditure caps, on the programme during the 1974–75 renegotiation, because world prices for most agricultural commodities were higher than European levels from 1973 to 1975. Thus, an overhaul of the CAP appeared unnecessary or even counterproductive to the government's primary goals of keeping food prices low, avoiding expensive overproduction, and maintaining flexibility to support its domestic industries. At the exact moment of the renegotiation, moving outside of the CAP, or even staying as a member of a free-trading CAP, was deemed more expensive to the Exchequer and the consumer than to maintain the status quo. The primary decision-makers – Wilson, James Callaghan, the Secretary of State for Foreign and Commonwealth Affairs, and Fred Peart, the Minister of Agriculture – all agreed that minor revisions to the institution through normal Community business was the best way to achieve their political objectives.[8]

To demonstrate this argument's validity, this article will consider the international agricultural markets, outlining the unique price situation coinciding with renegotiation. This will make clear that Cabinet decision-makers and Ministry of Agriculture, Fisheries and Food (MAFF) officials, although ultimately incorrect, were rational at the time to believe the CAP would be more advantageous to British consumers and the budget than navigating the global market. This will be followed by an examination of the archival evidence primarily drawn from internal files to demonstrate that it was not only rational, but also that policymakers were indeed swayed by the price advantages of the CAP. From this conviction, the article will show how British negotiators downgraded their stance from a fundamental reform, as envisioned by the party's Manifesto, to minor revisions. To conclude, the article will draw out the importance of this episode in Anglo-European relations and the transferability of the lessons drawn to trade agreements generally.

The CAP was not the only area in which the Wilson government sought modifications to Britain's terms of entry. Greater flexibility in the conduct of national industrial policy and maintenance of parliamentary sovereignty were major negotiating objectives for many within the party, especially for the leading anti-marketeers in government: Tony Benn, Peter Shore, and Michael Foot. However, the CAP's predominance over the Community budget, the electoral importance placed on retail food prices, and relevance for Commonwealth relations made it the ideal cornerstone of renegotiation. As such, this article will focus primarily on the CAP renegotiation as it related to the budget and the food prices.

Note 6 *continued*
agricultural situation in the Communities: 1979 Report (8 Feb. 1980), COM(80)11.

[7] Ibid., pp. 92–105.

[8] Ministerial Committee on European Community Strategy, 'Minutes of a meeting held at 10 Downing Street on Thursday 25 April 1974 at 11:00 am' (25 Apr. 1974), TNA, CAB 134/3745.

I

While this is not the first look at European agricultural policy in the 1970s, the focus on Britain's renegotiation as it relates to the CAP is relatively untrodden ground. There is significant work on renegotiation broadly as well as the subsequent referendum campaign, especially in recent years with the opening of government archives and renewed interest following the buildup and aftermath of the second renegotiation and referendum campaigns in 2015 and 2016. However, focus on the CAP, potentially due to its technical nature or peripheral importance to the 2016 referendum, within the broader historical discipline is lacking. Alternatively, within histories of European agriculture, the 1974 renegotiation was frequently condensed to an unimportant footnote. Scholars focused on the periods of action, such as the founding of the system in the early 1960s or the reforms in the 1980s that reduced the butter mountains. In doing so, the 1970s received the short straw. 1970s agriculture is reduced to a period of crisis: soaring inflation, extravagant stockpiles of excess production, ballooning budgets, and an overall period of 'stagnation'. However, doing so overlooks the opportunities for reform as well as the programme's periods of relative success.

Within the historiography, there remain two general pitfalls into which scholars often fall, as it relates to agriculture and the British renegotiation. First is the danger of simplifying the renegotiation process to solely an exercise in domestic politics. This originated from a recognition of Harold Wilson's prioritization of party unity. Heavyweights like Roy Jenkins, Peter Shore and Tony Benn simultaneously pulled Wilson towards incompatible poles – towards Europe, out to sea, or inward to Britain's industrial heartland.[9] In the standard telling, rather than being pulled apart, Wilson held the party together through adopting 'no entry under Tory terms' and vowing to renegotiate the agreement. Doing so ensured the allegiance of anti-marketeers and kept those favourable to Europe satisfied it was not an open rejection of membership. Thus, to Wilson and Callaghan, the renegotiation and referendum kept the backbenchers in line while the result settled the debate.

Certainly, this narrative is broadly accurate. Maintaining party unity was fundamental to Wilson, and he was never an enthusiastic European.[10] However, the danger arises from ascribing solely domestic Machiavellianism to the renegotiation whereby the outcome was irrelevant to Wilson. To Sean Greenwood, 'renegotiation was a sham'.[11] Stephen George considered the affair little more than a 'tactical device'.[12] And, Dominic Sandbrook's famous volume on Britain in the 1970s declared the whole affair a 'sideshow' with the talks as 'nothing more than a gigantic public relations exercise designed to mollify the Labour left and prepare the ground for the referendum campaign'.[13]

Yet, it does not follow that initiating the renegotiation for party reasons meant that Wilson or Callaghan were not also firmly committed to revising the terms of membership. Archival

[9] Roger Broad, *Labour's European dilemmas* (2001), pp. 72–103.

[10] Ibid., p. 74.

[11] Sean Greenwood, *Britain and European cooperation since 1945* (1992), p. 100.

[12] Stephen George, *An awkward partner: Britain in the European Community* (1998), p. 77.

[13] Dominic Sandbrook, *Seasons in the sun: The battle for Britain, 1974–1979* (2013), pp. 315, 321.

evidence, as will be shown throughout this dissertation, clearly demonstrates that the key figures – Wilson, Callaghan, and Peart – genuinely sought changes to British membership. For instance, Callaghan declared in a private meeting of British ambassadors that their European partners 'must not be allowed to think that renegotiation was not a fundamental question'.[14] In response to rumours that Paris believed Labour 'could be bought off [their] objectives by a few months' grace on food prices', the Foreign Secretary adamantly declared that 'nobody must think that this would be enough'.[15] Renegotiation was not simply a show put on to quieten Tony Benn nor did the government pursue their objectives half-heartedly, but rather they fully intended to achieve a better deal for Britain.

The second trap into which historians can fall is over-emphasizing the power of other countries in blocking CAP reform. In this telling, Continental members, led by France, were entrenched in protection of their European project. Agriculture's perceived importance domestically in the post-war order, the enticement of continued common funding for net beneficiaries and general agreement that agriculture required special provisions to alleviate an income lag compared to their industrial counterparts pushed European powers towards the maintenance of the status quo. Compounding this, the specific structure of annual price reviews incentivized higher prices through haggling over individual commodities. Under this structure, each country sought to protect their at-risk farms, thereby pushing intervention prices – which set the market floor but raised costs to the programme through the purchasing and export subsidies required to maintain the price – higher to accommodate the least efficient farmer. This further exacerbated the CAP's budgetary problems and market distorting tendencies. Thus, when Britain sauntered into the Community vowing to remake the CAP in their image as a free-trading, deficiency-payment programme for the benefit of the consumer and the Exchequer's balance sheets, their European partners scoffed at the suggestion, which held few benefits for them. With a governance structure mandating unanimity, aspirations for overhauling the protectionist, price support-based welfare programme went nowhere.

Once again, essential elements of truth exist within this explanation. Certainly, France, Denmark, Ireland and others pursued policies to increase prices as well as protect the CAP from structural reform that would harm their farmers. However, the danger is to assume these incentives meant reform was impossible. For instance, Martin Smith authoritatively declared that Continental intransigence and Community structure 'made it impossible for British Ministers to reform CAP'.[16] Edmund Neville-Rolfe fell into this trap as well. While he considered the British renegotiation unserious from the outset, 'fundamental reform' would have faltered anyway because the 'aspects of the CAP of particular concern in the UK … have not aroused wide public interest elsewhere in the Community'.[17]

However, two problems arise in accepting this interpretation wholesale. First, even in the minds of contemporaries, the system was flexible to the interests of members. Throughout the negotiations, Britain repeatedly sought dispensation for special subsidies, price restrictions or avoiding green rate devaluation and routinely received it. The government did not find their

[14] 'Meeting of Ambassadors to EEC Countries' (20 Mar. 1974), TNA, PREM 16/72.

[15] Ibid.

[16] Martin Smith, *The politics of agricultural support in Britain* (1990), p. 174.

[17] Neville-Rolfe, *Politics of agriculture,* p. 318.

European partners unreasonable, but rather, as the Cabinet concluded upon completion of renegotiation, 'in real life, the Community is much more sensitive to the national interests of its members than it might seem to be from the outside'.[18] British agricultural negotiators were so successful that even Ministry of Trade officials hostile to the CAP and pessimistic about the prospects for change, admitted that Peart's deputy, 'Freddy Kearns, and his helpers have a close knowledge of the Community agricultural Mafia and have shown considerable ingenuity in dealing with them'.[19] Second, far from fundamentally reforming the CAP, Britain never sought to do so. As will be shown in this article, decision-makers believed early on that their goals could be achieved through the existing structure. Thus, to say that European intransigence doomed Britain's CAP reform in 1974–75 is disingenuous. While skepticism towards the potential for enacting structural change is warranted, leadership chose not to seek it.

This is not to say that all scholars have fallen into one or both of these traps. Indeed, Robert Saunders' recent examination of the 1975 referendum in *Yes to Europe* carried nuance with the political dimension to the European debate while simultaneously recognizing the change in the global food situation that pushed British voters into the Community.[20] However, his focus on the public's perceptions of food prices rather than decision-makers' makes his work tangential to determining why the Wilson government pursued the CAP deal it did in 1974–75. Still, few have examined contemporary food prices, and none have properly connected global agricultural markets to the renegotiation.

The article will emphasize some of the areas that have been neglected and seek to avoid the pitfalls of over-emphasis listed above by focusing on the government's view of the CAP reform process as it related to the government balance sheet, consumer prices, and Commonwealth interests, which were of primary concern to voters and the government in their reform efforts. Together, this will demonstrate that global economic factors convinced UK decision-makers its agricultural goals were better served within the CAP than on world markets, thereby pushing their proposals away from fundamental reform and toward minor revisions within the existing structure. Together, this will create a more holistic framework for studying Britain, Europe and the CAP.

II

When the UK initiated its renegotiation in 1974, the international agricultural market was in flux. The 1960s and early 1970s food situation had been relatively predictable. Due to economies of scale, export subsidies, and avoidance of price-based farm support, world commodity prices were consistently lower than the EEC's.[21]

Prior to joining European Community, the UK relied on cheap supplies from the Commonwealth: Canadian grain, Australian beef, New Zealand dairy, and Caribbean sugar

[18] Memorandum by the Secretary of State for Foreign and Commonwealth Affairs, 'EEC: Renegotiation Stocktaking' (14 Mar. 1975), TNA, CAB 129/182.

[19] Denman to Cubbon, 'Renegotiation' (June 18, 1974), TNA, PREM 16/74.

[20] Robert Saunders, *Yes to Europe: The 1975 Referendum and Seventies Britain* (2018).

[21] Vincente Pinilla and Raul Serrano, 'Agricultural and food trade in the European Union, 1961–2000', in Kiran Klaus Patel, *Fertile ground for Europe? The history of European integration and the Common Agricultural Policy since 1945* (2009), pp. 298–9.

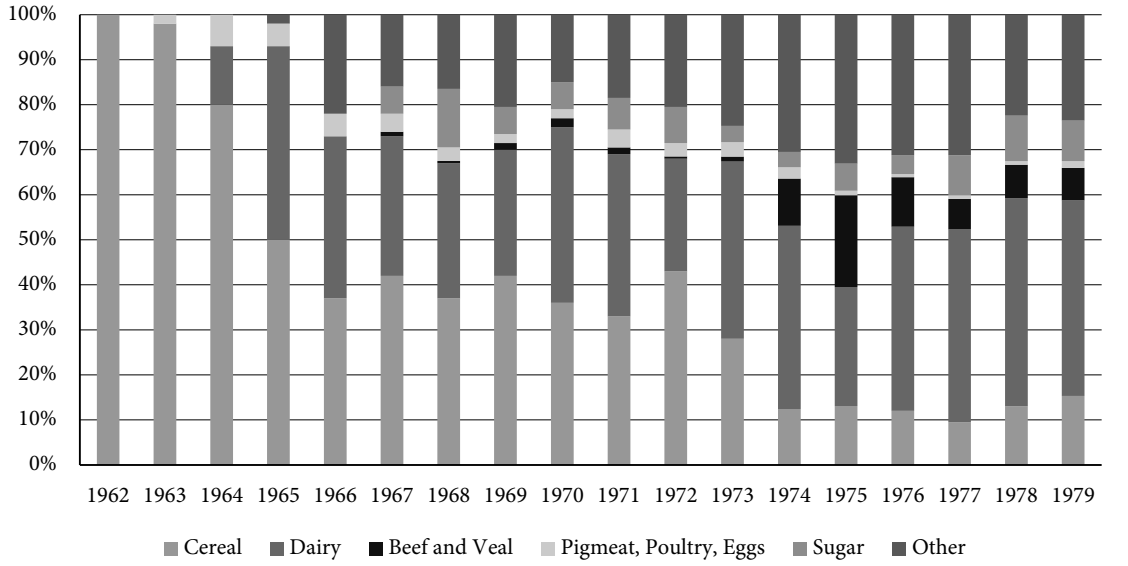


FIGURE 1. European Agricultural Guidance and Guarantee Fund (FEOGA) expenditure by commodity group

Source: Data from Edmund Neville-Rolfe, *The politics of agriculture in the European Community* (1984).

cane. These could also be supplemented with American imports to ensure their consumers received food at the lowest price.[22] While in practice this meant the burden for domestic farm support simply shifted to the taxpayer instead of the consumer, low food prices maintained a mythical status among British politicians, who felt any rise in costs jeopardized their electoral chances.[23] Thus, one of the biggest costs in joining the EC, both economically and electorally, was higher food prices for consumers. It therefore made perfect sense that Labour's Election Manifesto emphasized reorganizing the CAP to open access to third country imports and thereby reduce retail prices.[24]

However, because of poor cereal harvests in Kansas, an oil crisis sparking increased energy costs, a drought in the Soviet Union that prompted the USSR to buy an unprecedented 10 million tons of grain from the United States, and strong output from the Community, the expected relationship flipped on its head.[25] World prices suddenly spiked above European levels across nearly every CAP-regulated commodity, which had never happened prior to 1973. For brevity's sake, let us concentrate on the two most important examples: cereals and sugar.

Long after the contentious negotiations in 1964 over the grain price, cereals remained at the heart of the CAP. Firstly, cereals were traditionally the largest budget item in European Agricultural Guidance and Guarantee Fund (FEOGA) (see Figure 1), only ever challenged by

[22] ECS, 'Common Agricultural Policy' (22 Apr. 1974), Annex I, II.

[23] Saunders, *Yes to Europe,* p. 279.

[24] Wilson, 'Labour Party Election Manifesto'.

[25] Christian Gerlach, 'Fortress Europe: The EEC in the World Food Crisis, 1972–1975', in Kiran Klaus Patel, *Fertile ground for Europe? The history of European integration and the Common Agricultural Policy since 1945* (2009), p. 242.

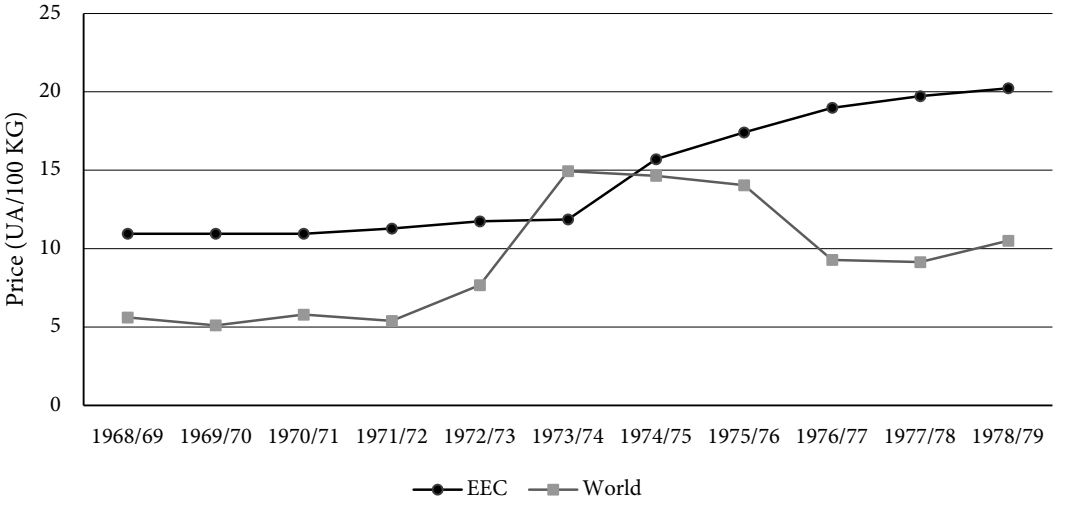


FIGURE 2. Soft wheat price comparison

Source: Data from European Commission. 'Agricultural Situation in the Community: 1974 Report' for data between 1968/69 and 1973/74 and 'Agricultural Situation in the Community: 1979 Report' for data between 1974/75 and 1978/79.

dairy. This reflects the industry's size, the wide variation of efficiency within the Community and that production outstripped consumption thereby necessitating export subsidies to dump surplus. Secondly, cereals were not just an important primary good to be used for consumer products, but also an intermediate good as feed for beef, pork, and dairy. Thus, when prices were high, grains had a double impact upon on the CAP – as a finished good and an input cost pushing up prices for other commodities. But when prices were low, this could be doubly beneficial. Such was the case in 1974.

As shown in Figures 2–4, the spike in world prices caused by the contraction in American wheat supply combined with drastically increased demand from the Soviet Union can be clearly identified during the 1973/74 and 1974/75 fiscal years. Across each of the cereals, world prices either exceeded or converged to European ones.

Although hindsight makes clear this phenomenon was an aberration, policymakers in Westminster, Brussels and other European capitals were working from data that ended with the 1973/74 fiscal year. Instead of the blip in Figures 2–4, agricultural economists saw something resembling an exponential function (Figure 5), causing many influential economists to believe higher world prices was the beginning of a new norm.[26] Using percentage differences between European and world prices to equalize prices across commodities, the graph demonstrates that extrapolation to a new market norm – one where world cereal prices exceeded, or at the very least were more closely aligned with, European ones – was a reasonable conclusion based on the data available.

[26] Simon Harris, 'The world commodity scene and the Common Agricultural Policy', *Centre for European Agricultural Studies* (1975), p. 27.

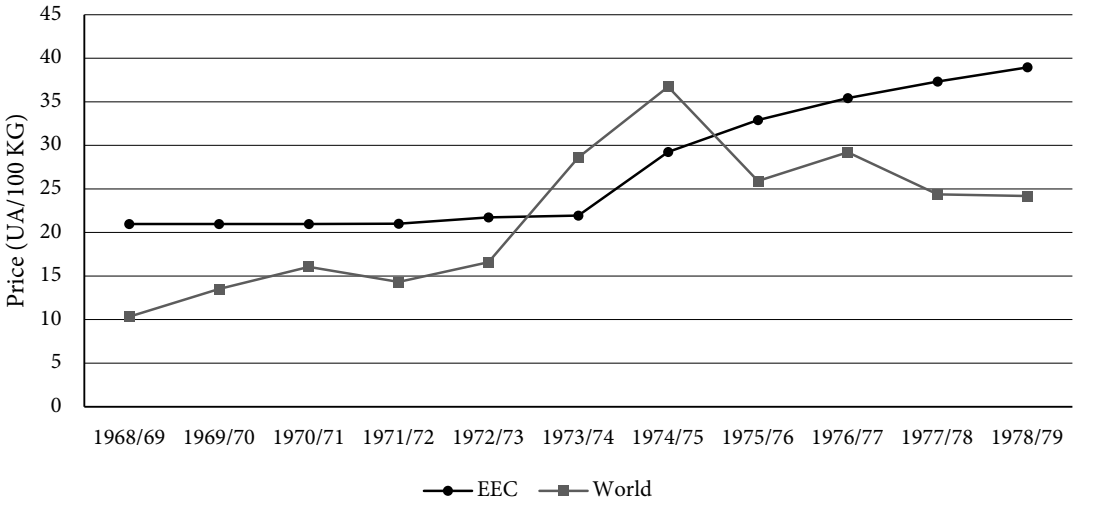


FIGURE 3. Oilseed price comparison

Source: Data from European Commission. 'Agricultural Situation in the Community: 1974 Report' for data between 1968/69 and 1973/74 and 'Agricultural Situation in the Community: 1979 Report' for data between 1974/75 and 1978/79.

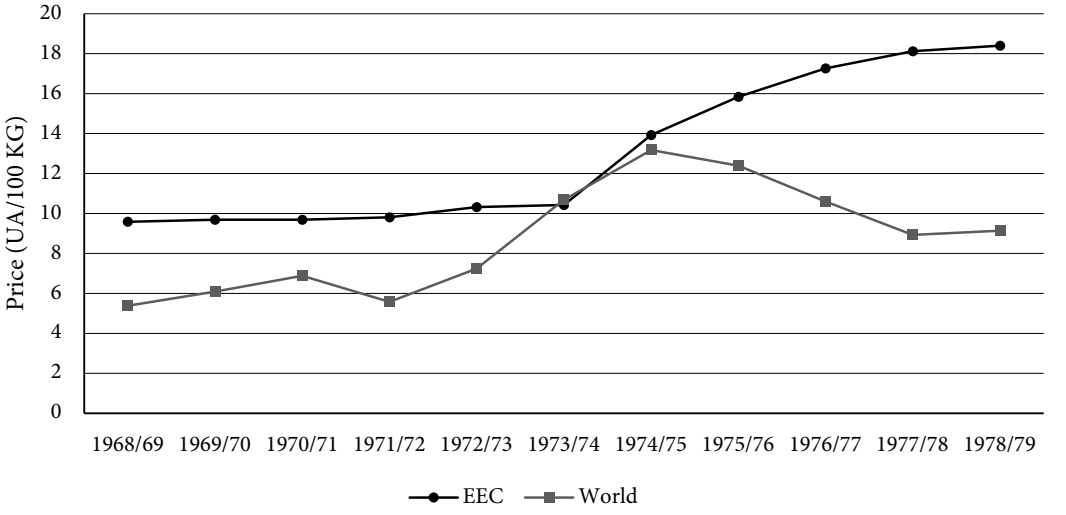


FIGURE 4. Maize price comparison

Source: Data from European Commission. 'Agricultural Situation in the Community: 1974 Report' for data between 1968/69 and 1973/74 and 'Agricultural Situation in the Community: 1979 Report' for data between 1974/75 and 1978/79.



FIGURE 5. Percentage difference between EEC and world cereal prices

Source: Data from European Commission, 'Agricultural Situation in the Community: 1974 Report'. Calculations by the author.

The second crucial commodity that impacted the perspective of British policymakers was sugar. While sugar could not compete with the size or ripple effects of cereal, it exemplified the potential economic security and price benefits of joining the EC. When Wilson returned to Downing Street in March 1974, the gulf between British sugar prices and global ones was unsustainable. Prior to accession, Britain received most of its sugar from international suppliers under the Commonwealth Sugar Agreement (CSA). In exchange for guaranteed purchases and access to the British market, Commonwealth producers agreed to fixed prices for their sugar cane exports.[27] In many cases, this meant British consumers bought sugar at below world market levels.

Yet, the system was under strain. First, with Britain's move towards Europe, the CSA would expire in February 1975. Thereafter, a quota would be established, capping the quantity of importable sugar from the Commonwealth at CSA's preferential prices. Second, in 1974, there was a worldwide sugar shortage due to a dramatic increase in demand out of Middle Eastern countries looking to re-invest greater than expected oil revenues in agricultural commodities, the Soviet drought impacting their sugar beet production, and sugar cane producers having held back growth for the past decade after a supply glut following the suspension of US sugar imports from Cuba in the 1960s. All of these factors resulted in drastically increased global prices in 1973/4.[28]

[27] 'International Sugar Agreement of 1958', CMND 1146 (1 Dec. 1958), Ch. I, Art. I.

[28] Isadore Barnum, 'Soaring sugar costs arouses consumers and U.S. inquiries', *New York Times* (15 Nov. 1974).

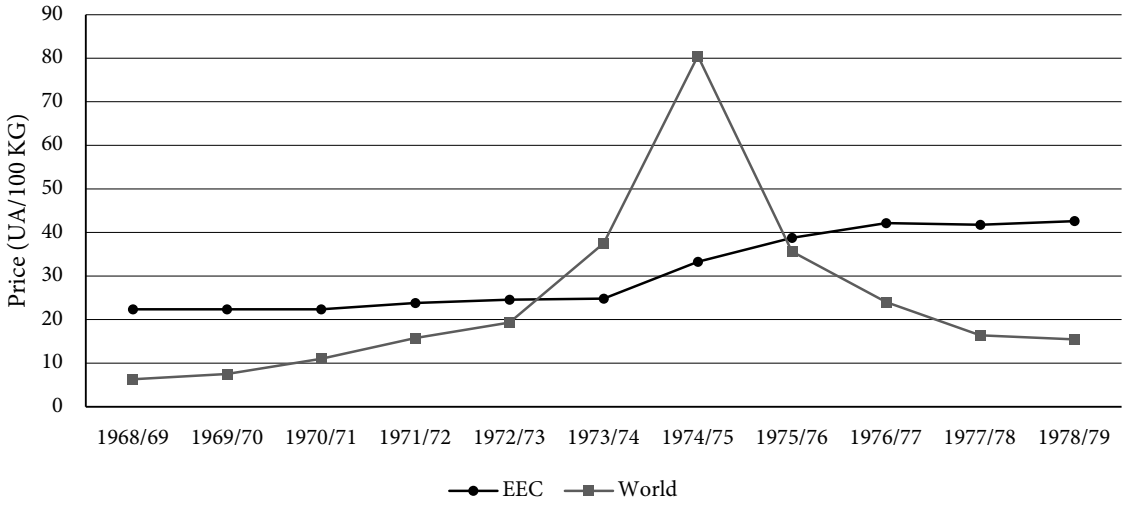


FIGURE 6. Sugar price comparison

Source: Data from European Commission. 'Agricultural Situation in the Community: 1974 Report' for data between 1968/69 and 1973/74, and 'Agricultural Situation in the Community: 1979 Report' for data between 1974/75 and 1978/79.

Under the CSA, Britain imported refined white sugar cane at an estimated £120/ton, but, with the shortage, the market price was nearly double that at £220/ton.[29] While this was immensely favourable to the UK in the short-term, Commonwealth producers could not deliver sufficient supplies to fulfil demand. More importantly, the Commonwealth producers felt no compulsion to reach a new deal with Britain guaranteeing supplies at below market prices when selling their sugar on the world market would be far more lucrative. British attempts were repeatedly rebuffed without higher prices, wherein Peart attributed their recalcitrance to 'very high prices currently obtainable on the world market and their expectation that high world prices will continue'.[30]

Simultaneously, European sugar beet markets offered a better deal for Britain than world prices. The EC set an intervention price at £111/ton.[31] So long as global prices were higher than the EC intervention price, European sugar would be much cheaper than what Britain could expect on the open market. Figure 6 demonstrates this divergence clearly. Although, similarly to cereals, the spike in world prices was only temporary, this was not clear to policymakers, and in the short-term at least, compared to the Commonwealth sugar cane, European sugar beets offered better prices and a secure supply.

Through an examination of the cereals and sugar market situations, one should recognize that British policymakers entered the renegotiation of the CAP in an uncertain agricultural

[29] Ministerial Committee on European Community Strategy, 'Agricultural Council Meeting of 21/22 March 1974: Memorandum by the Minister of Agriculture, Fisheries and Food' (Mar. 1974), TNA, CAB 134/3745.

[30] Ministerial Committee on European Questions, 'Renegotiation Objectives: Imported Commonwealth Sugar: Memorandum by the Minister of Agriculture, Fisheries and Food' (2 June 1974), TNA, CAB 134/3752.

[31] ECS, 'Agricultural Council Meeting of 21/22 March 1974'.

market. The phenomenon of global supply shortages and correspondingly high world prices existed across commodities, not just cereals and sugar. Thus, forced to extrapolate from global supply shortages, the data demonstrates that MAFF officials and Cabinet members were reasonable to be skeptical that a free-trading CAP or purchasing from the open market would lead to lower prices for consumers.

As one caveat, butter persisted as the exception to the trend. However, British policymakers did not view it as a dangerous outlier. Firstly, skimmed milk powder (SMP) prices in Europe and world markets remained closely aligned, making it seem as though the Commission's large butter stockpiles and dumping on the global market was the cause of the price disparity, not disequilibrium in the dairy market as a whole.[32] Secondly, although Community butter prices remained above world levels, US prices were greater than Britain's. This incentivized New Zealand to shift its exports to the more profitable American market and remain hesitant towards guaranteeing supply to Britain at the low prices the London consumer previously enjoyed. The importance of this will be discussed later when addressing why Britain placed such a premium on guaranteeing New Zealand butter access in the renegotiation. However, again the point must be made that UK policymakers were rational to believe Europe offered secure supplies and potentially lower prices than Britain could expect on the global market. Therefore, it appeared advantageous to accept the status quo with minor revisions rather than pursue a fundamental reform of the CAP during the 1974–75 renegotiation.

III

With international market data making clear that such a position was reasonable, archival evidence verifies that MAFF officials and decision-makers within the Cabinet – namely Wilson, Callaghan and Peart – believed a new global situation was at hand, which pushed the government to downgrade its negotiation objectives. To demonstrate this systematically, the section breaks down Britain's renegotiation into three phases: preparing the groundwork from March to June 1974; negotiations under normal business from June 1974 to March 1975; and the negotiation's conclusion in Dublin and its ripple effects from March 1975 onwards. The breakdown reflects the government's different aims for each phase. From March to June 1974, the Wilson's Cabinet determined its desired outcomes and strategy for the renegotiation. From June 1974 through March of the following year, led by Callaghan and Peart, the British actively engaged with the Community in pursuit of its agricultural objectives. Finally, with the conclusion of Dublin Council, renegotiation formally ended, and the Wilson government transitioned to selling its achievements. In each phase, the global price situation convinced Britain to downgrade its objectives from fundamental restructuring to minor reform of the CAP.

[32] Under the CAP, dairy price setting used 'milk equivalents' in butter and SMP, as SMP is the natural by-product of butter production and both are shelf-stable products enabling intervention storage and export. So, in 1974, when the Commission held large butter stockpiles but relatively small SMP stocks, it meant that the combined milk equivalent price remained relatively manageable and therefore the perception that the producer price was 'under control'.

Almost immediately, negotiations with Europe took centre-stage for the newly formed Labour government. Wilson's Cabinet had less than three weeks to determine their strategy before the first Agricultural Council of Ministers meeting, which set prices for the 1974/75 fiscal year. Compounding this time constraint, Callaghan was scheduled to lay out British objectives at the first Council of Foreign Ministers on 1 April. Questions on whether to participate in these meetings, what to seek and whether to move towards tariff equalization, as mandated in the Accession Treaty, needed to be decided swiftly.[33]

To structure decision-making, Wilson made clear that Callaghan as the Foreign and Commonwealth Secretary 'was to be in charge of 'all negotiations' relating to the European Community'.[34] However, to corral the divided Cabinet, with its pro-, anti-, and pragmatic marketeer factions, Wilson set up two Cabinet working groups: the Committee on European Community Strategy (ECS) and the Committee on European Questions (EQ). Wilson chaired the ECS, which dealt with high level strategy, while Callaghan chaired the EQ, which focused on technical issues and negotiating tactics. Throughout the renegotiation, these committees remained the primary means of deciding policy towards the European Community and therefore provide the historian the clearest insight into British positions.

For the first test, the 21–22 March Agricultural Council meeting, British policy centred on delaying any major negotiations until the Cabinet agreed to a firm strategy. As the ECS agreed, refusal to co-operate in price negotiations or abide by the Accession Treaty 'would risk a premature confrontation and would deprive us of the ability to influence the general level of CAP prices'.[35] Thus, instead of a confrontation, Callaghan and Peart permitted increases in Community intervention prices in direct contradiction to the Manifesto, because global market conditions insulated the consumer from feeling the effects.[36] Although this was only intended as a stopgap while Britain sought its 'fundamental renegotiation', it set the precedent that the outcomes for the consumer mattered more than literally applying the Manifesto.[37]

Once the agricultural council ended, the British immediately moved onto strategizing more broadly, climaxing with an ECS meeting on 25 April. In preparation, Wilson charged relevant ministers with developing briefing papers outlining potential renegotiation objectives in their disciplines to be decided at the meeting.[38] Peart, naturally, was tasked with the internal structure of the CAP, Shore was assigned Commonwealth trading privileges and the Community's tariff policy, while the Chancellor of the Exchequer, Denis Healey, dealt with matters involving the budget. Although Wilson and the attending ministers recognized circumstances would evolve, the 25 April meeting set concrete objectives for the renegotiation.[39]

[33] Ministerial Committee on European Community Strategy, 'The government's approach to the Agriculture Council on 1974/75 prices' (12 Mar. 1974), TNA, CAB 134/3745.

[34] 'European Community: Current Policy Approach' (11 Mar. 1974), TNA, PREM 16/72.

[35] Ministerial Committee on European Community Strategy, 'Minutes of a meeting held at 10 Downing Street on Wednesday 13 March 1974' (13 Mar. 1974), TNA, CAB 134/3745.

[36] ECS, 'The government's approach to the Agriculture Council on 1974/75 prices'.

[37] Ibid.

[38] Ministerial Committee on European Community Strategy, 'Agenda: Meeting to be held at 10 Downing Street on Thursday 25 April 1974 at 11.00am' (Apr. 1974), TNA, PREM 16/73.

[39] James Callaghan to Harold Wilson, 'Renegotiation: Next Stage' (24 Apr. 1974), TNA, PREM 16/73.

Records from this meeting make explicit the global price situation's impact on British negotiators. Both Peart's policy memorandum and the meeting's discussion clearly identified that Britain benefited from membership in the Community when world prices exceeded CAP prices.[40] As the report reminded the ministers:

> for most major commodities covered by the CAP the world price is higher, in some cases far higher than the full Community price, let alone the lower transitional prices applicable to the UK. It follows, therefore, that for the time being the UK could not buy cereals, sugar and some dairy products from third countries except at prices higher than we are paying as members of the Community.[41]

Thus, as the committee accepted, 'the future movement of world prices is crucial to decisions about the most effective negotiating position'.[42] Perhaps most enlightening, Wilson's briefing notes declared, 'the long-term relationship between world and CAP prices is the key factor in determining the cost of the CAP to the United Kingdom both in budgetary and resource-use terms'.[43] Wilson clearly agreed as he echoed this sentiment during the meeting.[44] Fundamentally, the Cabinet recognized that with high world food prices, the CAP was beneficial to the British consumer, and change was no longer urgent.[45]

However, Peart, Wilson and others in the committee acknowledged predicting commodity markets was an imprecise science. Peart recognized 'production and prices fluctuate considerably according to harvest conditions and many other unpredictable factors'.[46] Wilson went into the meeting with the understanding 'there can be no reliable assessment beyond the next year or so'.[47] Yet despite acceptance they could not predict the market, the 1973/74 price fluctuation sufficiently convinced the committee a new era had begun.[48] To Downing Street, the economic situation proved it was 'no longer safe to rely on the availability on world markets of cheap food as a basis for agricultural policy'.[49] To Peart, it was 'legitimate and sensible to consider how far there may have been a permanent shift'.[50] Indeed, extrapolating from recent market trends, he concluded 'it is only realistic to conclude that EEC and world prices are likely to be much closer together for the foreseeable future'.[51] Thus, to Labour leaders, rather than the primary agricultural question being how could Britain ensure access to cheap food from global suppliers – as it was before the international price jump – Wilson and others asked, 'would our prospects of protecting our consumer and promoting the well-being of our own agriculture be as good outside as inside the Community?'[52]

Clearly, policymakers recognized that the global market situation would play a major role

[40] ECS, 'Common Agricultural Policy' (22 Apr. 1974).

[41] Ibid., p. 2.

[42] Ibid., p. 3.

[43] 'Renegotiation Objectives: The Common Agricultural Policy' (24 Apr. 1974), TNA, PREM 16/80.

[44] ECS, '10 Downing Street Meeting Minutes on Thursday 25 April 1974'.

[45] Ibid.

[46] ECS, 'Common Agricultural Policy' (22 Apr. 1974), p. 3.

[47] 'Renegotiation Objectives: CAP'.

[48] ECS, '10 Downing Street Meeting Minutes on Thursday 25 April 1974'.

[49] 'Renegotiation Objectives: CAP'.

[50] ECS, 'Common Agricultural Policy' (22 Apr. 1974), pp. 3–4.

[51] Ibid., pp. 3–4.

[52] Con O'Neill, *Britain's entry into the European Community* (2000), pp. 58–9. 'Renegotiation Objectives: CAP'.

in determining whether the CAP was advantageous for Britain or not, but how did this practically change the renegotiation? First, the committee agreed 'the balance of advantage for the consumer … appeared to lie in our remaining within the CAP but to seek realistic changes and where possible to press for better arrangements for third country supplies – provided these were likely to be available at advantageous prices'.[53] Although the downgrade in terminology from 'fundamental' to 'realistic' changes in less than a month reflects the reality that the Manifesto was primarily a political document, the diminution also demonstrates that relevant policymakers believed a leaner CAP with minor revisions would be sufficient to achieve cheap food for consumers in light of world price trends. Second, in his summation of the meeting's outcome, Wilson declared that in recognition of 'apparent secular change in price relativities … our approach should be to negotiate changes from within the CAP'.[54] 'From within the CAP' represented a major downgrade from pre-election promises.[55] Britain would neither hold the CAP hostage through an 'empty chair' nor seek an opt-out on agricultural goods, but instead sought incremental changes during normal business. Although still relatively ill defined by 25 April, the objectives became securing sugar supplies and market access for New Zealand dairy, greater national flexibility, inflation restraints, and expenditure reduction. Importantly, none of these challenged the structure of the system.

Once the government moved from strategizing to implementation, Britain was no longer the only player. This article does not delve into the positions or motivations of the various European actors, because it instead seeks to understand the renegotiation from the Labour government's perspective. However, one should note the UK tapped into a preexisting perception regarding the reversal of world and CAP price levels and potential benefits for consumers. For instance, the Commission's bulletin, 'European Community', featured its argument in favour of the CAP for Britain. Fundamentally, it asserted the 1973/74 global price spike was a harbinger of a future norm, declaring authoritatively that 'world prices will never again drop much below the support levels set by the CAP'.[56] Instead, with the change in supply and demand situation, the EC will be 'in a strong position to protect its consumers'.[57] Essentially, with the rise in world prices 'only the foothills of the mountains ahead', British consumers were better served in the CAP than on the free market.[58] Indeed, these sentiments were echoed in other widely read publications, such as the Overseas Development Institute's impact analysis of CAP entry, *Farmers and foreigners*, the European Commission's '1974 Report on agriculture in the European Community', or agricultural economist, Simon Harris's article on the world commodity scene and the CAP.[59] All agreed the jump in world prices reflected 'the rule rather than the exception'.[60]

[53] ECS, '10 Downing Street Meeting Minutes on Thursday 25 April 1974', p. 9.

[54] Ibid., p. 11.

[55] 'Statement by James Callaghan' (1 Apr. 1974), European Commission.

[56] Michael Berendt, 'The CAP is beginning to fit', *European Community* (n.d., *c.* Apr. 1974), copy in TNA, PREM 16/80.

[57] Ibid.

[58] Ibid.

[59] Overseas Development Institute, *Farmers and foreigners: Impact of the Common Agricultural Policy on the Associates and Associables* (1973). Commission of the European Communities, *The agricultural situation in the Community: 1974 report* (1974). Harris, 'The world commodity scene'.

[60] Ibid., p. 21.

Admittedly, the journals and reports are far from comprehensive in explaining CAP defenders' motivations. However, they do demonstrate that the economic situation led to widespread optimism towards the CAP on both sides of the Channel in 1974. With faith that the global price situation rendered participation in the Common Market advantageous to the British consumer, the Labour government downgraded its demands in two areas. First, in international trade where UK reduced its goals from open trade and low tariffs to instead market access for two commodities: sugar and dairy. And second, in the internal structure of the CAP, where national flexibility downgraded to a modified beef regime, while previously sought after reforms like institutionalized price constraints and expenditure restrictions were abandoned.

Turning first to opening the CAP to free trade, Peart and Wilson never pursued a general reduction in external tariffs – as called for in the Manifesto – as doing so would increase costs for the consumer, but instead sought sugar and dairy access due to market peculiarities. First, in sugar, as shown in the previous section, Britain wanted supplies at reasonable prices amidst world shortage. With higher global market prices, efforts to lower general trade barriers, as outlined in the party manifesto, would have raised prices for British refiners and consumers. Instead, guaranteed access through bilateral agreements became the objective. Positively for Britain, in November 1974, the Community agreed to accept continuing access for 1.4 million tons of Commonwealth sugar cane imports with a price floor of £140/ton.[61] This allowed the UK to import sugar at the Community's internal price level and should rightly be viewed as a negotiating success.

However, due to the market situation, Commonwealth suppliers, especially sugar cane producers in the Caribbean and West Indies, were reasonably hesitant to supply Britain without a significant increase in price.[62] Although Australia was initially open to continuing to sell at below-market levels, the quantities offered were insufficient and would only do so in a long-term arrangement.[63] By January 1975, producers raised their demands to £290/ton, and Australia took its offer off the table in favour of more lucrative markets.[64] Thus, while winning access for imports at £140/ton was a substantial victory, it meant little if no one would sell at that price. So, the government's problem of securing supplies at reasonable prices remained.

To resolve this, European sugar beet became an attractive alternative. Firstly, the Commission offered to subsidize Community imports to the UK market up to 170,000 tons.[65] Although the quantity was less than required to satisfy demand, it offered supplies at a much cheaper price. Secondly, Britain achieved a greater share of Community production, increasing from 900,000 tons to 1.5 million.[66] Britain saw EC participation would ensure better prices than maintaining its purchasing relationships with the Commonwealth would. Although the Labour government eventually agreed to pay Commonwealth producers £260/ton to cover the

[61] P. D. Nairne to Harold Wilson, 'Cabinet: Foreign Affairs – sugar and beef' (3 Nov. 1974), TNA, PREM 16/82.

[62] EQ, 'Renegotiation objectives: sugar'.

[63] Ibid., p. 3.

[64] Ministerial Committee on European Questions, 'Minutes of a meeting held in the Large Ministerial Conference Room, House of Commons on Wednesday 15 January 1975 at 3.00pm' (15 Jan. 1975), TNA, CAB 134/3899.

[65] Commission of the European Communities, 'Information memo: European Council in Dublin' (Mar. 1975), p. 4.

[66] Ibid., p. 4.

shortfall not supplied by the Community, it did not specify a quantity.[67] Instead, the UK would purchase from Europe first, and the Commonwealth second. This was a fundamental shift in British sugar trade, and once again reiterates how the international price situation altered the government's renegotiation from challenging to embracing the CAP.

In dairy, the situation was reversed. As referenced in the previous section, Britain relied on imports to satisfy domestic demand for milk products.[68] However, rather than global prices exceeding European ones, the opposite was true in butter, which was the primary dairy product for stockpiling, export and import.[69] Therefore, rather than fight to revolutionize the CAP into an open market for all commodities, Wilson's renegotiation centred on butter – the single commodity where imports were advantageous to the consumer.

Under the transitional arrangements, Britain could import depreciating quantities of butter and cheese duty-free from its traditional supplier, New Zealand, until the end of 1977.[70] For both the UK and New Zealand, this agreement was insufficient. Wilson wanted long-term assurances of cheap supplies, while New Zealand sought to maintain its market share but at higher prices than previously agreed – 'partly owing to drought and partly to the opening up of a higher priced American quota'.[71] Thus, achieving an extension of the special commodity arrangement became a cornerstone of the renegotiation, because it would satisfy the British consumer and appeal to pro-Commonwealth sentiment.

However, the Community was much less obliging towards butter imports than sugar. First, dairy was a privileged sector for Denmark, France and the Netherlands, where milk producers were politically stronger than beet growers.[72] Second, whereas imports of sugar and other commodities did not endanger European farmers because Europe was more competitive in 1974, European butter prices were significantly higher than world levels.[73] Thus, dairy-producing members were understandably worried that New Zealand imports would displace Community production. Additionally, because of historic ties to New Zealand, which made their demands of greater relevance to the British voter, Wilson's government held firm on New Zealand access that did not extend to other renegotiation issues.[74] This ensured the issue dragged on until the finale at the Dublin Summit in March 1975, when the Community agreed to accept UK demands for 140,000 tons of butter access through 1980.[75] Although this achievement is generally mocked in popular discussions of the renegotiation, dairy access was viewed as a significant achievement. It was prioritized over attempting a general trade reform, because dairy was the only sector where third-country imports were cheaper to the British consumer than Community supplies.

[67] Ministerial Committee on European Questions, 'Imports of ACP sugar' (17 June 1975), TNA, CAB 134/3899.

[68] European Commission, *The agricultural situation in the Community: 1974 report*.

[69] Ibid.

[70] ECS, 'Common Agricultural Policy' (22 Apr. 1974), p. 13.

[71] Ibid., p. 13.

[72] Neville-Rolfe, *Politics of agriculture*.

[73] Ministerial Committee on European Community Strategy, 'New Zealand: Access for dairy products and lamb' (3 Feb. 1975), TNA, CAB 134/3896.

[74] Ministerial Committee on European Community Strategy, 'Minutes of a meeting held at 10 Downing Street on Wednesday 5 February 1975 at 5.00pm' (5 Feb. 1975), TNA, CAB 134/3896, pp. 2–3.

[75] 'Session of the European Council: Dublin 10 and 11 March 1975', *Bulletin of the European Communities* 3 (1975), pp. 61–2.

Simply, to Wilson, Callaghan and Peart, the desire to remake the CAP as a free-trading programme was outdated thanks to European prices being lower than world markets for all non-dairy commodities. Instead, they prioritized bilateral exemptions to ensure adequate sugar supply and guarantee the cheapest butter price. This represented a significant downgrade from the Manifesto. When critics in the ECS raised concerns that these arrangements 'would not meet the terms of the Labour Party's February Manifesto, which called for major changes in the Common Agricultural Policy so that it ceased to be a threat to world trade and food products', the committee responded that the Manifesto's objectives 'had been formulated in 1971 and 1972 against the background of the world food surpluses of the 1960s; it was questionable whether they were appropriate to the situation of the second half of the 1970s'.[76] In the mind of the committee, Europe offered secure supplies at low prices and requesting special sugar and dairy exemptions cost much less political capital. So, one should not be surprised that Labour leaders decided not to revamp the CAP's trading system.

Yet, trading relationships were not the only area where Britain downgraded its objectives on account of the global price situation. This also occurred in the internal reform of the CAP. The Labour Manifesto refrained from detailing specific internal changes to enact, but the ECS rallied around three desired outcomes for Peart to accomplish: greater national flexibility, minimization of price inflation, and general expense reduction.[77] However, as will be shown below, while Peart succeeded in the short term, none of his achievements changed system practically or permanently.

In pursuit of greater national flexibility, the minister of agriculture won two key victories, though neither were transformative. First, Peart received special dispensation to introduce consumer subsidies for several commodities on a temporary basis.[78] Second, he created a separate beef regime closer to a deficiency payment system partially financed by the Community that other member states could adopt.[79] Rather than maintain a price floor like the CAP's system of intervention purchases and export subsidies, the deficiency payments for beef allowed the market to dictate the price to consumers while producers received a direct subsidy for the difference between a set target price above the cost of production and the lower market-determined price. It operated in a similar manner to the standard agricultural support system of the UK prior to joining the European Community, which allowed UK consumers to enjoy low food prices and UK producers to be supported. However, the programme was not adopted wholesale by the Community, but instead member states could choose to introduce it.

British leaders thought the achievement in beef 'would demonstrate our ability to modify the CAP on the lines we require and will set a major precedent for introducing greater flexibility in future years'.[80] Indeed, as Peart told the House of Commons, '[w]hat we have achieved is not

[76] ECS, '10 Downing Street Meeting Minutes on Wednesday 5 February 1975', p. 4.

[77] ECS, '10 Downing Street Meeting Minutes on Thursday 25 April 1974', p. 9.

[78] 'Press Conference Statement by the Minister' (20 Sept. 1974), TNA, PREM 16/81.

[79] Chairman of the European Unit, 'Renegotiation: Second Tactical Plan' (31 Jan. 1975), TNA, PREM 16/408, p. 7.

[80] Ibid., p. 7.

just a temporary derogation for the UK. It is a very real innovation which is open to all member states'.[81] Peart, Wilson and Callaghan believed once their European partners were exposed to this system in beef, they would readily introduce it to other commodities.[82] However, the programme only lasted one year, and no other countries adopted it aside from the UK.[83]

Their strategy to restrict price inflation was less nuanced. Peart simply sought to minimize intervention price increases during the annual negotiations rather than try to institute a market-based formula or an alternative method for determining prices.[84] Callaghan lauded 'the Ministry of Agriculture [which had] succeeded in keeping price increases below cost increases, thus reinforcing the downward trend of CAP prices in real terms'.[85] However, this strategy relied on continuous diplomacy rather than structural limitations or impartial formulae. Additionally, in the three settlements during renegotiation, the rate of price inflation accelerated, despite European commodities remaining below world prices.[86] Thus, at the time, pro-marketeers could consider it a success, but there was no indication such a strategy was sustainable.[87]

Finally, to achieve an overall reduction in expenditure, Peart and the members of the Cabinet latched onto 'general stocktaking' of the CAP. Introduced by West Germany, the stocktaking assigned the Commission to publish a report and a special council of ministers to convene to review whether the CAP worked as intended and identify where reforms were necessary.[88] Through the review, Britain would have an arena in which to push for expenditure caps or an automatic reduction in intervention prices if surpluses arose. Policymakers optimistically believed there was 'reasonable hope that, through CAP stocktaking, we shall achieve satisfactory results on criteria for establishing Community prices and on more flexible support arrangements'.[89] Indeed, Wilson rebutted criticism that the package did nothing to change in the CAP's internal workings by declaring renegotiation an ongoing process: 'we have got some changes. We shall want more'.[90] And yet, the stocktaking exercise was neither binding nor were other members enthusiastic.[91]

As shown, the achievements in internal structural reform were meager. In their defence, the odds were clearly stacked against the UK. Allowing members to have differential prices or enact separate subsidies, either for consumers or producers, undermined both the 'common price' and the 'common financing' pillars of the CAP that made the programme work.[92] Indeed, achieving expenditure reduction or instituting inflation restrictions were equally fraught. Entrenched farm interests and benefiting members defended the status quo. The annual price review system incentivized each country to fight for increased prices for their favoured

[81] Ministry of Agriculture, Fisheries and Food, 'Membership of the EEC Debate' (8 Apr. 1975), TNA PREM 16/412.

[82] Ibid.

[83] 'European Community Renegotiation: Stocktaking and Decision' (14 Mar. 1975), TNA, PREM 16/410.

[84] 'Council of Ministers (Agriculture) 17–20 September 1974: Press Conference Statement by the Minister' (20 Sept. 1974), TNA, PREM 16/81.

[85] Cabinet, 'EEC: Renegotiation Stocktaking' (14 Mar. 1975), TNA, CAB 129/182.

[86] Neville-Rolfe, *Politics of Agriculture,* p. 267.

[87] Cabinet, 'EEC: Renegotiation Stocktaking'.

[88] PD Nairne to Harold Wilson, 'Renegotiation check-list' (11 Nov. 1974), TNA, PREM 16–76, p. 5. Neville-Rolfe, *Politics of agriculture,* p. 343.

[89] Ibid., p.5.

[90] 'European Community Renegotiation Stocktaking'.

[91] Michael Palliser, 'Stocktaking of the CAP' (4 Mar. 1975), Telegram, TNA, PREM 16/412.

[92] Neville-Rolfe, *Politics of agriculture*.

commodity. Recognizing this, the Cabinet's decision to hold out hope for the stocktaking exercise, unrestricted by the renegotiation timeline, becomes far more understandable.[93] However, it remains equally clear that Wilson, Callaghan and Peart did not attempt to enact major internal CAP reform during the renegotiation.

Yet, the Labour government possessed the luxury of delaying internal reform efforts precisely because of the world price situation. Firstly, the UK could allow intervention prices to climb without it directly impacting consumer prices.[94] The price relationship even made it preferable in some cases to accelerate tariff harmonization so Britain could purchase cheaper food from the Common Market's internal prices.[95] Secondly, with intervention prices low relative to internal market conditions, direct expenses were minimized. Thirdly, with global prices higher than intervention rates, the European Community was not paying an added export subsidy to dump excess production on the world market at competitive prices. Looking at the total FEOGA expenditure trend (Figure 7), the renegotiation clearly benefited from a temporary respite in rising costs. Rather than an expected jump in expenditure after expansion to nine members in 1973, it fell and remained below the clear trend-line throughout the renegotiation.

As should be evident from the negotiations, regarding both the CAP's external and internal structure, Labour significantly downgraded its renegotiation demands from those outlined in the Manifesto. Instead, the government sought minor revisions and refrained from pursuing structural changes. The global price situation both enabled this and introduced incentives to maintain the status quo. As the prime minister noted to his advisors, 'the Manifesto demands are a little out-dated, because of world shortages for, e.g., New Zealand products, and that since prices are higher abroad than in the EEC (which may be only temporary) there is less need for, or even practical hope of realizing objectives which were related to longer-term, hopefully more normal situations'.[96] Although Wilson presciently foresaw a return to the pre-1973 market situation, global prices at least partially dictated his government's behaviour.

Upon conclusion of the renegotiation at the Dublin Council, Wilson, Callaghan and Peart transitioned to selling their achievements both to the party and the public. As such, the global price situation became one of the government's primary arguments for defending their agricultural package – or to their detractors, the lack thereof – although ex post facto justifications for why the government did not accomplish its Manifesto goals do not carry the same argumentative weight as internal debate prior to or concurrent with negotiations. However, even a brief examination demonstrates the consistency of thought throughout the renegotiation that is useful to understand why Labour maintained the status quo.

For example, in the first step after Dublin, the Cabinet convened to assess the final renegotiation package. In preparation, Wilson prepared a list of defensive points to rebut expected criticism, especially from Shore.[97] In it, the global price relationship was the determining factor

[93] 'Renegotiation: Second Tactical Plan', Note by the Chairman of the European Unit (4 Feb. 1975), TNA, PREM 16/408.

[94] Ministerial Committee on European Questions, 'Council of Ministers' (Agriculture) Meeting on 17/19 September' (9 Sept. 1974), TNA, CAB 134/3752.

[95] Fred Peart to James Callaghan, 'Council of Ministers (Agriculture): 9–10 December' (4 Dec. 1974), TNA, PREM 16/82.

[96] P. D. Nairne to Lord Bridges, 'Renegotiation checklist' (11 Nov. 1974), TNA, PREM 16–76.

[97] 'European Community Renegotiation Stocktaking'.

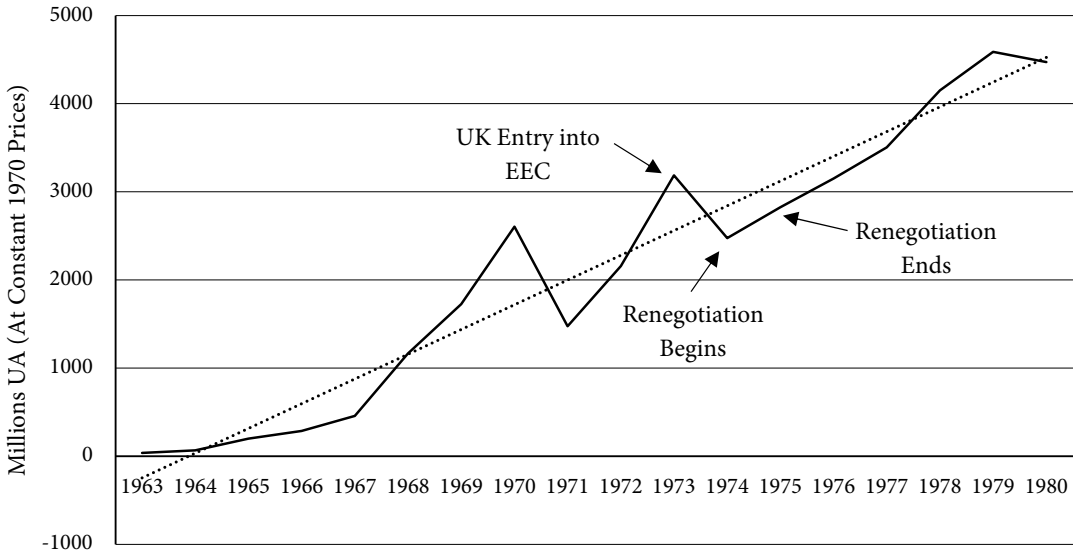


FIGURE 7. FEOGA guarantee expenditure

Source: As for Figure 1.

in declaring the CAP renegotiation a success, because it solved 'one of our main concerns that the CAP should not impose high prices on the consumer or be a threat to world trade'.[98] And while 'the CAP is not perfect by any means … it can provide an assured supply of essential foods at prices which are relatively stable and are falling in real terms. Compared with the violent fluctuations of the world market and the risks of future world shortages, that is an advantage'.[99] Indeed, this line of argument continued in the government's white paper – which declared the world food situation 'of critical importance when considering the CAP' and affirmed that membership 'offers greater stability of price levels and security'.[100] In consultation with backbenchers, the government affirmed that 'the changing relationship between European and world food prices meant that the Common Agricultural Policy would not in future be a liability'.[101] Although not the only argument in favour of the final deal, there is a clear consistency from Labour leaders before, during and after the renegotiation that the global price situation lessened the need for a fundamental reform of the CAP.

Yet despite the frequent invocations of this argument, not all were convinced. Shore and others certainly did not believe the reversal of world and European food prices was permanent.[102] However, their criticisms were largely irrelevant in determining the government's

[98] Ibid.

[99] Ibid.

[100] Memorandum by the James Callaghan, 'EEC: Renegotiation Stocktaking' (14 Mar. 1975), TNA, CAB 129/182, Annex A, p. 6.

[101] 'Note of a Meeting Held by the Prime Minister at 10 Downing Street at 5pm on Monday 17 March 1975 with Members of the Government who are not Members of the Cabinet' (17 Mar. 1975), TNA, PREM 16/410, p. 7.

[102] Peter Shore to James Callaghan, 'RE: Renegotiation: Second Tactical Plan' (24 Feb. 1975), TNA, PREM 16/409.

agricultural negotiating stance. Firstly, the most vocal critics of the CAP were sidelined from decision-making. With Tony Benn and Michael Foot assigned portfolios for industry and employment respectively, two of the leading anti-marketeers in the Cabinet were separated from the agriculture issue.[103] Peter Shore as Secretary of State for Trade did repeatedly question whether the international market situation could be relied upon and sought to push Wilson towards a harder line CAP policy.[104] However, Wilson effectively sidelined him by reinforcing Callaghan's authority and empowering Peart to handle agricultural trade issues rather than Shore.[105] Finally, anti-marketeers remained largely agnostic, if not hostile, towards the renegotiation's success, because failure or minimal gains strengthened their 'no' campaign.[106] Together, this meant that skeptical voices were effectively silenced until the referendum campaign, and those who accepted the permanence of the 1974 price relationship, namely Wilson, Callaghan and Peart, possessed the decision-making authority.

IV

To this day, agricultural support remains a contentious policy in both London and Brussels even as policies have once again diverged. This neither started nor ended with the renegotiation of 1974. Peart continued to pursue reforms through the stocktaking and annual price reviews, and his successor, John Silkin, did as well.[107] The budgetary problems that consumed Margaret Thatcher's European policy until 1984 derived from rising CAP expenditure and Britain continuing to import food from third countries. Not until the 1992 MacSharry reforms was agricultural expenditure reined in on a permanent basis. And yet, examining the failures to institute major reform can be just as insightful as the successes.

Firstly, Labour's decision to renegotiate the terms of its membership in the EC demonstrates the dilemmas of being a latecomer to a trade agreement. With the rules of the Community formed in the interests of the founding members, Britain struggled to reform the group to accommodate its needs. Yet, from this article's examination of Wilson's agricultural policy, we see that flexibility existed and changes were attainable to a latecomer: the UK installed a new beef regime, gained access for New Zealand butter, and convinced the Community to subsidize sugar purchases.

Still, the renegotiation proved not a perfect case study in measuring latecomers' negotiating potential. As shown, the international market situation that lasted from 1973 to 1975 helped convince crucial decision-makers in the Cabinet – namely Wilson, Callaghan and Peart – fundamental reform of the CAP was unnecessary or even counterproductive to their goals of providing cheap food to British consumers and limiting costs to the Exchequer. Thus, because the UK never sought to thoroughly restructure the system to its interests, the upper bound of Britain's leverage cannot be properly measured.

[103] Broad, *Labour's European Dilemmas,* pp. 98–9.

[104] 'Letter from Shore's Private Secretary, N. A. C. Hirst, to Peart's Private Secretary, J. A. Brown' (2 September 1974), TNA, PREM 16/81.

[105] Stephen Wall, *The official history of Britain and the European Union Community* (2013), pp. 516, 533.

[106] Lindsay Aqui, 'Britain and the European Community, 1 January 1973 – 5 June 1975: Policy, party politics and public opinion' (Unpubl. PhD thesis, Queen Mary University of London, 2018), pp. 130–1.

[107] Neville-Rolfe, *Politics of agriculture*, p. 282.

Secondly, examination of the agricultural renegotiation shows the contingent nature of Britain's reform attempt. Undoubtedly, even the most committed effort to make the CAP more amenable to free-trade and consumer interests would have encountered strong resistance from entrenched powers. However, drought in Kansas and famine in the Soviet Union at the exact moment when Britain sought to maximize its leverage around a threat to leave the Community dissuaded both Wilson and European leaders from restructuring. To them, the EC's price-support theory of agricultural welfare was proven superior. With hindsight, it is clear that high world food prices and supply shortage relative to the European market was a temporary phenomenon that only lasted from 1973 to 1975, but its timing demonstrates both the UK government's unluckiness and susceptibility to overextrapolation of recent trends.

Finally, temporarily high world prices and Britain's conversion to a European agricultural policy helped set in motion the overproduction later in the decade. With world prices high and potentially volatile, Peart sought to insulate UK farmers and consumers by pushing self-sufficiency and increased production, especially in dairy.[108] Unsurprisingly, when world prices fell again, greater production only exacerbated an already saturated market, and, out of a desire to protect UK farmers, MAFF was less committed to restricting price inflation at annual reviews.[109]

The renegotiation did not spell the end of debate over the CAP or agricultural markets. It continued through the 1975 referendum and beyond. As Tony Benn succinctly summarized during the 'no' campaign, 'we have not achieved our Manifesto objectives, and indeed we did not even try'.[110] Benn was right, Wilson and others did not try to fulfil the promise of the Manifesto. Instead, contrary to the opinions of Benn and Shore, they determined the volatility and high food prices on the world market made it unnecessary to do so. To Wilson, 'whether one accepts these arguments or Mr Shore's is a matter of judgment'. However, with the Cabinet voting 12 to 4 in favour of the renegotiation package, and the public's overwhelming vote to remain, both had de facto accepted Wilson's judgment of the data.[111]

[108] 'Food From Our Own Resources', CMND 6020 (March 1975), TNA, CAB 129/182.

[109] Ministerial Committee on European Questions, 'Minutes of a Meeting held in Conference Room A, Cabinet Office on Thursday 18 March 1976 at 9.30am' (18 March 1976), TNA, CAB 134/3899.

[110] Tony Benn, *Against the Tide: Diaries 1973–1976* (1989), p. 345.

[111] 'European Community Renegotiation Stocktaking'.

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Book Reviews

UK and Ireland

ANNE ROWE, *Tudor and early Stuart parks of Hertfordshire* (University of Hertfordshire Press, 2019). xv + 290 pp. 47 figs. 6 tables. £18.99.

This book provides a comprehensive guide to the deer parks of Hertfordshire between 1485 and 1642. Released nearly a decade after the author's *Medieval deer parks of Hertfordshire*, it is as thorough and beautiful as its predecessor. Rowe has produced another well-researched regional landscape history, interrogating a range of archive and secondary texts to present new insights and raise new questions. The objective of the book is to provide an evidence base rather than answer the resulting questions, and the reader should expect to follow up on those insights that pique their interest themselves.

Part I begins by describing the source material, highlighting that the period in question provides a great many more than were available for the medieval volume. Particular attention is paid to county maps, the earliest of which is Saxton's 1577 county survey. These county maps are thoughtfully evaluated, although there is no corresponding discussion of other cartographic sources such as at the estate or park level. We then move on to the legacy of the over 70 medieval deer parks in Hertfordshire, most of which had come and gone, with over a third surviving into the seventeenth century. These tended to be large, with almost all parks of over 300 acres surviving to the sixteenth century and sometimes beyond. The real focus of this book is on those parks existing from the late fifteenth century, with at least 60 existing at some point between then and 1642. There is only evidence for 46 of the parks containing deer, and it is these that form the core for analysis as 'Probable' parks. It is possible that surviving documents are too sparse to record deer at the 14 other parks, but Rowe also suggests that in some cases these 'Possible' parks refer to areas of ground used as rabbit warrens. An accompanying comparative table of all the deer parks in the study would have been a useful tool for the reader.

The 'Probable' parks have been assigned to five main ownership categories: royal, aristocratic, ecclesiastical, royal officials, and gentry. It is no surprise that the data show a large drop in ecclesiastical ownership in the 1530s and 1540s, corresponding to a peak in royal ownership at the same time. Although gentry and aristocrats seemed to benefit most from the resulting redistribution of land during this time, the correlation is not quite so simple, as elevations to the peerage moved parks from one category to another. Overall though, the gentry consistently held the highest number of parks if never the largest acreage. The total number of parks rose in the late sixteenth and seventeenth centuries, despite the peak in acreage having been in the 1570s. Most new parks were created during the reign of Elizabeth I and clustered in the south of the county, interpreted as evidence of the increased importance of the capital during the period.

Sub-sections dealing with the inhabitants and materiality of the park follow. A segment concerning animal history covers deer, rabbits, hares, fish, horses, livestock and birds. Poachers and park personnel follow. Wage rates for employees were apparently kept low but accompanied a prestige that was difficult to match in other occupations. Finally, the less animate parts of the park receive attention. The archaeological nature of the boundary and its complementary oak pale are discussed and contrasted to medieval evidence suggesting that most pales during that period were more likely to have been constructed or at least reinforced with dead wood.

Part I ends with the buildings of the park: lodges, banqueting houses, standings and deer houses. Lodges are afforded the most discussion, being either substantial houses for gentleman keepers or simple timber-framed constructions that were occasionally moved. There is tantalizing evidence here for the afterlives of parks in the sixteenth and seventeenth centuries. A few lodges were replaced by or became country houses, but most were converted to farmhouses. In either case, what became of the surrounding parkland? Such threads are numerous in the book, hinting at the future use of this vast body of evidence. The chapter ends after a short paragraph on hay barns, and some concluding remarks would have perhaps been appropriate.

Following on from such a good overview of the whole work, Part II seems slightly out of place. It deals exclusively with the evidence for the relationship between the parks of Hertfordshire and the Tudor and Stuart monarchies. The crown estate is examined before each monarch is given their own section. Henry VIII greatly expanded the acreage of parks owned by the crown in Hertfordshire, while we have already seen that Elizabeth I's reign saw the highest number of new parks created. James I spent 'almost half his reign' at Theobalds, a park that had measured just over 300 acres in 1600 but was over 2500 acres by 1650. It is an interesting section and the strength of royal connection cannot be denied, but there is little discussion of how this compared to other counties and their parks. At fifteen pages this section could have been absorbed into Part I.

The gazetteer in Part III is organized alphabetically by parish, with over 50 entries. Some of these entries pertain to more than one park, and a central table listing all the featured parks would have been convenient. Each park has a name, National Grid Reference, dates and acreage. All have a corresponding map based on the first edition Ordnance Survey maps. A biography of each park follows, built from the historical evidence. Where a boundary has been difficult to reconstruct from the archives alone, entries are supplemented with LiDAR and aerial photography to physically identify earthwork traces. Relevant earlier park and estate maps have been reproduced as a set of plates in the centre of the book, including a map of *c*.1610 depicting nine parks between Hatfield and London. As elsewhere in the book, there is a wealth of detail in these park biographies, which is drawn together in such a way as to encourage further research.

The book is well laid out and beautifully illustrated. An individual list of citations follows each park entry, consisting largely of primary archive sources. The bibliography attests to the amount of research in the book, listing over seven pages' worth of primary sources drawn from private, local, and national archives. The gazetteer and main text have been indexed, simplifying the task of navigating to specific sites or topics of interest.

This volume forms a well-researched and robust evidence base for further work, although the lack of space for exploring some of the questions it raises is occasionally frustrating. For instance, why is it that larger parks were more robust than their smaller counterparts, and therefore more likely to survive beyond the fifteenth century? The correlation between size and survival is identified and the question is posed, but no answer attempted. Rowe's use of county maps to illustrate Hertfordshire being particularly 'parky' is one of the few examples of comparative evidence in the book, and more of this contextualization would have been helpful. When discussing the under-studied topic of deer coursing and standings, for example, consideration could have been given to the evidence for such courses and structures at Ravensdale and Clarendon, among others. This does feel like nitpicking, because overall the book is an excellent addition to the literature on post-medieval parks. The objective of the volume is to present the evidence for deer parks that existed in Hertfordshire over the course of two centuries, and it meets that objective in an informative and engaging way. If only such a book existed for all counties.

ELOISE KANE
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ERIC H. ASH, *The draining of the Fens: Projectors, popular politics, and state building in early modern England* (Johns Hopkins University Press, 2017). 416 pp. 17 illus. 8 maps. $54.95

A recent review of this book, by Piet van Cruyningen in the Dutch *Journal of Water History* (*Tijdschrift voor Waterstaatsgeschiedenis)*, vol. 27, no. 2, concluded that Ash had written a brilliant book that would set the standard for decades to come. High praise indeed, and totally deserved, if you ask me. In eight chapters, chronologically ordered between an Introduction and Epilogue, Ash provides us with a detailed, entertaining and convincing account of how drainage activities in the Fens area, specifically the Hatfield Level and the Great Level Drainage, relate to – and need to be understood as – state building activities. His balanced attention and (sometimes implicit) judgement on actions and opinions of Fenlanders and outsiders – ranging from kings to prospectors – allows the reader to understand the drainage projects in the Fens as a continuously negotiated process.

The different Commissions of Sewers in the Fens were important actors in the negotiations, assuming we can define them as single actors, given their internal struggles. The role of the Commissions remains somewhat unclear to me, though. In the first part of the book (the first four chapters), Ash stresses that it was the local knowledge embodied in the Commissions that made more centralized control so difficult to achieve. We learn how important the role of the Commissions was in controlling the land and who could access it, both materially and on maps. For a long time, this control was preventing the Fens from being drained. However, we also read that drainage of the Hatfield Fens had no need to work through Commissions of Sewers, as there was only one

landowner, the crown itself (p. 148). Despite not having the need to work through Commissions, Hatfield's drainage started rather late too, in the 1620s. Would it be correct to argue that whether Fen areas had influential Commissions or not, there was no drainage under King James I? If so, what does that tell us about state formation and its success?

In the process of Fen drainage, we encounter what I would like to call the ontology of failure and success: success and failure are constructed. We encounter several suggestions in the book that support this idea. Ash writes that 'the fate of the land itself was shaped by the power to define it' (p. 194). This was not only the case for the Fens in their pre-drainage state. At a certain moment, 'the Great level was both drained and not drained' (p. 203), as there were different statements on the effects and status of the works. It is a little strange then to find statements suggesting that, to take one example, the 'project of Ayloffe and Thomas thus represents a failed attempt at state building in Jacobean England' (p. 138). Fate of failure was also shaped by the power to define it, I would think. Can we define with certainty what the Jacobean state would have to look like anyway? Perhaps the results of the project were not as hoped for by some, but the interactions between representatives of the central state-in-the-making and Fens-in-transition must have changed something in the relations between them – and thus state building itself as well.

Another key issue is the idea of the state itself. Obviously state policies change over time, and the book does indeed show this. We read about the 'crown's new, more aggressive policy' (p. 64) towards draining the Fens. In that light, I find the observation that the Great Level 'company … continued to be supported by the full legal and administrative apparatus of the early modern English state, both before and after the collapse of the protectorate and the Restoration of King Charles II' (pp. 296–7) – rather interesting, and a little problematic. I would suggest it is unlikely that there is something like a defined, stable early modern state over the period of these dramatic events. The 'state' is an entity that needs to recreate its own support continuously. I find this idea of a continuous early modern state – which is presented at the end of the final chapter before the Epilogue, so rather late in the book – at odds with the careful and detailed analysis of Fen drainage as an example of the ambivalence of state formation in the book as a whole.

State formation is clearly a process that is always local, both in the Fens and in London – and elsewhere – which makes the concept of the state itself ambivalent. Ash may reserve the word 'local' to those from the Fens, but he makes it perfectly clear that even if they are only local, their actions make or break what wanted to become the centralized state. Indeed, like state building, '[a]ll politics is local, ultimately' (p. 238). Ash manages to bring all these locals into his narrative in a clear and convincing manner. A suggestion from my side would be to consider the crown as local too. Crown policy in London is as locally constructed as Fen drainage by state and non-state agents that negotiate its realization in the Fens and London. Ash shows beautifully how (Dutch and English) prospectors acted as representatives of themselves, other agents in society, a glorious future – defined by themselves – and the crown that wanted to build a more centralized state – all at once.

In the Epilogue, Ash concludes that '[d]rainage projects were […] a manifestation of the early modern centralization of governance under a unitary English monarchy – an exercise in state building.' (p. 309). Where chapter 8 had suggested a final success in Fen drainage and state building, it becomes clear rather quickly in the Epilogue that the exercise never ends – or so it could have been. The land itself continued in its refusal to cooperate, with the result that the 'Bedford Level Corporation was clearly losing control of the Great Level as time went on' (p. 307). One page later we even read that the 'creation of a single, coordinated drainage network in the Great Level had largely failed' (p. 308). However, Ash does not relate these continuous efforts to keep the Fens controlled to the process of state formation itself. If draining land was so closely related to state building, one would expect that keeping land dry was as well.

Obviously, I do not ask Ash to write an even longer book that encompasses the even longer history of the draining of the Fens. I would just have liked to see a simple statement like 'state building never ends'. Instead, Ash goes even further on the route of state centralization by claiming that 'Fen drainage […] went beyond state building to become a quasi-imperial project' (p. 310). Why is this step needed? I would argue that the processes that Ash describes are indeed also happening in settings that are (now) defined as colonial or imperial – including the rather utopian way of thinking of many representatives of the state. I simply think that we should not allow a difference in terminology between state building and empire building as a process. Empires are not necessarily more or less top-down or centralized than national states – but they are as local as centralized states.

In the last pages of his great book, Ash refers to recent ideas to allow the Fens a little more wetness, by enlarging remaining wetlands and changing water

management arrangements. I cannot wait for someone – and why not Eric Ash himself? – to write about this process in the same excellent way that Ash has done for sixteenth and seventeenth-century drainage projects in the Fens. After all, twenty-first-century rewilding initiatives must be regarded as efforts of state building too.

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ADRIAN GREEN and BARBARA CROSBIE (eds), *Economy and culture in north-east England, 1500–1800* (The Boydell Press, 2018). 319 pp. 18 illus. £65.

In considering the economy and culture of north-east England in the period 1500 to 1800, Adrian Green and Barbara Crosbie have co-edited a book which explores one of the earliest periods of industrialization, before the traditional time frame of the Industrial Revolution. The industries which developed along the banks of, and between, the rivers Tyne and Wear, as well as the thriving town of Newcastle-upon-Tyne, attracted considerable numbers of people, all of whom needed feeding by local agricultural systems.

The editors suggest that modern historians view the four northern counties of England as under-developed, reflecting an ignorance of this early evolution in industry, agriculture and commerce. Because historians have only considered 'coal and class', they have ignored the cultural interactions which underpinned the development of an economy and society in the area. Further, the introduction suggests that economic integration across the England-Scotland border was an underlying factor in the consolidation of the Union between the two countries.

The first two chapters of the book are of primary interest to agricultural historians. In chapter 1, A. T. Brown examines those who occupied land on Durham Cathedral's estate, with the progression of the Dean and Chapter's bond tenants of the fifteenth century into the church leaseholders of the sixteenth and seventeenth centuries, thereby bridging traditional periodization. The township of Horton is used as a case study to understand the land they farmed, their possessions through probate inventories and their wealth, both relative to each other and to those from other regions. A comparison between the tenants of the Dean and Chapter and those of the bishops of Durham demonstrates the limited economic and social outlook for the former.

Adrian Green commences the next chapter by examining the contribution made by agriculture in support of the early industrialization, and the changes in agriculture necessary to feed a growing population: with the majority employed in non-agricultural activities, this represented an early agricultural revolution. Enclosure by agreement was undertaken by the leading freeholders and leaseholders, resulting in few open fields by the eighteenth century: enclosure peaked between 1630 and 1680, with only six townships in the county requiring Parliamentary enclosure after 1800. This enabled selective stock breeding which produced livestock specialized for the region's climate (Border Leicester sheep and Durham Shorthorn cattle). In addition, milking took place at the farmsteads, thereby replacing the ancient habit of transhumance. Farmhouses and farm buildings were rebuilt, often in the centre of the newly enclosed fields. Animal and human waste, along with nitrogen-fixing crops, coal ash and lime were all used to improve the land. However, it was often those who held land by freehold or extended leasehold who had the confidence to do so. A second agrarian revolution occurred during the eighteenth century with large landowners promoting commercial tenancies on improved farms to maximize rental income. This was achievable due to the expanding market for food in the region. Adrian Green concludes that there is more work to do on the relationship between farming and industry in north-east England and considers a set of research questions: however, the scene has been set.

John Brown examines lead mining through the role of the Bowes family as gentry entrepreneurs in Weardale and Teesdale, with tenants who regarded lead production as a 'casual cash crop'. In terms of by-employment, these tenants were definitely farmer-miners, rather than miner-farmers. Moving away from matters rural, in chapter 4, Leona Skelton looks at the efforts of the civic officers of Berwick-upon-Tweed in presenting the town as an urban space rather than part of its rural hinterland by improving sanitation and other infrastructure in the town. Despite this, civic employees were paid in units of 'ewe's grass' rather than money, dunghills persisted in the streets and the mowing of grass for hay around the outskirts of Berwick was an important ceremonial event, reflecting the entrenched agricultural nature of the town's economy.

In chapter 5, Andy Burn considers the development of Newcastle-upon-Tyne in terms of population, migration and occupational structures over the period 1600–1710, whilst Lindsay Houpt-Varner examines the role of the Quakers in the region in chapter 6. Using the example of the glass-making industry in Newcastle, she illustrates how the fine balance was achieved between undertaking economic and social business and yet maintaining the Quaker way of life.

Peter Wright takes the reader away from coal to the development of the more general trades, focusing on shipping on the Tyne. Using Newcastle port books for 1702–03 and 1756, he concludes that whilst coal was the major export, there was an extensive range and volume of other commodities and products leaving and arriving at the port, along with some re-exporting activity. In chapter 8, Matthew Greenhall investigates the nature and extent of Scottish trade with north-east England, both cross-border and coastal, over the period of regal, and later, political union between the two countries. He identifies step changes in trade after each of the years 1603, 1654 and 1707, in terms of both commodities traded and transportation logistics.

In the final two chapters, Barbara Crosbie looks at the role of the print trade in Newcastle, whilst Morgan and Rushton move the focus to Sunderland and the River Wear – 'the other coal exporting river'. Whilst Sunderland had no formal civic identity until Victorian times, it was able to operate and develop prior to this with the focal point being the river and its trade.

The book concludes with a combined bibliography for all the book chapters. This reader found only one typographical error (Stokesely cf. Stokesley, p. 218). A table of weights and measures would assist the understanding of the extent of a chaldron of coal, a wey of salt and a fother of lead, which can also have regional variations. The overriding conclusions from the diverse aspects considered in this book are that the economic and cultural development in the north-east cannot be seen in geographic isolation and that there is much work to do using untapped source material.

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ROBERT TITTLER (ed.), *Two weather diaries from northern England, 1779–1807: The journals of John Chipchase and Elihu Robinson* (Boydell: Surtees Society, 2019). 343 pp. 4 illus. £50.

This volume brings together the diaries of two Quakers living in northern England in the late eighteenth century. The first is that of John Chipchase (1747–1816) who ran a school with an international reputation for teaching navigation in Stockton-on-Tees. The journal itself, housed in the library of Concordia University in Montreal, has until now been little known and difficult to access by scholars working in Britain. The second is the better-known diary of Elihu Robinson (1734–1809), an enterprising yeoman farmer from Cumberland, now in the possession of the Religious Society of Friends Library in London. Robert Tittler's useful introduction summarizes the available biographical information about the two men, and in common with much scholarship on life-writing, explores how their faith shaped their outlook and their practice of diary keeping and how the practices of reading and letter writing contributed to cultures of knowledge in this period.

The weather, as the title of the volume suggests, was a major preoccupation of both diarists, though their approach to recording it and making sense of its significance is notably different. Chipchase had a social historian's eye for the impact that meteorological phenomena had on the lives of individuals and communities and the meanings his neighbours ascribed to weather events. He is often concerned, for example, with the struggles of the labouring poor during heavy snowstorms, or the impact of flooding on local businesses. His entries consist not of daily notices but rather an episodic narrative of unusual or extreme events. In contrast, Robinson's accounts are more systematic and data driven, listing weather conditions, readings of the thermometer and barometer, and the prices of farm produce in each entry, but he was less interested in interpreting or contextualizing this information in his record. As a farmer, however, the weather had a direct daily effect on his livelihood, and his diary is a meticulous record of how one farm was managed in relation to unpredictable environmental conditions.

Chipchase was a keen editor of his own writing, adding notes and addenda to earlier entries, and elements of his diary resemble a commonplace book or local history more than an ego document. The recto pages of both the original and this transcribed edition contain his diary in chronological order, while on the verso pages facing these Chipchase included corroborating or contrasting accounts from newspapers or notes about earlier occurrences of similar phenomena. For example, opposite an entry about damage done to a neighbour's house by lightning in 1783, Chipchase added notes about the death of a woman struck by lightning in 1724 and a barn fire caused by lightning in 1751. Chipchase also incorporated poems and literary quotes in his writing, copied accounts of local and national food prices, and transcribed the contents of another diary in his possession, that of Stockton parish clerk Robert Stock (*c.*1650–1719), onto some of the verso pages of his own journal, adding to the layers of local knowledge contained in this volume. The result is a fascinating intertextual web, but it can be difficult for the reader to come to grips with in the first instance. A parallel structure has been retained so that recto and verso can be compared side by side, but the result sometimes includes awkwardly placed jumps to successive pages and cumbersome gaps in the text.

Tittler's footnotes and note on editorial method offer some guidance, so these are critical to comprehension rather than a bibliographical addition.

Chipchase was also a keen amateur participant in the science of astronomy, an interest that may have grown out of his professional expertise in navigation, and his diary has much to offer scholars interested in engagement with Enlightenment ideas and the Scientific Revolution among groups beyond the elite. He frequently noted his own observations of the night sky and collated these with reports of notable occurrences both around his locality and further afield. Among other subjects, Chipchase recorded the appearance of the Aurora Borealis over his home in 1783 and 1814 and included extracts from newspaper reports charting the extent of its visibility. Imaginative speculation about the phenomenon's similarity to the view 'which the Ring of Saturn must exhibit to the Inhabitants of that planet' is interspersed with precise scientific measurements from the Macfarlane Observatory in Glasgow. Observations of meteors are a recurring feature, with numerous accounts in particular of the Leonid meteor show which caused an international sensation in 1799, as are atmospheric optical phenomena like lunar coronae and a parhelion (sundogs, in modern parlance).

Robinson's is a denser text with a tendency toward listing events and activities rather than reflecting on them, though he becomes more animated about social and political upheaval in the latter two of his three diary volumes. The dearth and hardship of the late 1790s, when several poor harvests and ongoing war with France compounded the strain on domestic food supply, shapes both diaries in this period. Chipchase recorded an account of food riots in Stockton in 1795 which included unrest by local women on market day and an attack on the local miller. His response to the need to alleviate food shortage was political and practical, suggesting alternative recipes for feeding the poor and recording the deliberations of the bishop of Durham and local elites about the best way to provide additional relief. Robinson, by contrast, tended to reiterate his faith in God to provide deliverance.

Overall, one major contribution of this volume is the detailed local perspective on the volatile decades at the close of the eighteenth century. Furthermore, in addition to adding to the corpus of published personal narratives of the northern middling sort in general, historians of agriculture, scientific inquiry and the environment, in particular, will find much of interest in both diaries.

JESSICA DAVIDSON
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JOHN SHAW, *The Loes and Wilford Poor Law Incorporation, 1765–1826: 'A Prison with a Milder Name'* (Boydell Press, 2019). 556 pp. 13 b&w illus. £40.

This large volume reproduces seven quarterly minute books of the Loes and Wilford Poor Law Incorporation from July 1765 until its disincorporation in 1826, interspersed with many other documents. Shaw provides around fifty pages of introduction to and analysis of the documents. The Incorporation comprised 17 of the 19 parishes in Loes Hundred and the 16 parishes of Wilford. Incorporations were a particularly favoured model by which relief of the poor was administered in East Anglia (61 per cent of parishes in Suffolk and 26 per cent in Norfolk), due to, it is suggested, the pressure of the poor rate upon only moderately wealthy ratepayers and the active involvement of the resident gentry and clergy. The Incorporation was run by a body of directors and acting guardians.

Poor relief was similar in many respects to those parishes operating under the Elizabethan statutes. The Incorporation's newly built House of Industry in Melton opened in July 1768 with children (68 per cent) and the elderly (13 per cent) dominating admissions, as in most workhouses. Quarterly parish assessments, plus the inmates' earnings from spinning wool, were expected to meet the house's day-to-day operating costs, repay the investments, and cover outdoor relief. Like workhouses, the provision of work in this house of industry underperformed. Although inmates in the house of industry were required to wear a uniform and daily life was punctuated by a bell, their diet was superior to that of the labouring poor. Outdoor relief was still given in a largely similar fashion to parochial poor relief, with elderly widows, younger widows with children, and the disabled faring well, as did women in childbirth and those suffering from short-term injury or illness. Medical provision was provided by contracted surgeons. But the operation of the Incorporation was also different in other respects. Relief in kind was rarely given and families were either taken into the house of industry or outdoor relief was dependent upon at least one child being admitted to the house. Relief might be refused on pain of admittance.

By 1791 it was found that the Incorporation had been mismanaged and expenditure generally exceeded income. An amending act was passed and governance overhauled. Despite increased poor rates, wartime price inflation left the Incorporations' finances in a critical state, with a further amendment in 1810. The issue of rating and assessments caused dissent from twelve parishes. By 1824 a committee found an upward trend in costs such that 'the existence of the said House

does … materially and unnecessarily increase the expense of maintaining the poor'. The Incorporation concluded that the 'experience [of incorporating] has proved it to be in every respect radically bad' and it would be 'expedient to return to the old English system of parochial economy with regard to the poor as enacted by the 43 of Eliz'. The Incorporation petitioned for disincorporation. Inmates of the Melton House of Industry were returned to their parishes of settlement and the house was converted into the Suffolk County Lunatic Asylum.

The introduction provides some useful maps, tables summarizing the documents and amendments of 1791 and 1810, and graphs of expenditure. The latter only commences in 1796 and so spending between 1765 and the start of wartime inflation in 1795 is not given for comparison. Much of the discussion concerns finance and rating, rather than the provision of poor relief. A useful glossary is provided. The real value of this volume is, of course, the transcription of the quarterly minute books, running to 425 pages and these reproduced documents provide the opportunity for amateur and academic historians to explore the process of incorporation – and disincorporation – and how this compared with parochial poor relief and unions under the New Poor Law. The provision of poor relief was highly variable at the local and regional level and the Loes and Wilford Incorporation provide an example of this disparity by place and system of governance. There are two indexes: one of people and places and one of subjects. The former will be helpful to local historians and genealogists, while the latter reveals that the minutes contain information on a wide range of topics, including children and apprenticeship, allowances, contracts to supply the house and conditions inside it, Incorporation finance, the variety of outdoor relief, disease and medical care, and pauper work. The transcription and presentation of these books and accompanying documents is an achievement for Shaw and provides a valuable resource for other historians of welfare to share.

SAMANTHA WILLIAMS
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M. L. BISCOTTI, *British sporting periodicals: An annotated bibliography* (Rowman and Littlefield, 2019). 196 pp. £65.

In the 1920s the American sportsman and wealthy collector, Harry Worcester Smith visited Howell's bookstore, Liverpool, before boarding his transatlantic liner to America. The best market for antique British sporting books, prints, periodicals, and the like was in the US, where Howell's had over 800 customers eager to snap up their latest stock of rare publications. Keen to fill his new, fashionable Sportsman's Library, Worcester Smith gleefully noted he 'was not long in bargaining for all of these rarities, and whereas English collectors are the losers, the library at Lordvale is the gainer' (Harry Worcester Smith Papers, National Sporting Library and Museum, Virginia, p. 324).

Notably, it was Americans who first recognized the value of Britain's sporting heritage, and the American interest in British sporting ephemera remains dominant today. It is to an American, then, that we still turn for a new bibliography of British Sporting Journals. M. L. Biscotti, himself formerly an antiquarian bookseller, has previously done sterling service for historians of Field sports and American sports, by collating works such as *Six centuries of foxhunting* (2017), and *American sporting periodicals: An annotated bibliography* (2018). While previously there have been good bibliographic efforts by Brian Vesey-Fitzgerald (1946) and Anne Grimshaw (1982), it says something that many collectors still found they needed to refer to the sporting bibliographies of the private library of Charles Schwerdt (1862–1939) privately published in four volumes between 1928 and 1937 to obtain detailed periodical information.

Biscotti's work then, is arguably one of the most important new listings of British Sporting Periodicals to date. His research into their publishing history and precise listing of where they may be found (both online and elsewhere) offers a truly valuable resource for locating this often obscure material. Useful sections on journal name changes and mergers also save much confusion for the researcher. Wide-ranging and detailed, his research captures previously little-known sporting journals for the first time. This is no easy task. Many early journals have largely been forgotten or ignored because their surviving run of issues are incomplete. As Paul Morgan argues in the foreword to Biscotti's book, 'periodicals – magazines, journals, newspapers – are ephemeral', with the result that many were read, then discarded. Furthermore, because of their collective bulk, few complete series have been preserved by libraries or public repositories.

Arguably, Biscotti has had a distinct advantage over earlier bibliographers. The advent of the internet and digitization of primary books and periodicals on platforms such as Hathi Trust has made huge differences to our knowledge of what survives worldwide. Biscotti fully utilizes these new resources using everything from the impressive British sporting collections of the National Sporting Museum and Library in Middleburg, USA, to booksellers' catalogues, and even eBay. Some periodicals such as *Bailey's Hunting Directory* or

the *Badminton Magazine* – two of the most popular sporting magazines of the late nineteenth and early twentieth century – will be familiar to the reader, but other such as *Field and Kennel* (1902) survive in only one or two editions.

Biscotti has aimed his bibliography at the researcher or collector of vintage sporting periodicals. However, historians of more modern sports looking for journals of rugby, football and athletics etc., may be disappointed. As a consequence of Biscotti only including magazines that began publication before 1950, the works catalogued within are heavily weighted towards field sports, and publications originally largely printed for more wealthy sporting participants and their pastimes. Once common rural community sports such as Stoolball, Tipcat, and street football were rarely, if at all, featured in periodicals.

Considering the current British debates around field sports and cruelty, for some, the definition of 'sport' and the bibliographies' bias towards field sports or 'blood sports' may be questioned, reflecting as it does the older forms of play. Yet, historians of the countryside, rural history, conservation, animal studies, and land management and legislation should welcome Biscotti's diligence in capturing these ephemera into one readily accessible reference guide. These old periodicals and the articles, illustrations and even advertisements within offer much that is useful to understand the physical and material world and opinions of the sportsmen, larger sporting economy – the traders and shopkeepers who supplied the sportsmen and sporting resorts, and the often rural geographies of British sports and their participants. The wide spread of rural sporting periodicals covered and their frequent inclusion in periodicals linked with farming and land management should also satisfy the agricultural historian.

Indeed, while modern sport is increasingly urban-centric, with the benefits of this bibliography it is striking to see that the current idea of separation between the rural and urban is a relatively new development, with little distinction being made between the two in the earlier periodicals. Many of the periodicals were published in cities for elites who moved between town and countryside, and the rural exploits such as foxhunting, coursing and angling were given the greater weight and often combined with urban news about the theatre, latest fashions and pugilism. Not all periodicals have been included. Biscotti omitted the hundreds of lesser-known racing papers such as the *Sporting Globe* and *Sporting Oracle*, which have not survived apart from partial print runs in the British Library.

As he notes, Biscotti is unlikely to have exhausted the periodicals available, as some of these ephemeral publications are bound to exist in private hands or remain forgotten. While the compilation of these works must have involved a large amount of detective work, the rise of digitization may well uncover other period works that will require inclusion. Nonetheless, Biscotti has created an invaluable benchmark from which future findings may now be mapped and added.

HANNAH M. CLARK
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JOANNA FOAT, *Lumberjills: Britain's forgotten army* (The History Press, 2019). 272 pp. illus. £14.99.

This study of the Lumberjills, the Women's Timber Corps, is clearly a labour of love. Its author Joanna Foat first heard about the Corps while working for the Forestry Commission as a public relations consultant. As she describes, 'I […] stumbled across their story and it fired up a storm in my belly' (p. 21). Unable to find very much material to sate her initial curiosity, Foat came to suspect wilful neglect: 'the government wanted the Women's Timber Corps to be forgotten, or worse, the women's contribution was regarded as insignificant' (p. 15). Foat initially planned to write a fictional account but decided that fictionalizing these women's war work 'downplayed the challenges they faced, the stigma they experienced and the incredible advances they made in eroding a view of women as substandard' (p. 20). This volume seeks to redress the status of the organization as 'the forgotten army', and ensure its place in the history of women's service in the Second World War.

The narrative stems from research conducted at the National Archives and the Imperial War Museum, but the main bulk of the source material of the book stems from veterans of the Force, 22 of whom are thanked personally in the acknowledgments for providing interviews, letters, and personal photographs (including one 'Lumber Jack'). There are 28 pages of photographs giving many of the names faces, and offering engaging images of the experience of service in the Corps as presented to the camera.

The Women's Timber Corps was officially formed in England in April 1942, and in Scotland a month later, by which time women had already been working in forestry through the Women's Land Army with which the corps had an intertwined and somewhat complicated relationship which continued into the twenty first century. In December 2007, reflecting the trickiness of the relationship, the Land Army and the Timber Corps were granted a special badge of honour showing a wheat sheaf, rather than the fir tree or pair of crossed axes worn by the Corps.

Lumberjills is organized in 20 chapters, ending with the First World War precedent for the organization, and including a timeline and bibliography. These chapters offer detailed descriptions of life in service, including joining up, uniforms, living conditions, the range of roles undertaken by the women in the Corps, leisure activities, health implications, and the end and legacy of the force – 'And I never had lady's hands, never since' (Edna Barton, p. 240). The women's voices are quoted extensively, with a framing narrative providing context and some further primary source evidence outlining the history of the organization. As the author explains, 'to give these women a voice, I have written the book using their words as much as possible to let their voices shine' (p. 21). Such an approach allows diversities of experience to accumulate: for example, motivations for joining up included escape from the mundane, from domestic or 'interior' jobs, and parental preferences for this occupation, not least as a form of evacuation. What emerges across the chapters is an impressionistic picture of hard physical labour and wide spectrums of experience encompassing camaraderie and loneliness, prejudice and tolerance, commitment and disaffection. Amongst the testimonies are some quirky nuggets: an assumption that the WTC were the Women's Tank Corps, for example, or the description of the educated measurers as the 'Airborne Land Army' 'because we were above the rest' (Eileen Mark, p. 99). One anecdote involved a group of fellers arrested wearing cami-knickers, woollen socks and big leather boots, for having ostensibly brought down the telephone lines to Churchill's war office and suspected of sabotage (p. 63). These narratives are often anecdotal, many reflective, and fragmented between the numerous chapters.

The claims made by the author can be bold: 'In the 1940s they smashed down what society thought women were physically and mentally capable of, they forced men to rethink what women could achieve, and they proved women could do things differently to men and still succeed' (p. 20). Most historians of social change would be wary of claiming that preconceptions and gender boundaries had been 'smashed' in the Second World War, and oral historians uncomfortable about the concept of 'giving a voice'. But Foat is transparent about her approach and passion, and is seeking to contribute to the historical record of women's experiences rather than to the historical theories on gender identities in the Second World War. I write this review listening to Woody Herman's 'Woodchopper's Ball', his biggest hit first recorded in 1939, because I discovered here that it was the tune often struck up to welcome the girls when members of the WTC entered a dance. '*Lumberjills*' would be of greatest interest to those interested in the diverse contributions of women to the war effort, in the history of forestry, and those who relish details of the peculiar and the mundane for the insights they offer on lives over experienced over seventy years ago.

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GLEN O'HARA, *The politics of water in post-war Britain* (Palgrave Macmillan, 2017). 326 pp. 2 illus. £63.99.

This important study explores the concept of water as a whole, at scales ranging from local to global, and across disciplinary boundaries, ultimately using it as a vehicle through which to understand the relationships between human societies, their governance, and the environments they inhabit. O'Hara argues that water is both a critical site of contestation in late twentieth-century British society, and a means by which to understand that society. In order to demonstrate this, he uses an impressive range of research papers, government reports, minutes, proceedings, and correspondence alongside newspapers and periodicals, and other media sources to unpack both the content and context of government legislation around water, and the impact of this, first on wider British society, and then on international relations. While the focus is on water politics in post-war Britain, it promotes a deeper and wider approach to understanding environmental history on a global scale, and the changes in the modern British state in the longer term. The book also addresses politics at several levels, from the complex negotiations between nations to the politics arising in local and domestic milieux, and thereby representing the stakes held in water by a variety of different publics, with a variety of competing priorities. Tracing the way in which these priorities have been negotiated forms a picture of the changing politics of water in Britain and the wider world throughout the twentieth century. As O'Hara convincingly argues, these politics are often far removed from simple questions of social class or neatly delineated ideas of Left and Right, instead representing a messy, shifting, and 'fluid' approach to governance around the theme of water. In this, the book fits well into the historiographies of both environmentalism and British politics, with much to contribute to both.

O'Hara places his work at the confluence between environmental, social and political histories, influenced by Terje Tvedt and Richard Coopey's conceptualization of the 'third layer' of water systems: the management practices and 'habits of thought' around water. He agrees with the viewpoint recently espoused by environmental historians that history should be the starting

point of all new policy proposals and formulations. *The politics of water in post-war Britain* traces the place of water in the historiography of environmental history, convincingly making the case that a thorough appreciation of economic, social, political, personal and emotional histories is essential to carrying out a 'new type of environmental historiography', which follows the evolving relationship between human beings and the natural world. He identifies several lacunae in previous scholarship, including the dearth of twentieth-century water histories in comparison to those covering the Victorian water industry, and, linked to this, the tendency for 'material and technocratic cadences' to dominate these histories at the expense of socio-political and domestic narratives. O'Hara seeks to redress this balance, placing the politics of power around domestic water availability, water safety, and water usage alongside developments in water and environmental politics on national and international scales.

The book is divided into chapters covering water in its different aspects, explored through its different interrelationships with human beings. The earlier chapters examine the way that the rise of environmental politics and international co-operation in relation to environmental matters helped to re-conceptualize water in Britain and farther afield; a case study of the floods on Britain's east coast in 1953 and the public, political and press reactions, using them to contextualize twenty-first-century disaster preparedness and reactions in the aftermath of flooding. The book then moves on to the theme of pollution, covering riverine and oceanic pollution over the next two chapters. It draws out the roots of modern legislation from the nineteenth-century crisis of contamination as pollution control legislation initially failed to keep pace with industrial development, and follows the growing scale of public and political concern to the 1972 Stockholm Conference on the Human Environment. The final three chapters of the book are devoted to the politics of water as they applied to everyday domestic life: water involved in leisure activities; water provision in the home; and the fluoridation of water. These chapters represent the convincing filling of an intriguing lacuna around the use of public water for leisure and domestic purposes, and the flows of power and meaning associated therewith. This is necessarily an issue of women's and children's history, expanding the fascinating interdisciplinary aspect of the study, and making clear the gendered way in which clean water has historically been discussed, and the impact this has had on long term and wide ranging policies on water both inside and outside the home.

This produces a largely holistic-feeling history of Britain's water politics, which embraces the importance of water to all sections of society, in both urban and rural contexts. However, despite good coverage of the role played by the Ministry of Agriculture and Fisheries in the development of water politics in Britain, the issue of the availability of water in rural areas, and the admirable depth to which previously somewhat neglected themes such as the domestic and leisure usage of water are investigated, it was surprising to find that the use of water by the agricultural community itself is not explored in more detail. The use of water in increasingly intensifying agriculture, as mentioned by O'Hara, is a significant factor of its own in global water politics, and the farming community has its own unique set of needs, problems and drivers when it comes to water usage and the politics surrounding it, which are separate from those relating to the wider rural community and its domestic needs. Under these circumstances, it seems a shame that the views of the industry at local and regional level are underrepresented in this work.

The politics of water in post-war Britain has much to offer the fields of environmental history and political history. It represents the drawing together of a number of interdisciplinary threads to address the topic of water, and the politics it engenders, as a whole, which I am certain will prove useful and informative for the future study of water politics and environmental history as a whole.

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Europe and Elsewhere

CHRISTOPHER DYER, ERIK THOEN and TOM WILLIAMSON (eds), *Peasants and their fields: The rationale of open-field agriculture, c. 700–1800* (Brepols, 2018). 275 pp. 71 illus. €84.

This is a stimulating and ambitious edited collection on forms of open-field systems in Europe and beyond. It sets out to examine the chronology of the development of open fields, situate them within their socio-economic context, explain their rationale, consider how they changed and adapted in their long history, and address the reasons for their demise. Ten substantive chapters tackle these questions for England (two chapters), Scandinavia, Sweden, Finland, the Netherlands, Belgium (two chapters), Bolivia, and Japan. The main findings of these chapters are brought together by the editors in a concluding eleventh chapter. The chronological scope of the volume is as broad as its geography: the sub-title indicates coverage from 700 to 1800, but

the book extends well into the twentieth century by virtue of the chapters on Bolivia and Japan.

The volume begins with a broad definition of open fields as 'areas of cultivated land in which the intermingled plots of different cultivators, without upstanding physical boundaries, were subject to some degree of communal management in terms of cropping and grazing' (p.1). Such a broad definition is merited by the findings of the subsequent chapters, which amply demonstrate that, while open-field systems functioned in many areas, there were substantial local, regional, and national differences in their operation. These variations and their causes are not always elucidated because chapters mix explanations of technical differences between types of open-field systems with explanations for why open-field farming developed in some areas and not others. In either case, the editors conclude that a range of factors were at play (environmental, agrarian, societal, economic) but that the timing and nature of the development of open-field systems depended on the precise confluence of these factors in certain localities or regions. Individual chapters place varying degrees of emphasis on one or more factors: in chapter 1, Tom Williamson argues for the centrality of environmental factors for explaining regional field systems in England; whereas Erik Thoen, in chapter 7, argues for the crucial part played by power, property, and labour relations in shaping five different types of field systems in Flanders. In chapter 5, Petri Talvitie demonstrates that agrarian differences played a key role in the development of open fields in Finland. Areas dominated by burn-beating and animal husbandry in eastern and northern Finland did not see the emergence of open-field systems, which developed in districts more reliant on arable agriculture. Of course, these agrarian differences are also fundamentally related to the environment.

The volume contains a wide range of approaches drawing on an extensive source base to reconstruct the history of open-field agriculture. The editors acknowledge key obstacles to recovering the history of open-field systems, not least because practices were often rooted in oral custom. The 'retrogressive' approach is applied in many chapters, with authors working backwards from early modern or nineteenth-century sources to recover landscape use and field management practices in earlier times. Alternative approaches are identified by the editors, such as pollen analysis, archaeological field surveys, and geo-archaeology. The inclusion of chapters employing these methods may have led to new and decisive pronouncements on the chronology of open-field development in Europe that cannot otherwise be made from archival evidence.

In general, the individual chapters make convincing and important contributions to our understanding of the development and operation of open-field agriculture. The volume is, however, less successful in organizing these into a cohesive whole. Rather than an overview of the well-known English case, the volume would have benefited from an introduction that clearly set out a) the known forms of various open-field systems and b) where and at what times these have been observed across Europe. Not until chapter 6 is there a direct comparison of criteria for different types of farming system in table 6.1 (this is largely predicated on Joan Thirsk, 'The common fields', *Past and Present* 29 [1964]) and maps of field systems across Europe in figures 6.3 and 6.14 (taken from studies by Rosemary Hopcroft, René Lebeau, and H. D. Clout). Placed in an introduction alongside extended discussion of the history of European open-field systems, these would have gone some way to provide the necessary context to situate the detailed discussions of case studies in individual chapters.

Furthermore, the inclusion of two non-European twentieth-century case-study chapters provide exciting and meaningful comparisons to the volume but render it somewhat unwieldy and unbalanced given the remaining eight chapters are European case studies. Greater consistency between chapters could also have been achieved. For example, chapter conclusions varied between four sentences and two pages. The editors and publishers should be commended for supplying large numbers of illustrations and maps to complement discussion and analysis but there was scope to deploy these even more effectively. In many cases, these were reprints of previously published figures, which are consequently of lower fidelity. Lastly, more care might have been taken with the selection of contributors, as the book contains only one chapter by a female author. These limitations notwithstanding, this volume contains many important contributions that will repay close reading and should prompt further research into this vital topic.

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SANDRO CAROCCI, *Lordships of Southern Italy: rural societies, aristocratic powers and monarchy in the 12th and 13th centuries*, trans. LUCINDA BYATT (Viella, 2018). xv + 622 pp. €95.

The role of aristocratic power and its interrelationship with the State, on the one hand, and rural society, on the other, has often been situated at the centre of the long-standing debates around southern Italy's perceived 'otherness', particularly in the Middle Ages and in

relation to the development of central and northern Italy. A conventional picture which emphasizes the negative dominance of aristocratic authority and the concomitant lack of agency of medieval southern Italy's rural communities undoubtedly requires rethinking as new evidence and interpretative models emerge. It is the sort of subject that needs a comprehensive and holistic assessment, and which Sandro Carocci's book (which was first published by Viella in Italian in 2014 as *Signorie di Mezzogiorno: Società rurali, poteri aristocratici e monarchia (XII–XIII secolo)*; the English edition includes an additional foreword by the author) attempts, very successfully indeed, to do so.

This is a quite monumental study (the main text runs to over 550 pages) which covers an array of interconnected subjects, although it must be noted that, for sound methodological reasons relating mostly to evidence types, the focus rests primarily on the South Italian mainland (but Carocci still offers intermittent and important analysis of developments on the island of Sicily). Carocci's introduction lucidly frames the study and its historiography, carefully questioning and rejecting the traditional master narratives which have both mythologized the South Italian monarchy and which have focused on notions of 'backwardness'. The titles of the book's chapters (which are then divided by numerous sub-headings) offer the clearest insight into the range and ambition of Carocci's study: 'Before the Normans', 'The Normans: Change and Continuity', 'Monarchy and Feudalism', 'Kings and Lords', 'Nobility and Pre-eminence', 'Clientele and Submission', 'Villeins and Serfs', 'Seigneurial Justices', 'Worlds of Exaction', 'Economy, Lordship, the Rural World', 'Rural Societies and Aristocratic Lordship'. There is much thematic overlap and cross-referencing between these chapters, inevitable and necessary given the entangled and complex subject matter and evidence. It does mean though that this study requires careful, painstaking attention. One must regularly move back and forth across chapters to consolidate and clarify the argument as it develops and the sheer quantity of small, but important interpretations can sometimes be challenging. But Carocci is aware of this and expertly signposts and summarizes where possible to guide the reader and to situate a given chapter within the book's most fundamental arguments.

But what are these key arguments? There are many and they are undoubtedly extremely important. Carocci includes a quite wonderful deconstruction of the *Catalogus Baronum* which demonstrates that in the South Italian monarchy's formative years it was far from establishing a fixed set of feudal norms. Instead there was much experimentation and contingency and even royal opposition to 'formalized serfdom'. Moreover, the monarchy's presence created a 'supralocal' arena from which the State could mediate in disputes between lords and 'subordinated communities', often curbing aristocratic abuses. This situation simultaneously contributed to a trend which often made lords extraneous to peasant society. The lords were thus unable and/or unwilling to exert a significant level of what Carocci calls 'pervasive controls' (p. 53) and generally they extracted less resources from the rural world than many of their counterparts elsewhere in Italy and beyond. A picture of a much more dynamic rural world emerges, one in which we encounter a multitude of invariably fluid forms of dependence and clientele relationships, defined by a varied set of terms (*affidati*, *angararii*, *franci*, *liberi*, *servi*, *villani* and so on). Conversely, this also nurtured forms of pluralized and localized power which enabled local 'notables' to exert quite significant agency within village communities and, when necessary, to demonstrate effective forms of resistance to aristocratic power.

This foregoing summary cannot do full justice to the range and depth of Carocci's interpretations, and a close reading of the author's extended conclusion sets out clearly what he believes to be the study's main contributions. For Carocci, 'the South fluctuates between otherness and representativeness' (p. 540); indeed his study shows numerous parallels and differences with other regions of medieval Europe and it consolidates the view established in other recent studies of medieval southern Italy that the region should not be interpreted through the prism of 'backwardness'. Likewise, the Normans could paradoxically bring 'continuity through change' (pp. 89–94) and a dynamic rural world is presented with fluid and contingent connections with aristocratic and royal power. Carocci discerns the emergence of a new reality for the rural and aristocratic worlds in the post-1220 Staufen era, when Frederick II initiated administrative and legislative reforms (such as a general state tax, along with new definitions of clientele relations and of knighthood) which would change and eventually diminish the types of agency and autonomy available to rural communities. This trend would be consolidated and accentuated under the Angevins in the second half of the thirteenth century, such that, for Carocci, 'the lordships of the Mezzogiorno were becoming more normal', in other words increasingly less distinct from those elsewhere in Europe.

In short, Carocci's study is a *tour de force*, though it is not without some minor problems: in places, the entanglement and complexity of evidence and interpretation can be hard to follow. But, setting this

reservation aside, Carocci's book should now stand as the seminal work on medieval South Italian aristocratic power and the rural world. It is a must-read and a quite astonishing achievement which re-shapes our understanding of the field.

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LUIGI LORENZETTI, YANN DECORZANT, and ANNE-LISE HEAD-KÖNIG (eds), *Relire l'altitude: la terre et ses usages, Suisse et espace avoisinants, XIIe–XXIe siècles* (Éditions Alphil – Presses universitaires suisses, 2019). 338 pp. €29.90 / free open access.

The basic idea of this collection is impressive: it aims to trace the effects of a geographical factor – altitude – on human activity through time. For, according to the implicit hypothesis, even something as immutable as altitude is subject to change in the course of history, to changes of function and meaning.

Admittedly, Luigi Lorenzetti, Yann Decorzant and Anne-Lise Head-König are not the first to tackle this subject. Inspired by the European voyages of discovery and conquest, natural scientists have been studying the effects of altitude since the eighteenth century, and several historical studies using comparative approaches have already been published. Nevertheless, the question of how altitude has shaped (agricultural) economic production methods and social formations in various historical and geographical contexts has not been conclusively answered. Jon Mathieu writes in the foreword to his 2011 survey *The third dimension: A comparative history of mountains in the modern era*, that a global comparative view can only be the beginning, and that many more studies 'in different tones' are needed to understand the complexity and multifaceted development of mountain regions and their societies. And so the editors of the present volume evidently see their contribution to this complex of questions as a renewed focus on altitude, a '*relire*'. They focus on Switzerland and mountain regions in neighbouring Italy, France and Austria, from the middle ages to the present.

The book features 11 case studies and one systematic comparison between mountain regions and lowlands. The contributions in French and German examine the effects of altitude on land use systems, on market relations and on political institutions. It is striking that each of the chapters is assigned to one of the three focal points, but that each also uses all three dimensions to explain the developments they describe.

The chosen geographical framework makes it possible to cover the development of the individual regions over a long period and in a variety of thematic areas. Thus, Lombardy, the French Alps and Switzerland are covered by several articles and are examined from multiple perspectives, showing particularly clearly the changing function and meaning of altitude over time. The transnational perspective also clearly demonstrates the far-reaching market relations between highlands and lowlands. These cross-border connections are described and impressively visualized with maps in the chapter by Mark Bertogliati and Patrik Krebs on charcoal production and trade between the Insubric Alpine valleys and the northern Italian cities in the eighteenth and nineteenth centuries. In the same region and the same period, Luca Mocarelli explores the interconnections and mutual dependences between town and country, plain and mountain. He focuses on grain, but also depicts the diversified economic strategies of mountain households, which are described in other articles too.

The institutions of mountain societies and the widespread practices of collective organization are mentioned several times. They are an explicit theme of Fabrice Mouthon's chapter, which traces the geographical shift of a collective ownership category, the '*mas*', in medieval Savoie-Dauphiné. While it disappeared in the valley areas, the *mas* became dominant in the mountain areas. Mouthon also examines how tax regimes and legal practices strengthened collective organization. At the other end of the temporal scale, in the twentieth century, Yann Decorzant, Jean-Charles Fellay and Jean Rochat take a closer look at a '*consortage d'alpage*' in Swiss Valais and show how this form of organization combined – and to this day continues to combine – both political and economic action and therefore must be analysed as a hybrid private-public organization.

The great variety of organizational forms that appears in the volume is accompanied by a wide range of land uses and forms of production. The articles by Hannes Obermair and Volker Stamm on Tyrol from the middle ages to the early modern period, by Luigi Lorenzetti on the area around Locarno between the sixteenth and eighteenth centuries, by Claudio Besana and Andrea Maria Locatelli on Valtellina in the nineteenth century, and by Anne-Lise Head-König about Switzerland between 1750 and 1914 all describe the spatial patterns of cereal growing, cattle breeding, dairy farming and specialized agriculture, like viticulture. Firstly, it appears that altitude was by no means the only factor that influenced a particular form of production at a particular location. Other natural factors such as exposure and slope inclination also played a role. Secondly, in many places there were small-scale patterns and close interdependencies

between the various forms of production (like the diversified economic strategies discussed in the volume). And thirdly, over time, striking shifts in these patterns become apparent, which are always related to economic developments in the surrounding areas. There can be no talk of natural determinism, and even the concept of path dependency falters in these descriptions.

Gérard Béaur's survey article finally focuses on the systematic comparison between mountain and valley areas. The author questions the peculiarities ascribed to mountain regions because of their exclusivity. The result is a highly differentiated picture of factors that have different degrees of importance. A clear list of what constitutes a mountain region – even in a long-term historical perspective – is characteristically not available.

Introducing a fourth dimension, the history of knowledge, would have been a possibility, alongside land use, market relations and institutional arrangements. After all, the conception of mountain regions is a prominent topic in two contributions, namely in those of Anne-Marie Granet-Abisset, and Michela Barbot and Matteo Di Tullio. Both chapters deal with political attempts to modernize mountain regions, focusing on the French Hautes Alpes *département* after the Second World War, and the mountainous regions of Lombardy in the eighteenth and nineteenth centuries. The article by Romed Aschwanden on supply policy conflicts between the Swiss federal authorities and cantonal representatives from Central Switzerland during the First World War raises a further area of interest for historians of knowledge: mountain populations' understanding of the space they inhabit and manage. It is just such a juxtaposition of the external and internal perspectives on altitude and the negotiation processes between the two positions that could generate further insights when exploring the question at issue here.

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MARKUS LAMPE and PAUL SHARP, *A land of milk and butter: how elites created the modern Danish dairy industry* (University of Chicago Press, 2018). 320 pp. 39 illus. $65.00.

Danish history writing traditionally considers the late nineteenth-century cooperatives key to the success of the Danish road to economic development. In the latter part of the nineteenth century, middle-sized peasant-farmers united in cooperatives enabling them to produce butter competitively to the British market. The success story of the so-called Danish model was largely ascribed to these middle-sized farmers, who gained importance not only in economic matters but also socially and politically. The Danish historian Thorkild Kjærgaard has described this predominant narrative as the 'peasant-farmer line' in Danish history writing. In their new book, Markus Lampe and Paul Sharp challenge this narrative.

The authors have both contributed significantly to the economic history of Danish agricultural development in previous articles, and their new book brings their research into a more complete account. This makes for a very original interpretation of the Danish success story. Their main argument throughout the book is that the cooperatives – their focus is on the important cooperative dairies – did not represent a turning point but rather a continuation of earlier Danish agricultural success. Throughout the book, they trace the roots of this development from the eighteenth century to the establishment of the first cooperative dairy in 1882 and their subsequent rapid spread.

In sixteenth-century Schleswig and Holstein – the German part of the Danish monarchy and personal union – estate owners developed a characteristic kind of field system called *kobbelwirtschaft*. This field system replaced the three-field rotation with an eleven-field rotation, which entailed more intensive cultivation and larger amounts of livestock. Estate owners often combined this rotation system with a centralized dairy on the estate; a combination termed the Holstein system. The system spread to estates in Denmark proper from the mid-eighteenth century when German elites started to buy estates in Denmark and imported German agricultural expertise. By 1800, most demesnes were using *kobbelwirtschaft*, some of which combined it with dairy production. Sharp and Lampe show that the first dairy cooperatives between 1882 and 1890 were more likely to be established closer to estates with a centralized dairy, and in a series of further arguments, they convincingly demonstrate that the introduction of the more centralized and rationalized Holstein system on Danish estates paved the way for Danish agricultural modernization.

Throughout chapters 4–7, Sharp and Lampe dive into different aspects of this process of agricultural modernization. They show how the landowning elite developed new rationalized accounting practices and techniques and disseminated their knowledge through agricultural journals and societies. These developments were important for the spread of high-quality butter production, firstly on estates and community dairies, later through the cooperatives. Estate owners, shipping entrepreneurs, and merchants worked together to establish trade links between Denmark and the British market long before 1864, which is conventionally recognized as the turning point for Danish

reorientation towards the British market. Through a trickle-down effect from estate production to farmers, these early, elite efforts of technological innovation, market integration, and human capital formation were crucial to the later success of the cooperatives.

In chapter 8, they add another important corrective to the traditional story of Danish agricultural modernization. Denmark is usually understood to have been a liberal paragon amidst an increasingly protectionist Europe by the later nineteenth century. In contrast to this view, and based on previous research, the authors demonstrate that Danish trade policy in fact offered considerable (implicit) subsidies to dairy production, thereby directly intervening in favour of a specialized sector.

Sharp and Lampe effectively complicate the traditional narrative of Danish agricultural modernization. Importantly, however, they continue to emphasize that the cooperatives were indeed crucial for the economic development by the later nineteenth century. While early elite innovations acted as the long-run preconditions for their success, the cooperatives were still important. The organizational form of cooperatives contributed to raising the productivity of dairy production more than both estate and community dairies (although the contribution of new technology was comparatively higher). Sharp and Lampe also turn against another common assumption by arguing that the cooperatives were capable of eclipsing both dairy production on the estates and private community dairies not due to a unique national homogenous culture among peasant-farmers, but rather due to the lack of internal competition and by being better to ensure product quality. While the authors briefly speculate on what would have happened had the cooperatives not been established, their focus remains on the question of their contribution to economic growth. However, the cooperative movement was influential in many other social and political aspects as well as important for explaining, for example, why Denmark not only successfully economically developed but also why and how it became one of the most egalitarian societies in the world.

Can the 'Danish model' effectively be implemented to ensure economic development today? In the final chapter, the authors argue that the discrepancy between the traditional ideal image of the Danish model and its actual historical preconditions goes a long way in explaining failed attempts to emulate the model in the twentieth century. In this sense, the book is a much-welcomed warning about looking to ideal 'models' of development without taking care to understand how these models were products of specific historical conditions. Nevertheless, the authors argue that with this in mind, the Danish model still has important lessons for development policy today.

Sharp and Lampe's book is an important corrective to the traditional story of Danish agricultural modernization with a special interest for economic and agricultural historians. Any new writings of Danish economic and agricultural history will have to consider their findings. The reconsideration of the role of the cooperatives also have implications beyond the economic history of Denmark, and it will be interesting to see how Sharp and Lampe's findings and arguments will affect social, cultural, and political histories of the period as well.

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LLUÍS SERRANO JIMÉNEZ, *Tancar la terra: Pràctiques de propietat i dinàmiques socials (Catalunya, 1850–1910)* (Documenta Universitaria, 2018). 324 pp. €20.

The subject of this book, written in Catalan, is 'the making of enclosures (*procés de tancament de finques*) and the social construction of rural property in Catalunya during the second part of the nineteenth century' (back cover). It covers a rural southern European society in the period up to 1910, the year after the protests known as the 'tragic week' (25 July to 2 August 1909) took place in Barcelona, the capital of Catalunya and industrial stronghold of the rural Kingdom of Spain. Across the entire 'long nineteenth century', Spain was a predominantly rural kingdom, like much of southern Europe. One of the merits of this book is how it contextualizes practices of rural property in Catalunya in the '*longue durée*' (p. 25) preceding the First World War. Elsewhere in Europe, enclosures existed long before the unprecedented industrialization of the post-1850 period, which emerged in industrial outposts surrounded by persistently rural societies. As such, the author makes explicit reference to Marc Bloch (p. 11), the founder of *Annales*, who studied the 'agrarian individualism' and enclosures of pre-Revolutionary France which undermined feudalism and its privileges by favouring democratizing reforms involving land redistribution and republican citizenship.

Tancar la terra stems from a doctoral dissertation defended at the University of Girona in 2015, and investigates 'the discourses of the enclosure decrees in the Official Journals (*butlletins oficials*) of the four provinces of Catalunya' (p. 9), Barcelona, Girona, Lleida and Tarragona. The book is divided into seven chapters and includes several statistical charts and maps. Serrano Jiménez begins by introducing his

main source and approach (the Official Journals and their discourses), and then surveys the 'socio-professional categories' (p. 79) linked to landed property, highlighting the importance of the aristocracy (p. 86). Then he uses the Official Journals to analyze how poor peasants were prevented from accessing increasingly privatized rural spaces. The focus then moves on to the legal enforcement of these prohibitions, and how they served dominant private interests. These interests also shaped the juridical dimensions of enclosure, itself deeply linked to 'the idea of exclusive and excluding property' (pp. 142, 165). In chapter 5, Serrano Jiménez examines how these dominant interests also took control of paths, which were progressively swallowed up by this 'more exclusive right of property' (p. 195). The penultimate chapter, on Catalunya's pioneering promotion of armed groups for 'the vigilant protection of private property' (p. 197), is particularly interesting and will be the subject of the remainder of this review. Finally, the author demonstrates that in rural Catalunya hunting rights largely remained a privilege of elites enjoying a period of unprecedent industrialization.

One of the finest historians of Catalunya, Pierre Vilar (who is repeatedly quoted in this book – on pp. 10, 16, and so on), highlighted the industrialization of this rural part of Spain. He collected empirical evidence which showed that, 'for the Catalan economic elites', the more rural rest of Spain never ceased to appear as 'a sort of colonial market to be artificially reserved for Barcelona' ('La vie industrielle dans la région de Barcelone', *Annales de géographie*, 1929). Integrating this industrial dimension would bring new insights for agricultural history, especially since it emerged during the period under examination in this book, involving complex phenomena of external and internal colonization. Moreover, our knowledge of differently industrialized European societies could be empirically deepened, enlarged and nuanced by considering the great property concentration that characterized the rural worlds of Southern Europe in this period. José Álvarez Junco recently highlighted how Edward Malefakis' *Agrarian reform and peasant revolution in Spain: Origins of the Civil War*, a 'masterpiece' written half a century ago, remains perennially fashionable because its empirical analysis of the rural worlds in Spain during the Second Republic (1931–36) deals 'in fact with all the great economic and political problems' (*El País*, 23 August 2016).

The anti-republican *Coup d'État* of 1936 used nationalist violence to bypass the complex problems related to the concentration of rural property in Spain and any democratizing reforms to rural property Their *longue durée* roots have to do with what the author calls 'the so-called Liberal Revolution' (p. 17), especially in the Spanish context so persistently marked by *caciquismo* (clientelism) within and beyond the rural worlds. Indeed, while the universal rights of political liberalism (freedom of conscience, etc.) were bloodily repressed by Francoism, avoiding democratizing reforms, the *laisser faire laisser passer* system of economic liberalism based on property was reinforced as never before. Thus, Catalunya fortified its dominant industrial position in the Spanish Kingdom, whose regime was established anew through the brutality of dictatorship. The relationship between violence and the 'silent revolution' (p. 26) of 'the great work of property' (p. 21) studied here, has then to be approached through a flexible chronology straddling both the nineteenth and the twentieth centuries. It would also be useful to compare Catalunya with other regions of the Kingdom.

In the sixth chapter, 'Vigilance, Repression and Rural Guards', Serrano Jiménez interestingly points out that, as early as in 1846, the Barcelona Association of Large Landowners (*Asociación de Propietarios de Barcelona*) 'asked the Queen to confer on their rural guards a public character' (p. 198). Comparisons with the rural Kingdom of Italy and especially with its Northern regions, where industrial nuclei emerged in another mostly rural space marked by clientelism and aristocratic big landowners, could shed new light on how self-serving dominant groups co-opted institutions and official roles in the name of the public good. A good way to avoid 'the great narrative of the development of the North' (p. 8), could be to demonstrate how and why the appropriation of power in this manner in Mediterranean Europe so often appears as a process operating in small fiefdoms, which mechanically reproduced local privileges in its rural and dominant worlds and beyond. As such, the question of 'property' in Catalunya, which is interestingly analysed by Serrano Jiménez, could be deepened and enlarged by adding to it the concepts of 'capital' and 'field', as the sociology of Pierre Bourdieu invites us to do.

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CONNIE Y. CHIANG, *Nature behind barbed wire: An environmental history of the Japanese American incarceration* (Oxford University Press, 2018). 328 pp. 34 illus. £22.99.

Since the nineteenth century, the abundance and open space of the American West represented freedom to immigrants and their descendants even as ecological constraints held them hostage to natural forces. In this narrative, new arrivals chose to resettle places that demanded an accommodation with the non-human

world. During the Second World War, the United States government forcibly removed Japanese Americans from the Pacific Coast and incarcerated them at internment camps located in the arid Western interior. As Connie Y. Chiang demonstrates in *Nature behind barbed wire*, the environmental realities of their relocation to, confinement at, and hardships living in the camps mediated their unjust treatment during the war. But Chiang also makes clear that in many ways Japanese Americans leveraged those material realities of the non-human world to enhance their living conditions and negotiate the terms of their incarceration. In this way, Chiang uses the environment as a lens through which to investigate the social relations of freedom, injustice, and agency that characterized the history of Japanese American internment camps during the war.

Barbed wire fences defined the physical space of the camps, and therefore the practical edges of Japanese American freedom during the war. By emphasizing the relationship between detainees and their environment, however, Chiang also illustrates how the fences serve as a wonderfully evocative metaphor for both the denial and reclamation of freedom. Chiang makes clear that fences created a framework for both for detainees and historians to understand how farm fields and gardens, a windswept and arid climate, and the enormity of the surrounding landscape shaped the wartime experience of Japanese Americans. Despite the importance of the fences as a literal and imaginative framing device, Chiang demonstrates that detainees consistently engaged with the environment outside camp settings through farm work, hiking, swimming, and fishing in ways that transgressed the fences. By exploring how Japanese Americans interacted with their environment during the war, Chiang demonstrates that they negotiated their incarceration every time they moved back and forth across the edges of the fenced camps. Yet, of course, as Chiang is careful to point out, 'True freedom remained elusive' for Japanese Americans living behind barbed wire (p. 173).

Indeed, one of the sad ironies of the Japanese American incarceration was that detainees made several meaningful and symbolic contributions to support a war being fought in the name of freedom at the same time as their own personal freedoms were denied. This contradiction was manifest nearly every time detainees interacted with the environment in and around the camps. When they cleared scrubland, dug irrigation ditches, and planted and harvested crops, detainees contributed to the war effort materially by engaging in what Chaing calls 'environmental patriotism' (chapter 5). But they often withheld their labour and went on strike to protest inadequate living conditions and demeaning outdoor work that unfairly exposed them to the environment of the arid West. In negotiating their encounters with the environment inside and outside camp fences, Japanese Americans performed their freedom both through loyalty to the United States and by satisfying individual and community desires and needs.

Chiang's greatest contribution comes from connecting notions of Japanese American agency (or lack thereof), which have defined the study of their incarceration for many years, with a central tenet of environmental history that insists the non-human world also has agency capable of helping historians explain power relations between people and how they have changed over time. Incarceration is a denial of agency. But Chiang shows that despite detainees' 'state of relative dependence and their overall vulnerability … they found many ways to harness nature and assert some control over the terms and conditions of their confinement. In doing so, they often proclaimed their Americanness' (p. 5). By highlighting their agency, not only in relation to the camp administrators and guards, but also in terms of a reciprocal relationship with the arid West, Chiang builds on work exploring environmental inequality by revealing that injustice was inextricably tied to much longer histories and understandings of place. 'If they [detainees] could turn desolate land into productive fields, like the white pioneers before them', Chiang argues, 'their confinement might appear all the more undemocratic. The foreboding landscapes of the camps, in short, could become a source of power in their wartime struggles for inclusion' (p. 98).

Yet, this quotation also contains one of several problematic word choices that Chiang uses throughout the book to describe the arid West where the camps were located. At various points, Chiang characterizes the environments where camps were located in pejorative terms (e.g. 'desolate,' 'unforgiving,' 'foreboding,' 'unmediated,' 'harsh,' 'adverse,' 'oppressive'). Certainly, ample evidence makes clear that these qualitative descriptions reflect how administrators and detainees perceived the camp environments. But Chiang's own use of this kind of language in her analysis is surprising considering that environmental historians have done a thorough job explaining how this privileges an outsider's view (most often characterized as Euro-centric) of places that were none of those things to Indigenous peoples, especially given that two of the camps Chiang examines were located on Native American reservations.

Nature behind barbed wire offers an interesting perspective on the intersection of environment and

injustice by exploring how Japanese Americans used their relationship with the non-human world to carve out greater control for themselves amidst wartime incarceration. At times, it is not clear how or why environmental history adds to our understanding of this history. Chiang does not always clearly explain why we need to understand the environment to understand the refusal of detainees to engage in arduous labour outdoors, or why they occasionally went on strike. Chiang insists that nature influenced their decisions, and she makes a convincing case for this. But as Chiang and others have so clearly articulated, Japanese Americans objected to dirty and disagreeable work, because they felt unjustly treated. The non-human world has agency in this story, but at times Chiang seems to confuse this with human agency. In the end, human oppression still explains this story better than nature behind barbed wire.

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VENUS BIVAR, *Organic resistance: the struggle over industrial farming in postwar France* (University of North Carolina Press, 2018). 240 pp. 16 b&w illus. $29.95.

'The story of postwar French agriculture,' argues Venus Bivar in this readable and well-researched book, 'is really two stories that must be told in parallel: the story of a brutal state-mandated industrialization and the story of those who resisted it with alternative methods and markets' (p. 181). That, in a nutshell, is the shape and content of the story told here. Five substantive chapters cover the years between 1944 and 1980, oscillating between the extraordinary growth of export-focused industrial farming, and the early development of an organic movement that would eventually inform the turn to quality, and the environmental concerns, of more recent years.

If not a frontal assault on the idea that France is a 'bastion of gastronomic quality' (p. 49), the book nonetheless sets out to correct the too rose-tinted, too myopic vision of the country's recent rural past, inasmuch as the latter is transmitted to us through pervasive stories of tradition, *appellations d'origine* and terroir. Following the Second World War, Bivar argues that the land and the agricultural practices of France changed profoundly, as the national government sought to rationalize a patchwork landscape, modernize farming methods, promote the service economy, and improve the country's balance of payments by exporting basic foodstuffs to the European common market. These changes are illustrated both with analysis of policy, media coverage, and economic figures, and with telling individual stories. Some of the economic figures are – if not surprising to some rural historians – at least remarkable: French exports to Europe increased by a factor of eight in the 1960s; total agricultural exports grew by 390 per cent between 1963 and 1974; and by that time, France stood as the second largest exporter of agricultural goods in the world.

One of the key arguments of the book is to be found in chapter 3, where Bivar explains that the idea of prosperity for all, so often used to justify post-war modernization efforts, was in reality limited to big players on the agricultural stage. As the size of viable farms increased, as farmers became increasingly indebted, as the number of farmers fell away, and as the state used its planning apparatus to help large farms consolidate their position, so disenchantment amongst small farmers spread. In the search for alternatives, Bivar charts the gradual rise of the organic movement, and hooks her analysis on key figures such as Raoul Lemaire and André Louis. We are shown a variety of motivations among the farmers and interested onlookers who join their ranks, and the community is built 'one letter at a time' (pp. 64–5), including collaboration across the border with farmers and scientists in Germany, and overseas. The organic products they helped to create in the 1950s and 1960s resonated first with popular ideas of health, vitality and purity, and later with growing anxieties about pesticides and environmental degradation. Though in the decades that followed, the organic movement split into different factions, its influence continued to grow, and in chapter 5 the author considers how its nationwide adoption by (generally small) farmers fed into an emerging policy agenda around environmental services, rural tourism, and the promotion of quality food and drink. In keeping with the book's overall perspective, however, the author reminds us that whilst organic agriculture gained credibility in the 1970s, conventional agriculture was still going 'at breakneck speed' (p. 143).

Analysing the rural share of the *trente glorieuses* period of French history, Bivar convincingly argues that 'the industrialization of French farming was one of the more stunningly thorough and brutally aggressive cases of agricultural transformation of the modern era' (p. 176), and gives a nod to those scholars who have described the activity of the period as a revolution. She synthesizes a good deal of literature, much of it in French, and the book will provide substantial insight for those interested in that part of history but who can't easily access it for language or other practical reasons. Bivar uses many of the farmers' own words, harvested from personal correspondence and

the media, and diligent archival work allows her, for instance, to adduce evidence for a concerted campaign by identifying the same content on two different union letterheads (p. 109).

Anyone coming at this book's large subject in 200 pages is liable to receive criticism regarding omissions, particular foci, interpretation, and so on, notwithstanding the work's merits. One very minor issue which might chafe rural historian readers is the use of the term 'county' in the French context in chapter 1. Because they had no official status in the period under study, talking of counties as opposed to *départements*, cantons or regions is more distracting than helpful, and given the departmental map provided at the front of the book, unnecessary. Slightly more than semantically, the coverage of 'terroir', including the brief assertion that it had been a term 'largely dormant since the 1940s' (p. 5), could be improved. Where the author points to the significance of the public being educated on France's diverse *produits de terroir* in press coverage and government-sponsored guides in the 1980s, I would argue this formed part of a longer cultural tradition of associating place with product, one rehearsed through gastronomic and viticultural maps from the late eighteenth century to the present day. Indeed, it would have been instructive to mention the annual *Salon Internationale de l'Agriculture*, held in Paris every year since 1964, amidst the great transformations of modernization so well documented in Bivar's book. That event offers a prospectus of agricultural goods from around the country and puts into motion what I have elsewhere called France's geographical culture ('Staging a nation's culinary geography at the Salon de l'Agriculture', *Cultural Geographies*, 2018, (25), pp. 643–9). Whilst we might disagree on the impact of that cultural sense, the author and I would probably agree on the propensity of many French products to rehearse a fantasy of rural France and its food production which diverts attention from its largely industrial character. Any scholar interested in that interface would be well advised to read this book.

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Society notices

The Society's conferences

In view of the on-going restrictions created by the COVID-19 pandemic, the Society has decided that it will not be able to hold its Spring Conference in the usual residential format in April 2021. We hope to be able to organize in-person events later in 2021, but instead of the Spring Conference, we propose to convene a number of half-day Zoom meetings in the Spring of 2021 starting with one to be held on the afternoon of Monday 12 April, which will be followed by the AGM for 2019–20 and 2020–21.

Full details of these meetings will be circulated with *Rural History Today* at the end of January 2021. They will also be posted on our website, and further circulated in the EURHO newsletter and in our own email newsletter. Members of the Society who have not already signed up to the email newsletter (and they are many) are very much encouraged to do so. The email newsletter will increasingly be the means by which we communicate with our members (and supporters) and bring to their attention news both of the Society and its activities but also developments elsewhere within the discipline as a whole. To sign up, please use the form on the Society's website (www.bahs.org.uk/newsletters.html).

The Executive Committee and Society Officers

At its next AGM, to be held on 12 April 2021, the Society wishes to reinforce its Executive Committee with new members. Whilst nominations of members of the society from all backgrounds and interests are welcome, for reasons of balance the Society would particularly welcome the nomination of younger members of the Society and women. The normal period of service is four years, re-electable once, after which a 'fallow' year must be taken. The committee is a working one and its members are ex-officio the trustees of the Society. Anyone who wishes to know more about what might be involved is invited to contact the Acting Secretary.

The Society also wishes to elect a new secretary to come into office no later than the 2022 AGM but who might shadow the Acting Secretary during 2021. Again, anyone interested is invited to contact the Acting Secretary.

Full details of the AGM, with nomination papers for the Executive Committee and officers, will be circulated to members at the end of January 2021.

To contact the BAHS and its officers and staff,
please use the contact form at www.bahs.org.uk/contact.php.

Joan Thirsk Memorial Prize 2021

The British Agricultural History Society is pleased to invite submissions for its Joan Thirsk Memorial Prize, awarded annually for the best book in British or Irish, Rural or Agrarian History. Books published for the first time in 2020 in the broad area of British and Irish rural history, or which use Britain and Ireland as comparators, are eligible. Submission is by sending a pdf of the work to the secretary of the prize committee by noon on 11 January 2021.
The Winner will be announced in April 2021. Full details of eligibility and how to submit can be found at www.bahs.org.uk/Thirskprize2021.pdf.

Previous winners of the prize have been

2017: Peter Jones, A*gricultural Enlightenment: Knowledge, Technology and Nature, 1750–1840* (OUP).

2018: Briony McDonagh, *Elite Women and the Agricultural Landscape, 1700–1830* (Routledge).

2019: Paul Warde, *The Invention of Sustainability: Nature and Destiny, c.1500–1870* (CUP).

2020: Rosamond Faith, *The moral economy of the countryside. Anglo-Saxon to Anglo-Norman England* (CUP).

'An excellent improver of the soil': Marl and the landscape of lowland Lancashire*

by William D. Shannon

Abstract

In parts of lowland Lancashire almost every field had its marl-pit. Most of these were dug during the eighteenth century, but the history of the use of marl goes back to antiquity. It would appear that, prior to the eighteenth century, marl was mainly dug on the waste, and carted to where it was to be used, primarily to bring new land into cultivation from the mosses, lowland moors and heaths. Later, post-enclosure, and as the cost of carriage became the determining factor, it became the norm instead to dig for marl in the fields in which it was to be spread; although 'industrial-scale' marl extraction continued on the wastes, sometimes using railways to bring it to where it was required. Early in the nineteenth century marl began to be replaced by lime and imported mineral fertilizers: but the legacy of marling remains in the large numbers of flooded pits which continue to be such a striking feature of the Lancashire landscape.

The evidence for historic marl-digging is still a distinctive feature of the Lancashire plain. Angus Winchester has described how the district is 'peppered with literally thousands of pits and ponds'; while a map in Rackham's *History of the countryside*, showing the national distribution of ponds in the 1920s, highlights the extent to which this was a highly regionalized phenomenon, with just two parts of the United Kingdom where there are more than 16 ponds to the square mile, namely East Anglia – and Central/South Lancashire and Cheshire.[1] Often in the centres of the fields and surrounded by trees, Lancashire's ponds are not always easy to spot today from the road or footpath. They are not to be seen on the 1:50,000 map; but they are marked on the 1:25,000 maps, are clearly visible on Google Earth, and are particularly striking on the old Six Inch maps (Map 2) and tithe maps. The vast majority of these ponds

* The quotation is from John Holt, *General view of the agriculture of the County of Lancaster: With observations on the means of its improvement* (1794, repr. New York, Augustus Kelley, 1969), p. 112. I would like to thank Professor Richard Hoyle for his helpful comments on an earlier draft of this paper, and also the two anonymous reviewers for their contributions, especially in pointing me at a number of useful references that I had missed.

[1] A. Winchester, *England's landscape: The North West* (2006), p. 94. For studies of marl pits in other counties, see E. Jeffery, *The marl pits of West Sussex* (West Sussex Record Office Tithe Maps Project, 2008); H. C. Prince. 'The origins of pits and depressions in Norfolk', *Geography* 49 (1964), pp. 15–32; Upton by Chester Local History Group, *The marlpits around the Upton area*, www.historyofuptonbychester.org.uk/marlpits.html [accessed 25 March 2019]; O. Rackham, *The history of the countryside* (1986), p. 347 (fig. 16.10); for Scotland, see R. A. Dodgshon, 'Land improvement in Scottish farming: marl and lime in Roxburghshire and Berwickshire in the eighteenth century', *AgHR* 26 (1978), pp. 1–14.



MAP 1: Lancashire (pre-1974 boundaries) showing hundreds, and places named in the text.



FIGURE 1: Marl Pit, Elston Lane, Elston, nr. Preston, showing steep sides to left, and approach slope to right and foreground (Photo: author)

are man-made, yet they clearly perform no role in today's agriculture: indeed as Smith wrote in 1929, 'they are frequently a source of annoyance in arable parts, albeit a useful drinking place for stock'.[2] As a result, many have been filled in since their heyday: although their shadowy traces can sometimes still be seen in the landscape or in aerial photos/Google Earth.

A few of these pits could just be natural 'kettle holes' left behind when the glaciers melted: but when and why were the rest of them dug? Some might perhaps have originally been dew ponds for watering cattle; yet others perhaps were dug as fish ponds; while there were also sand pits, gravel pits, 'daube pits', or clay pits for brickmaking: but by far the majority of the Lancashire ponds are the flooded remains of 'marl-pits' (Figure 1), and indeed some are still referred to locally by that name. In the past, these pits were claimed to be 'the foundation of the improvements in the agriculture of this county', as the source from which marl, widely regarded as the best of fertilizers, was dug out.[3] As such these marl-pits are as important a relic of local past agricultural practices as are the traces of ridge and furrow which survive today, particularly in the eastern and midland counties.

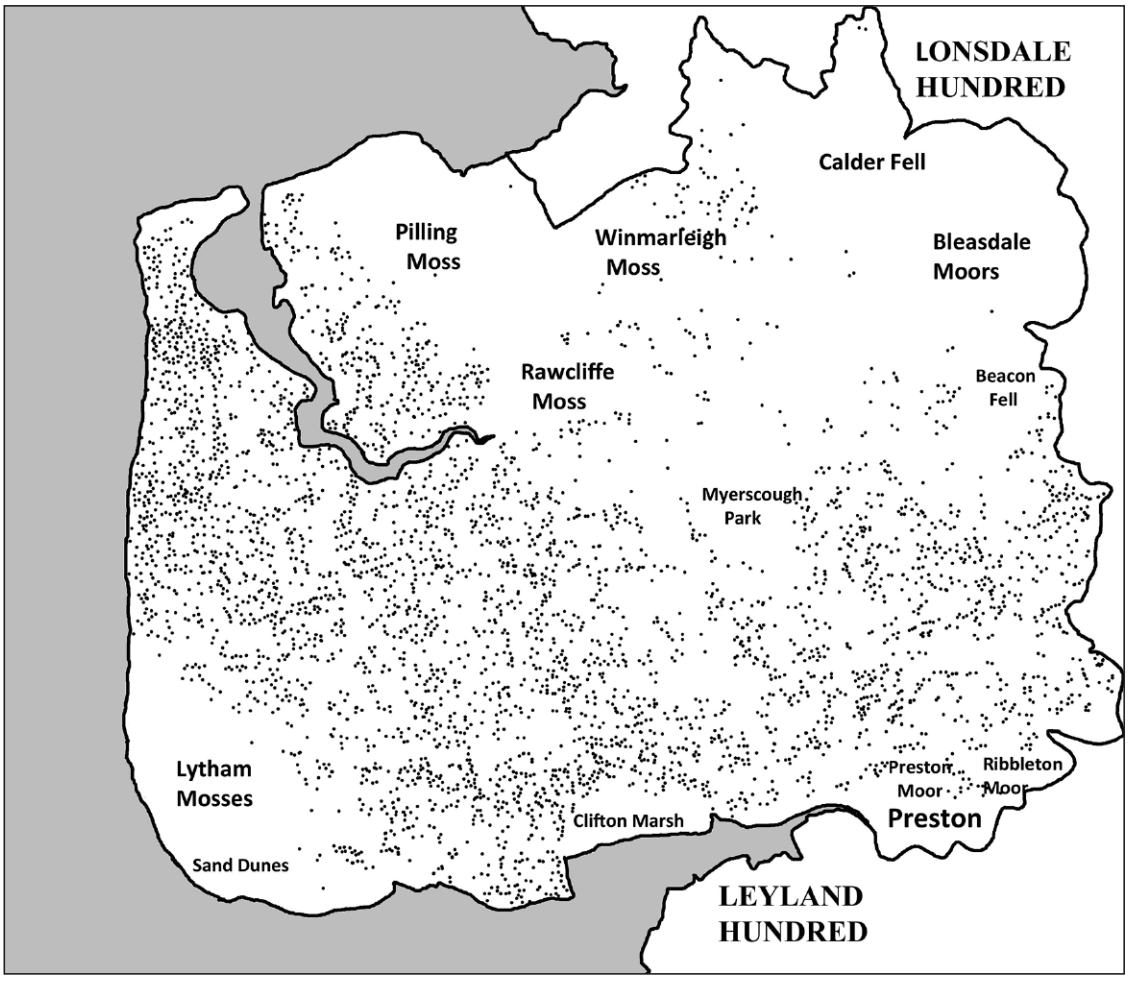
This paper will discuss the changing history and geography of marl extraction and use within the county, from medieval through early modern to the eighteenth and nineteenth centuries. It will explore changing patterns in the getting and using of marl over time, its role in the lives of the people of lowland Lancashire, and its impact on the landscape, then and today. The question as to what marl is, is left to an Appendix. All places named in the paper are shown on the location map (Map 1).

[2] A. M. Smith 'The soils of Lancashire and Cheshire: A preliminary study', *J. Agriculture* 36 (Ministry of Agriculture, 1929), pp. 326–35.

[3] Holt, *General view*, p. 111.



MAP 2. Extract, Sheet 61, First Edition Six Inch Ordnance Survey, surveyed 1844–47. More than fifty flooded pits can be seen in this one square mile extract showing part of Fulwood and Ribbleton, north of Preston. The area south of Watling Street as far as the brook, and the area either side of Long Sand Lane were only enclosed in 1815, as part of the Fulwood Forest enclosure: the pits are not shown on the enclosure map, so must post date 1815. The older pits to the south of the brook, in Ribbleton, would appear to be somewhat smaller than the Fulwood pits. Note that, unusually, four *Marl Pits* north of Watling Street are so named, suggesting they were still active at the date of the survey. Other pits, not flooded, are named as *Gravel Pit*, and *Sand Pit*, whilst the site of a former tannery is named as *The Tan Pits*. (OS map reproduced with the permission of the National Library of Scotland)



MAP 3. Marl Pits in Amounderness. Some 3700 marl pits are shown within the hundred boundaries, taken from the First Edition Six Inch map sheets 35–68. The main districts showing no or few marl pits are named.

I

Lancashire is fortunate in having the earliest Six Inch Ordnance Survey maps in the country, surveyed in the mid- to late 1840s.[4] Map 3, based on those maps, shows the end product of centuries of pit-digging in Amounderness, one of the lowland hundreds of Lancashire, which embraces the district known as the Fylde. Nearly 4000 pits and ponds can be seen within this area alone: in some places almost every field had its own pit. Evidence for the digging of those pits is sparse in the extreme: but the probability is that this widespread dispersal occurred in the eighteenth century, after enclosure but before the coming of the canals and the cheap lime that they brought to the district. In earlier centuries, though, it would appear that the pits were dug, not within or adjacent to the fields upon which the marl was to be spread out, as was the

[4] R. Oliver, *Ordnance Survey Maps: A concise guide for historians* (1993), p. 11.

case in the eighteenth century, but out upon the waste, whence the marl was carted to where it was to be used. At all times, though, there was a balance to be struck between the location of the pit and where the marl was to be used, as the cost of carriage rapidly exceeded the cost of getting the marl. Perhaps that did not matter when tenants were digging and carting marl themselves from the lord's pit: but it certainly mattered to the eighteenth-century improving landlord. However, despite the obvious long-term economic and other disadvantages, there seems in time to have been what can only be thought of as a 'fashion' for a pit in every field: and it has to be asked whether the return on the effort, coupled with the permanent loss of a small but significant part of the total potential arable land, was ever financially justified in many cases.

The historiography of marl is limited, to say the least. Fussell wrote a very brief paper on the subject in 1959.[5] The *Agricultural History Review* has been published since 1953: but although passing references to the subject are not uncommon, there have only ever been three papers in this journal with 'marl' in the title, of which the most recent dates from 1994.[6] Insofar as any academic attention at all has been given to marl, it has been discussed uncritically, or in passing, focusing on its economic impacts, particularly examining the attempts at cost-benefit analyses by the eighteenth and nineteenth century 'improvers' like Holt, the contributors to *Communications to the Board of Agriculture*, or the authors of *The Complete Farmer*.[7] This, though, is to gloss over the fact that for most of its long history, marl was applied exceptionally, not as part of the routine agricultural cycle. The men that applied it, did so in the *belief* that it worked, in the same way that they believed blood-letting worked. Its digging and spreading were occasions for little rural ceremonies and celebrations; but its getting could also be the subject of disputes between or within manors, while marl-digging could also lead to serious industrial accidents. Once dug, and abandoned, the pits acquired secondary uses, as fish-ponds for example: but on arable land, the pit permanently took that part of the field out of production. Over time, pits went from extreme scarcity, dug on the margins, to the point where, in some districts, literally every field had one: and then as cheap lime became available, the abandoned pits became merely a relic of a former age, remaining to this day a feature of the landscape of lowland Lancashire.

II

The first mention of marling in Britain is some two thousand years ago, in Pliny's *Natural History*.[8] However, Pliny is far from clear as to what he means by *margam*; and the confusion over what exactly marl is, and what it does, is a feature of early modern and later agricultural writers, in part at least conditioned by the fact that each writer tends to describe the marl with

[5] G. E. Fussell, 'Marl: An ancient manure', *Nature*, 24 January 1959, pp. 214–17.

[6] M. Thick, 'Sir Hugh Plat and the chemistry of marling, *AgHR* 42 (1994), pp. 156–7.

[7] Holt, *General view*; various authors, *Communications to the Board of Agriculture* (6 vols, 1797–1808 (esp. J. Rodwell, 'On clay and marle', II, pp. 451–5; J. Kiddle, 'Clay Marle', IV, pp. 124–5; T. Chatterton, 'Marle', IV, pp. 125–7; J. Willis, 'On Marl, Chalk and Clay', VI, pt I, pp. 31–40); A Society of Gentlemen, *The complete farmer or a general dictionary of agriculture and husbandry*, XI, *Marle* (5th edn, 1807) (unpaginated).

[8] Pliny, *Natural history*, ed., H. Rackham (1961), V, Book XVII, iv. pp. 29, 42.

which he is most familiar, the word being used promiscuously for anything below the sub-soil which was brought up and spread on the surface, either (or both) to improve the texture or reduce the acidity of the soil. This is discussed in more detail in Appendix I.

Although Walter of Henley (*Le Dite de Hosebondrie*, early thirteenth century) made a passing reference to marl, direct contemporary primary evidence for medieval marling is hard to come by, perhaps inevitably.[9] Archival material is unsurprisingly patchy in its coverage: thus for example, in the many hundreds of deeds covering all parts of central Lancashire which make up the Hoghton collection, dating from the twelfth to the seventeenth centuries, there is not a single reference to marl, though other products of the waste are mentioned – including turbaries, stone quarries, coal and lead mines.[10] Such early evidence as there is, tends to come from court documents, where there is an inevitable bias, in that a freeholder digging marl on his own land, or a lord ordering digging in his demesne is unlikely to attract the attention of the courts. Nevertheless, such evidence as survives suggests strongly that in the medieval period marl was dug out on the waste, rather than in the fields themselves. The very nature of common fields, which, as Youd first showed, were the norm on the Lancashire Plain in the medieval period would have precluded the digging of marl therein.[11]

The oldest record we have locally, a grant of 1310 referring to a piece of land in Thornton, near Little Crosby (West Derby hundred), specifically grants the right 'to take marl (*capere marliam*) in the common for marling (*marliandum*) the said place'.[12] In the same year, there is a reference to a claim against 'Henry the Marler' at Ingolhead, Broughton (Amounderness hundred), suggesting that marling was sufficiently widespread at that date to be a profession in its own right: but also perhaps sufficiently unusual as not to be something a farmer did for himself.[13] In another medieval reference, a lease of 1338 conferred rights on the waste of *Gerlaghside* in Wheelton (Leyland hundred), including pasture, marl and clay (*marla et clay*), and peat.[14]

These dates are perhaps significant, in that this was the time when, in the words of Winchester, 'the cultivated area expanded in the lowlands; inroads were made into surviving woodland as new farms and hamlets were established and "assarting" (clearance for cultivation) took place'.[15]

This phase came to an end with the crises of the mid-fourteenth century: and it may be that there was thereafter little widespread call for marl until the early sixteenth century, when new land began once again to be taken in from the waste. In the meantime, again as Youd and Winchester have shown, open fields had become much less common, disappearing through piecemeal enclosure through the exchange of strips to form consolidated individual holdings.[16]

[9] E. Lamond (ed.), *Walter of Henley's husbandry* (1890), p. 30.

[10] J. H. Lumby, *A Calendar of the Deeds and Papers in the Possession of Sir James de Hoghton, Bart, of Hoghton Tower, Lancashire* (Rec. Soc. Lancashire and Cheshire, 1936).

[11] G. Youd, 'Common lands and enclosure in Lancashire' (Unpubl. MA dissertation, Liverpool University, 1958).

[12] TNA LA DDM/49/12.

[13] *Victoria County History*, Lancashire, VII, p. 120.

[14] LA DP/397/23/1.

[15] Winchester, *North West*, p. 40.

[16] Youd, *Common lands,* passim; Winchester, *North West,* p. 86–90.

III

The early modern period brought an explosion of books on improvement, notably that of John Fitzherbert, from Derbyshire, whose *Boke of Surveyeng and Improumentes* (1523) was critical of those who did not keep up the practice of marling, particularly where plough-land had been abandoned and let to become 'busshy groundes and mossy', saying that 'all other countreis may take ensample at Chestershyre and Lancastershyre, for many of them that have so doone, have made the improwmentes as good as the lande was before'.[17] William Camden (1586) had noted in Lancashire 'the abundance of marle (*margam*), which serveth instead of mucke to enrich their grounds'.[18] John Norden in his *Surveiors Dialogue* (1618) continued with Fitzherbert's trope of abandoned marl pits, 'first found and digged by the providence and industry of our forefathers, and left and lost by the negligence of latter times'.[19] He noted in particular marling in 'Lancashire, Cheshire, Shropshire, Somerset, Middlesex, Sussex, Surrey'.[20] Walter Blyth (1652) could not speak highly enough of marl, and recounted some of his own practical experiments, concluding: 'the lands upon which Marle yeelds great Increase is upon your higher Sandy Land mixed or Gravelly … but strong Clay in my opinion is most unsuitable. But an exact tryall I never made thereof, therefore am not Peremptory'.[21]

In this he was starting, or echoing, the received wisdom which later emerged as a jingle apparently first recorded in 1819:

> He that marls sand may buy land
> He that marls moss shall have no loss
> He that marls clay flings all away.[22]

Clearly the author of that jingle had never been to Lancashire, where the vast majority of marling appears to have been applied to clay and moss soils, not perhaps for the *structural* benefits (as implied in the jingle), but primarily for its *chemical* benefits, to reduce the acidity of the soil (see Appendix I).[23]

A little earlier, Hugh Plat (1594) had made the first attempt at understanding how those chemical benefits came about, recognizing the close relationship of marl with chalk and lime.[24] He recommended searching for it using 'a long Auger or Percer, with several large bittes',

[17] J. Fitzherbert, *Boke of surveyeng and improumentes* (1523, facsimile edn, Theatrum Orbis Terrarum, Amsterdam, 1974), fol. xlvi.

[18] William Camden, *Britannia*, London (1586), 506: Translation by Philemon Holland from the 1637 edition, p. 745.

[19] J. Norden, *The surveiors dialogue* (3rd edn, 1618, repr. 1979), p. 222.

[20] Ibid., p. 223.

[21] W. Blith, *The English improver improved or the survey of husbandry surveyed* (1652), p. 139.

[22] *Notes and Queries*, 3rd Series, II, 28 March 1863: reported as having been printed in Evans & Ruffy's *Farmers' Journal*, 3 May 1819, contributed by 'A lord of a manor' who said it was 'an old saying'.

[23] See W. M. Mathew, 'Marling in British agriculture: A case of partial identity', *AgHR* 41 (1993), pp. 97–110, for a discussion of the way nineteenth-century writers tended to focus upon the structural benefits of marling, in adding body to light soils, rather than upon the chemical benefits of neutralizing acid soils, which was its main purpose in damp, boggy Lancashire.

[24] H. Plat, *Diverse new sorts of Soyle not yet brought into any publique use, for manuring both of pasture and arable ground* (1594), pp. 23–4. For discussion of this work, see M. Thick, 'Sir Hugh Plat and the Chemistry of Marling, *AgHR* 42 (1994), pp. 156–7.

looking for the 'right Marle', distinguishable by its 'whitenesse and hardnesse'.[25] Somewhat later, Gabriel Plattes (1639), who seems also to have had personal experience of the 'barren mossie ground' of the 'North Countrey', explained 'these fat veines of Marle' as having been formed either in the aftermath of Noah's Flood or, in a theory remarkable for its time, 'that all Land hath once bin Sea, and will be Sea again by turnes in length of time'.[26] However, he had little that was practical to say on the subject of its usage.

By contrast the *Memoranda Book of James Bankes of Wigan, 1586–1617*, gives us considerable insight into the practical concerns of an early modern Lancashire landlord, anxious to increase his revenue.[27] Thus he recommends to his sons that, should any 'morich [moorish] ground' come to the end of its lease, then they should immediately marl the land in order to increase its value before re-letting it 'so that therby you shall in cres yor Rentes'.[28] In particular he advised his sons to 'marle that which was never afor marled', and, in reviewing the various holdings that made up his estate, he drew the attention of his sons to several parcels of land which he believed would particularly benefit from marling. [29] Bankes does not tell us where his marl was to be obtained, but by implication it would not have been in the relevant fields, but somewhere else, within his waste.

As early as the 1650s, as Gritt has shown, there were improving landlords in Lancashire, notably including William Blundell of Little Crosby (West Derby hundred) who used copious quantities of marl on his estate, and who encouraged his tenants to do the same.[30] However, whilst it is unclear whether Bankes and Blundell favoured the recurring periodic use of marl to restore 'heart' to existing arable land, such archival evidence as there is for this period overwhelmingly suggests that the main use for marl in the county at this period was in bringing new land into cultivation. It must be accepted, though, that the record may be skewed. Bankes and Blundell are exceptional in leaving memoranda books: most of the records which we have that touch on marl are records of conflict. Under the law of the manor, the lord owned the soil of the waste, so only he could grant the right to dig marl there. Hence examples of marl digging came to be cited in court cases to show, for example, which of two litigants owned a particular waste.

A systematic study of 130 cases involving enclosure and improvement disputes before the Chancery Court of the Duchy of Lancaster between 1500 and 1700 revealed mentions of marling in some 21 of these cases.[31] Most of these were passing references, without detail: but the evidence of those few cases where there is more information backs up the suggestion that at this period digging of marl pits was generally something which occurred on the manorial waste, not in the fields themselves. Thus a case in Ellel, near Lancaster (Lonsdale hundred), in 1581 refers to a 'myne of whyte marle upon Ellel More', and claims the manorial lord not only

[25] Plat, *Diverse new sorts*, pp. 20, 27.

[26] G. P. [Gabriel Plattes], *A discovery of infinite treasure hidden since the Worlds beginning* (1639), p. 27.

[27] J. Bankes (ed.), *The memoranda book of James Bankes, 1586–1617* (1935).

[28] Ibid., p. 8.

[29] Ibid., p. 13.

[30] LA DDBL/Acc 6121/Box 1 – Microfilm: 'The Great Hodge Podge 1560–1698'; A. J. Gritt, 'Aspects of agrarian change in south-west Lancashire, c.1650–1850' (Unpubl. PhD thesis, University of Central Lancashire, 2000).

[31] W. D. Shannon, 'Approvement and improvement in early-modern England: Enclosure in the lowland wastes of Lancashire, *c.*1500–1700' (Unpubl. PhD thesis, Lancaster University, 2009).

had the right 'to sell lodes of the said whyte marle' (which was presumably particularly rich in calcium carbonate), but had also appointed 'overseers of the whyte marle' for that purpose.[32] In another case in the same year the lord of Chorlton (Salford hundred) accused some tenants of his neighbour of 'riotously' digging marl on his waste.[33] However, although the tenants denied that they had in fact dug the marl, they also claimed that the lord of neighbouring Withington had licensed the digging of the pit, out of which 2000 loads of marl had been removed for sale, in support of an enclosure episode.

In converting mosses, lowland moors, or heaths to arable land, the standard programme would appear to have been, first to enclose the area with a ditch, then clear and level the ground, followed by paring and burning of the turf, then spreading marl. After leaving the marl over winter to do its work, the land would be ploughed, corn sowed, and the harvest reaped. Sometimes the results were disappointing: but other cases tell of great successes, as in Chadderton (Salford hundred), *c*.1624, where stubbing and ridding four acres cost £3 6*s*. 8*d*. an acre, followed by marling at £5 1*s*. 8*d*. an acre, a total initial investment of £8 8*s*. 4*d*. an acre. However, the new land now yielded crops of barley and oats valued at £4 an acre – 'yeeldes as good as most in Salford hundreth'.[34] Allowing for other costs such as the entry fine and annual rent, plus the outlay on seed, ploughing, sowing and reaping, the improver would still have achieved a fairly rapid pay-back on his initial investment, in perhaps as little as four years. It is worth noting here, as elsewhere, that the cost of marling, like all the other costs of improvement, and hence all the risks, fell to the tenant, not to the landlord.[35]

Another case, dating from 1663 and referring to Knowsley (West Derby hundred), similarly shows not only the significance of marling costs within the total outlay on improvement, but also the dramatic returns claimed to be achievable in the right circumstances.[36] An eight-acre parcel of heath had been fenced, ditched, levelled and marled in around 1636, and then there had been a second marling some ten or more years later. Total investment was £82 over a twenty-five year period: but this turned land, which had been worth 2*s*. 6*d*. a year (or about 4*d*. an acre) into land yielding £6 a year 'above all reprizes', that is, after all rents and other expenses had been deducted, a net return of about 17*s*. per acre per annum, or 48 times the pre-enclosure value. Incidentally, the evidence in this case also suggests that it was thought worthwhile sometimes to apply a new dressing of marl every now and again.

Meanwhile the abandonment of marl pits and their subsequent use for different purposes is revealed by a case in Heaton Norris (Salford hundred) in 1593, which concerned encroachment on the waste, the specific accusation being that the defendants had been 'riotously fishing' in a flooded marl pit, an apparently trivial matter, except for the fact that had the lord let it pass, it could later be argued that that part of the waste did not belong to him.[37] The interest here, however, lies in this secondary use of worked-out marl pits as fishing ponds, presumably

[32] DL 4/23/57, 23 Eliz.

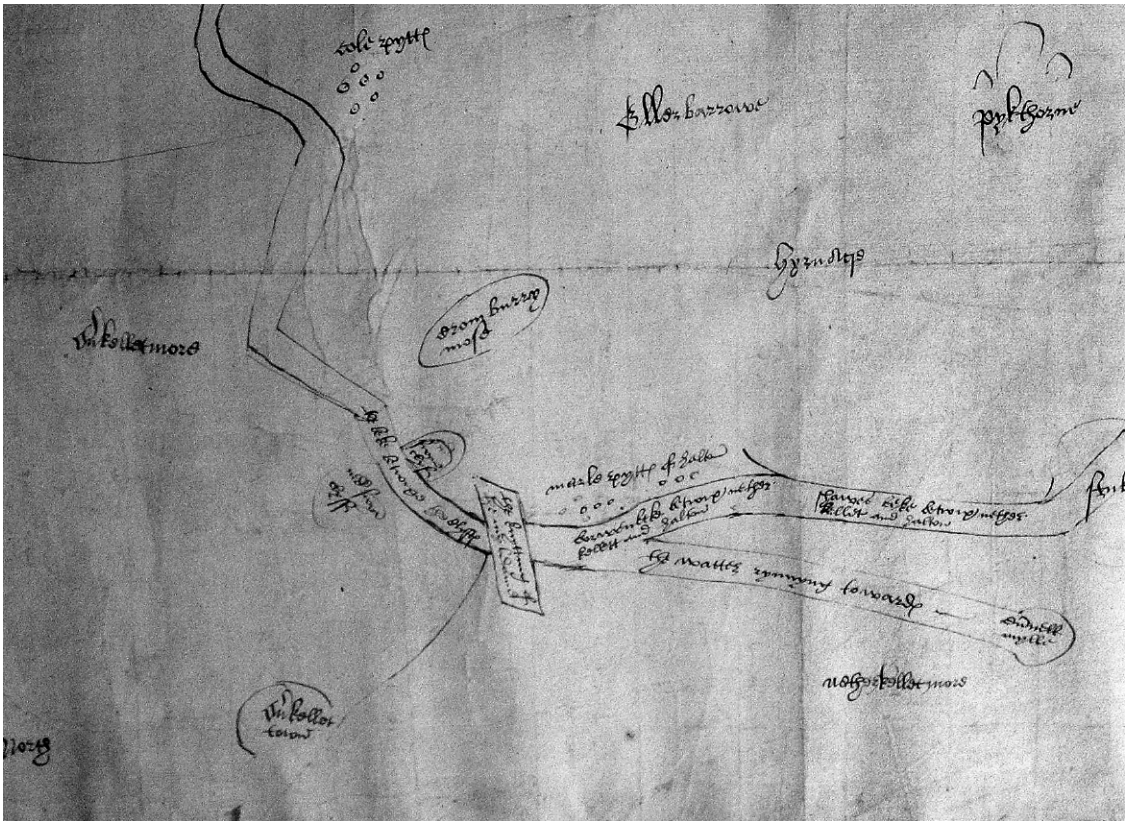
[33] DL 4/23/66, 23 Eliz.

[34] DL 4/85/35, 9, Chas 1, Deposition of George Kenyon, of Heap in Bury, husbandman.

[35] W. D. Shannon, 'Risks and rewards in wasteland enclosure: lowland Lancashire c.1500–1650', chapter in J. Whittle (ed.), *Landlords and tenants in Britain, 1440–1660: Tawney's agrarian problem revisited* (2013), pp. 150–65; see also A. Gritt, 'Making good land from bad: The drainage of west Lancashire, *c*.1650–1850', *Rural Hist.* 19 (2008), pp. 1–27.

[36] DL 4/107/7, 15 Chas 2.

[37] DL 4/35/31, 35 Eliz.



MAP 4. Extract of Lord Dacre's map (1542) showing disputed land between Halton and Nether Kellet, (Lonsdale hundred): note 'marle pyttes of halton' and also 'cole pyttes'.
(Reproduced by permission of the National Archives, TNA DL 3/38/ D1r Nether Kellet 33 Hen 8.)

following deliberate stocking with fish, as we will see later. The marl pit involved in this case had clearly been abandoned many years previously, as the fishers had cut down a mature willow tree which 'honge in the water in one of the said marle pittes for that it hindred their fishinge'.

Of the other dozen or so cases in the sample study that mention marling, the majority do so merely in passing, referring to marl as a resource on the manorial waste, belonging to the lord. We are particularly fortunate, though, that the Duchy Court was at the forefront of the new technology of cartography: and a number of dispute maps survive, now in the National Archives, which allow us to locate precisely where certain pits lay, and upon what sort of soil. The first of these dates from 1542 and refers to a dispute between Lords Derby and Dacre over where the boundaries lay between their respective manors of Nether Kellet and Halton, on the low moors above the River Lune (Lonsdale hundred). Both sides submitted their own maps to the court, with Dacre backing up his claim by showing on his map (Map 4) the location not only of the 'marle pyttes of halton', but also 'cole pyttes' and a 'fre stone quarrell' – the products of all of which belonged to the lord.[38] Although the case was initially about an

[38] DL 3/38 D1r, 1542.

accusation by Dacre that Derby's tenants had been digging peat on his side of the claimed boundary, witnesses called on behalf of Dacre claimed that they and the other tenants had also been getting marl on that part of the waste for at least 40 years past, under licence of Dacre's steward. The location of the pits can be fairly closely identified, south of Nether Kellet, and would appear to have been dug into a soil called Brickfield 2 Association, a loamy soil overlying glacial till, which itself overlay limestone bedrock.[39]

A case involving enclosure on Swinton Moor (Salford hundred) in 1581 was accompanied by a sketch map which did not indicate the locations of marl pits; but the depositions in the case nevertheless included several references to marling as a precursor to ploughing, with a suggestion that such activities had only been taking place since the Dissolution (the land having previously belonged to Whalley Abbey).[40] In a particularly specific account of the process involved, one deponent, a 30-year-old labourer called William Styrrupp, recounted that his master, Mr Shevington, had ordered him to enclose part of the moss called Foxholes, and 'at suche tyme as the Foxholes were marled the said Mr Shevington commanded the said Styrrupp that marle shulde be layde upon a Roock to be sett on the parcel of grounde so Inclosed at suche tyme as the mosse should be digged awaye': in other words, the marl was dug first and left piled up, to be used after the top surface of the moss had been pared away.[41]

In another case also dating to 1581, residents of Eastham in Lytham (Amounderness hundred) were accused by the lord of neighbouring Bryning of having dug marl on his waste named Bryning Carr, 'And carried awaye … one Thousand loades of marle to the value of Twentie poundes'.[42] The defendants claimed the incident had actually taken place in Eastham Carr within Lytham, not in Bryning Carr at all, and as such they had lawfully dug marl there.[43] The Duchy Court commissioned a map, which showed the location of the disputed marl pit (Map 5). This marl pit, and its successors, can still be seen in the landscape today. The key point here is that the Lytham residents once again were quite clearly digging the marl on the waste (which in this case was 'carr', or lightly-wooded waterlogged land), then carting it away to be used to assist with their communal effort at extending the nearby Eastham common arable field, which witnesses in the case, and the map itself, show to have been encroaching onto the waste for some time. One thousand loads probably meant they had carried away enough marl that season to convert to arable up to a dozen acres of newly taken-in 'carr' land.

Yet another case dates from the 1630s and relates to a long-running dispute over boundaries on mossland waste, between the lords of Hindley and the lords of Ince (West Derby hundred), which resulted in another Duchy map.[44] This one shows two marl pits, each labelled 'An auncient Marle pit made by Mr Gerrardes fatheres appointment upon the wast' (Map 6).

[39] National Soil Resources Institute (2019) *Soils Site Report for location 351987E, 467632N, 5km x 5km,* National Soil Resources Institute, Cranfield University, accessed via www.landis.org.uk/sitereporter [accessed 25 Aug. 2020].

[40] TNA MPC 1/256; DL 4/23/55, 23 Eliz.

[41] TNA DL 4/24/11, 24 Eliz.; Rook: a small pile, esp of turves, stones etc, J. Wright (ed.), *The English dialect dictionary*, V, *L–S*, (London, 1905), p. 148.

[42] TNA DL 1/122/M4, Bryning 1581: Bill of George Middleton esq. of Leighton.

[43] TNA DL 4/23/53, Bryning 1581: Answer.

[44] TNA MPC 1/98/1&2, Two maps of lands near Wigan, 1639.



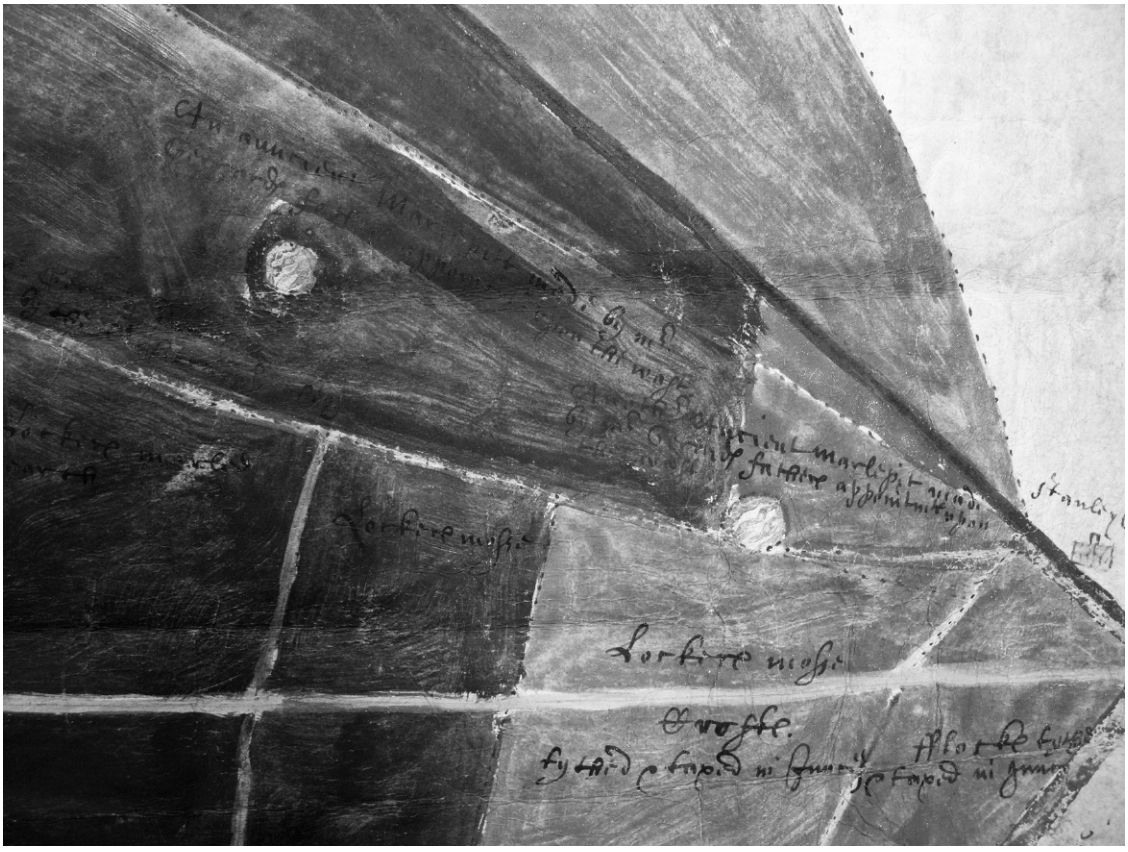
MAP 5. Extract of Commissioners' map (1581) showing disputed land between Bryning and Lytham (Amounderness hundred). The dotted line above the marl pit (overlaid with grey dots) shows the former extent of the arable lands of Eastham (in Lytham), and recent encroachments onto Bryning Carr (the darker areas on the left). The marl pit stands on the disputed carr (the pale, painted area to the right), with arable to the left and newly enclosed pasture to the right (the dark area to the lower right). (Reproduced by permission of the National Archives, TNA MPC 1/ 258 Bryning Carr 1582.)

Gerard, the defendant, was lord of Ince and had been enclosing land on the edge of the waste. He was clearly basing his claim to ownership of that ground upon the fact that, a generation previously, his father had authorized the digging of marl here. However, in connection with the enclosure, the deponents were asked 'whether was the said close a parcell of mosse ground & some tyme turbarie before the inclosinge & marling thereof'.[45] Witnesses stated that 38 years previously (that is, around 1601), the then Mr Gerard had caused part of the moss to be 'plowed with oxen & to be sowen with big [barley]'.[46] The marl had clearly been an integral part of that reclamation project, which had again taken place upon Brickfield Association soils.

In all these cases the marl was being dug upon the waste, on behalf of, or under licence of, or purchase from, the manorial lord, sometimes as a communal effort. What is not clear from these cases is whether the tenants were doing this on their own initiative or whether it was a

[45] TNA DL 4/84/15, 1633.

[46] TNA DL 4/94/55, Hindley 1639.



MAP 6. Extract of Commissioners' map (1639) showing disputed lands between Ince and Hindley (West Derby Hundred). Two 'auncient' marl pits are shown as having been made by the appointment of the father of Mr Gerrard (the defendant in the case). One is shown on the darker area, representing pasture, the other on the area representing mossland.
(Reproduced by permission of the National Archives, TNA MPC 1/98/1 Hindley 1639.)

requirement of their landlord's. Some possible light may be thrown onto this by the Clifton Leases, a long run of more than 50 leases, mostly dating between 1607 and 1616, referring to small parcels of land newly enclosed from the moss and marshland of Lytham (Amounderness hundred).[47] The majority of these leases were for three lives: and the tenant was required to enclose, hedge and ditch – and to 'improve' the land, although in no case is it spelled out what that term involved: nor was there any reference to the getting of marl as a 'boon-service'. The conclusion must be that the tenant was free to proceed as he wished: the landlord got his fine and rent anyway, and of course the reversion of the land after the three lives had expired. In just one case, however, the new tenant was granted 'free libertie to digge cast and gett marl within the same for the bettering thereof'.[48] The implication is that this tenant was specifically being allowed to dig a new marl pit on his own leasehold. It is not clear how usual, or unusual,

[47] Lancashire Archives [hereafter, LA] DDCL 2160–2233, Clifton Leases.
[48] LA DDCL 2163.

this was: but it seems that this was perhaps a new development, but one which was to become general practice in the period which followed.

One other aspect of the history of marling at this time is worth mentioning. The pits themselves could often be many metres deep, and it was probably by no means rare for a premature collapse or pitfall to occur, potentially bringing down tonnes of marl onto the workers below. The records of the seventeenth-century Quarter Sessions occasionally allow glimpses into the dangers of this work. Thus in 1631, John Ashton and John Smith of Winwick parish (West Derby hundred) petitioned for relief, having had their legs broken by a fall of marl.[49] In 1663, Margaret, the wife of Rodger Harrison of Lathom (West Derby hundred) similarly petitioned on the grounds that her husband 'hath lately come to a foule dissaster by a fall of Marle whereby his thigh is broken and his body brused and now lyeth in great misery'; while Thomas Redford of Pendlebury reported to the justices in 1689 that he 'last summer happened accedentally to bee lamed in a marle pit on Swinton Moore' (Salford hundred).[50] These steep-sided pits could also be dangerous to farm animals, with Winchester noting a manorial court at Astley, near Wigan (West Derby hundred) in 1572 ordering the draining of a marl pit 'wyche is dangerous for menez cattell'.[51]

IV

Arthur Young's *Six Month Tour* describes a journey in 1768 which began in London, proceeded up the east side of England through Lincolnshire, Yorkshire, Durham and Northumberland, then crossed to the other side to return via Cumberland, Westmorland, Lancashire, Cheshire, Staffordshire and through the Midlands to Oxfordshire and home.[52] In all he visited 31 counties: and it is striking that he does not mention marl once until he reaches Lancashire, where, by contrast with the rest of England, 'marle is the principal manure', reporting that it 'is found under all this county'.[53] He then notes marl throughout Lancashire, Cheshire and into Staffordshire, but thereafter, as he heads back through the Midlands and into the South, apart from one passing mention at Bromsgrove (Worcs.), there is no more mention of marl, strongly suggesting that, at this date, whilst marling as a *concept* was familiar nationally, it was only really being practised to any great extent in the North West.[54] However, it should be noted that the *Communications to the Board of Agriculture* (1797–1810) also carry accounts of marling in Suffolk, Norfolk, Yorkshire and Hampshire.[55]

As the eighteenth century had opened, Charles Leigh, from Singleton in the Fylde (who, like Plattes before him, thought marl had its origins in the Deluge) had written that 'A good marling is often counted equal to the Purchase of the Land'.[56] As the century wore on, other commentators similarly focused upon the economic benefits of marling, with

[49] LA QSB/1/90/51. John Smith subsequently re-petitioned the justices for continuance of relief, in 1632, LA QSB/1/110/76.

[50] LA QSP/243/3; LA QSP/678/5.

[51] Winchester, *North West*, p. 94; LA DDHm/1 Astley 6 Feb 1572.

[52] A. Young, *A six month tour through the North of England*, III (Sec. edn, 1771).

[53] Ibid., pp. 153, 158.

[54] Ibid., p. 302.

[55] *Communications to the Board of Agriculture,* II, pp. 451–5; IV, pp. 124–7; VI, pt I, pp. 31–40.

[56] C. Leigh, *Natural history of Lancashire, Cheshire and the Peak in Derbyshire* (1700), pp. 55–6.

several seeking to establish best practice from the reported activities of improving landlords. The classic account of the state of agriculture in eighteenth-century Lancashire is that of John Holt (1794), an enthusiast for marl, 'an excellent improver of the soil, under so many different circumstances, that it cannot be recommended too often, nor praised beyond its real merits'.[57] He reported on an analysis carried out by a 'Chymist' from Liverpool, who had found that 'calx' represented about 20 per cent of the weight of the marl; whilst elsewhere he noted an experiment involving burning marl in a brick oven, in an attempt to make something akin to quicklime.[58] On a more practical note, he recommended beginning marling in May or June, spreading it immediately 'in a rough, lumpy form', then leaving it for 'one summer's sun, and one winter's frost, at least' before ploughing it in. His recommendations as to quantities, though, are a little confusing: 'The quantity laid on is from two to three, or three and a half, cubic roods of 64 yards to every statute acre': which seems to suggest covering every square yard of each acre in marl up to a depth of some eight to fifteen inches.[59] It may be at this date, although he does not say so, that we have moved from marl being used primarily to bring land into cultivation for the first time, to a new era of the widespread use of marl on existing farmland, which led to that proliferation of the pits to be seen on the nineteenth-century maps (Map 2). Holt indeed reported approvingly of the activities and experiments of several Lancashire landowners, concluding that the cost of carting rapidly out-weighed the cost of getting the marl; and that it therefore made sense to have a pit in each field: however, 'a pit in the middle of a field is not only an eye-sore, but a nuisance', leading to his recommendation that the pits should be located along one of edges of the field, and not in a corner; while if the field was on a slope, then the pit should be placed on the edge nearest the top of the slope.[60] The evidence (see Maps 2 and 7) suggests that his advice was at least partly listened to.

The classic marl-pit was oval with three vertical faces, the fourth being a long shallow slope for backing-in the carts which were to lead the marl out (Figure 1). The marlers worked against the vertical faces, digging out the marl, and loading it onto the carts. Holt describes the process:

> Marle is got by falling it in large clods; this method is expeditious, but requires great caution, and is frequently attended with danger; the piece intended to be fallen is undermined, and loosened at each side, by being cut through; long piles are then driven in at the top, and sometimes water is required to insinuate itself into the interstices which the poles have made. The clod falls with such violence as to break the mass into pieces.[61]

Holt was primarily a commentator rather than a practitioner: but we are extraordinarily fortunate in having the diaries of Nicholas Blundell, of Little Crosby, grandson of the William Blundell who, as we have already seen, was a seventeenth-century enthusiast for marl.[62]

[57] Holt, *General view*, p. 112.

[58] Ibid., pp. 124, 138.

[59] Ibid., p. 113.

[60] Ibid., pp. 117–19. The large number of Lancashire fields with pits in the middle suggests either that Holt's advice was not generally listened to, or that by the time he gave it, most pits had already been dug.

[61] Ibid., p. 117.

[62] F. Tyrer (ed.), *The great diurnal of Nicholas Blundell of Little Crosby, Lancashire* (3 vols, Rec. Soc. Lancashire and Cheshire, 1968–72).

From 1702 to 1728, Nicholas kept an often very detailed journal, covering his agricultural and social activities, and giving us insights into farming practice, as well as providing lots of technical terms. A Recusant (Catholic), he was barred from public life, and so put his energies into improving his estate, scientific observation and other matters. Upon inheriting Little Crosby, Blundell had commissioned a very fine estate map, dated 1702, which shows some twenty small rectangles coloured blue in a number of fields in the south east part of the estate.[63] If, as is probable, these represent marl pits, then presumably they were dug in his grandfather's day. Subsequently, though, in 1712 he decided to dig his own pit in an area of enclosed pasture, which he proposed to convert to arable. The new work began on 11 April 1712 when two men, presumably professional marlers, 'boored for Marle in the Pick' [or Pike, meaning land which comes to a point].[64] The following week, he 'began to Feigh [to remove the turf, or top surface] for a Marl-pit in the Great Morehay tiss designed for Marling the Little Morehay & Pike'.[65] By the end of May, the pit was dug and 'Ten of my Marlers came & shot the two paises of my New Marlpit' ['paise' here appears to relate to the access slope into the pit for the carts].[66] Then on 12 June 1712:

> I began to Marle the Little Morehay and Pick out of a Pitt made in the Great Morehey, I had two Companys & each Company Consisted of three Hewers and four Fillers, there was twelve Carts, four Spreaders & one Water Bayly, they got out 754 Loads, I was with them soone after three of the clock in the Morning.[67]

The following day, 13 June, they dug and spread 800 loads and on 14 June a further 823 loads: then on the 17th, they 'began to fey the Marl pit, part of it deeper.[68] Later in the month there was 'The Flowering' as described below, followed by the paying off of the marlers and carters. A year later, on 21 July 1714, he 'began to ripple [take the seed off] my Flax as grew on my Marled Ground in the Little More-Hey.[69] In other words, what had very recently been rough grazing was now producing a cash crop.

Subsequently, one of Blundell's daughters wrote up the full accounts of the marling, calculating the cost at £108 17*s*. 2*d*. in all, or near £10 an acre.[70] We learn from her that the pit was 54 yards by 28 yards, and that the 'Fey & Clay' above the marl was 3½ feet deep.[71] In all they laid 22,506 loads of marl (at six score to the hundred) on the 11 acres of the Little Moorhey and the Pike, an incredible 2000 loads per acre (although she does not specify how big a 'load' was). She reported that 'the Marle was very good & the lower the better & the further they went into the Moor Hey the better the head of Marle'. The soil here, which is naturally wet and very acid, comprises sandy and loamy soils of the Sollom Series, overlying till. Today, there are no

[63] LA DDBL/48/41, Plan of Little Crosby, 1702.

[64] Tyrer (ed.), *Great diurnal*, II, p. 13; P. Cavill, *A new dictionary of English field names* (English Place-Name Soc., 2018), pp. 327–8.

[65] Tyrer (ed.), *Great diurnal*, II, p. 15.

[66] Ibid., II, p. 20.

[67] Ibid., II, p. 22.

[68] Ibid.

[69] Ibid., II, p. 105.

[70] Ibid., II, Appendix B, p. 282.

[71] If the blue rectangles on the Little Crosby estate map (LA DDBL/48/41) are marl pits, and are accurately drawn to scale, then the largest of them is only one third the size of Nicholas's pit – measuring approximately 33 x 16 yds, compared with his 54 x 28 yds.

longer any signs of Blundell's pit, as the fields concerned were taken by a later Blundell into his park, and planted with trees.

In addition to Blundell's accounts of the practical, economic, aspects of marling, for the first time we also learn from him of some of the cultural aspects, the traditions and folklore attached to marl, which presumably had been there in the earlier periods, but hidden from us. For example, Blundell several times mentions a quaint custom of visiting marl-pits and tipping the workers to shout out, when presumably the shape of the pit acted as an amplifier or echo-chamber: thus 3 July 1721 'I went to Mr Bayrons Marlors and made them to shout'.[72] Blundell also tells us on one occasion an event which he described as 'The Flowering of my Marl-pit', which was apparently similar to a Harvest Home (or perhaps to the 'Topping Out' ceremony to celebrate the completion of a building), involving entertaining the workers in his barn, which was dressed for the occasion, and provided with food and drink, while garlanded young women and sword dancers were in attendance. The event took place on 9 July 1712, when the stars of the show were 'all the 14 Marlers [who] had a particular Dress upon their Heads and Carried each of them a Musket or Gun'.[73] This was not the end of the celebrations, however, as in the following week, on 15 July, he 'Baited a Large Bull in the Bottom of my New Marlpit', the bull successfully seeing off '8 or 9 Doggs'.[74] The fact that such activities were not just unique to Little Crosby can be seen in an almost contemporary diary of a Nonconformist minister, who wrote on 3 July 1729 'Then Thomas Seed, o' th' Little Town [Thornley, below Longridge Fell, Blackburn Hundred], having ended his marling, and invited me and my love to the Fell End to be cheerful with him, at Ellen Seed's, she and I went to Ellen Seed's, and were with the marlers till betwixt 7 and 8 o'clock'.[75]

A century later, such events were recalled by Thornber, writing about 'Ancient Customs, Superstitions, Habits etc' of the Fylde:

> The harvest home and the 'shutting of marling' were gala days, which the depression of the farming interest has almost banished out of the country. On the latter occasion, a lord and a lady were drawn out of the pit by a strong muster of horses, decorated with ribbons, and mounted by their drivers, trimmed out in their best, who afterwards paraded through the lanes and streets, always remembering to attract the notice of those from whom they expected a donation'.[76]

Blundell also tells us of the deliberate subsequent utilization of the exhausted pits as either, or both, a leisure and food resource, as when on 7 February 1713, Blundell 'made up a Headbolt … to keep the water from Running out of the New Marl-Pit', thus allowing the pit to fill with water: and on 10 March he 'Put 40 … Carps into my New Marl-Pit between the Pike and the Great More-Hey', thus converting it into a fishpond.[77] The fact that such fishponds were perhaps common may be deduced from the sole reference to marl in Thomas Bellingham's

[72] Tyrer (ed.), *Great diurnal*, III, p. 49.

[73] Ibid., II, p. 26.

[74] Ibid.

[75] W. Dobson, *Extracts from the diary of the Rev. Peter Walker, Nonconformist Minister, for the years 1725, 1729 and 1730* (Preston, 1866), p. 28.

[76] W. Thornber, *The history of Blackpool and its neighbourhood* (1837, republ. Blackpool and Fylde Historical Soc., 1985), p. 93.

[77] Tyrer (ed.), *Great diurnal*, pp. 50, 54.

extensive diaries, in which he mentions how, on 1 April 1690, in the vicinity of Penwortham (Leyland hundred), 'we went to see some men fishing a marlepond, but gott little fish'.[78]

Somewhat later in the century, we have the *Memoranda Books* of Basil Eccleston, of Eccleston (West Derby hundred), stretching over some 30 years.[79] Eccleston, another Catholic like the Blundells, managed his own estates, which were located on heavy clay soils, on glacial till which in part overlay coal measures – and again there was marl beneath his land, in one place 'very good marl, four yards thick or more', although elsewhere 'only' seven-foot thick, below '4 feet of feigh' [overburden].[80] As Gritt has shown, Eccleston was a widely-renowned improver with an international reputation, so he was hardly typical of the county's landlords: but crucially he was an enthusiast for marl, going as far as to waive the half-year rents of some tenants for three years on condition they marled the land; while on another occasion he agreed not to raise the rents if the tenants marled.[81] Virgoe, however, has suggested that although Eccleston was encouraging his tenants to use marl, he himself was using marl less frequently, and was moving on to the new alternatives of lime and soaper's waste.[82]

Unfortunately, Eccleston does not tell us what type of land he, or his tenants, were marling, or why, but the names of the fields might give a clue – for example *Heath Heys, Rough Hey, Scholes Meadow* and *Rutty Copy* might suggest that it was probably mainly poor land, possibly intended for conversion to arable: although a couple of other fields named *The Great Feild* and *Engine Coal Pit Feild* might suggest that at least occasionally he was putting marl on to fields that were already arable, to improve them. What is clear, though, is that his marl pits, perhaps unusually for this date, were still not in the fields where the marl was to be used, but in places called *Harwell Heath, Thatwell Heath, The Paddock, Middle Wood* and *Furthest Wood Meadow.*

In terms of techniques, several times we learn of Eccleston boring for marl, then digging new pits: and sometimes pumping out old ones.[83] He is meticulous in recording the costs of marling, and the quantities used, generally laying down around four to six rods per local acre (at eight yards to the rod), paying perhaps 8*s*. the rod: though in fact the cost of getting the marl is only a small part of the total. Thus the cost in July 1763 of 'ridding and marling Holland's Nook, quantity 3 acres' came to over £35, including ridding, pumping, getting the marl, carting and spreading – of which the biggest single element, as Holt was subsequently to note, was carting the marl, amounting to over £20.[84] What we do not learn from Eccleston, though, is what, if anything, was the return from this effort and cost. Nor do we hear in Eccleston of sword dancers, or bull-baiters, or shouting for the echoes: but in one respect at least there was a lighter side to Eccleston, as he reports on one occasion that, like Blundell before him, he stocked a marl pit with fish – in this case '25 cupple' of gudgeon (6 February 1760).

[78] A. Hewitson (ed.), *Diary of Thomas Bellingham* (Preston, 1908) p. 111.

[79] A. J. Gritt and J. M. Virgoe with C. P. Browning (eds), *The Memoranda Books of Basil Thomas Eccleston, 1757–1789* (Rec. Soc. Lancashire and Cheshire, 139, 2004).

[80] Gritt *et al.* (eds), *Memoranda books*, pp. 46, 79.

[81] Gritt, *Agrarian change,* p. 208; Gritt *et al.* (eds), *Memoranda books,* pp. 4, 78.

[82] J. M. Virgoe, 'Rural south-west Lancashire in the eighteenth century: The land and the people' (Unpubl. PhD Thesis, Liverpool University, 2003), p. 217. See also id., *Thomas Eccleston (1752–1809): A Progressive Lancastrian Agriculturalist* (Chetham Soc., 49, 2012).

[83] Gritt *et al.* (eds), *Memoranda books*, pp. 12, 23, 51, 119, 121.

[84] Idem., p. 51.

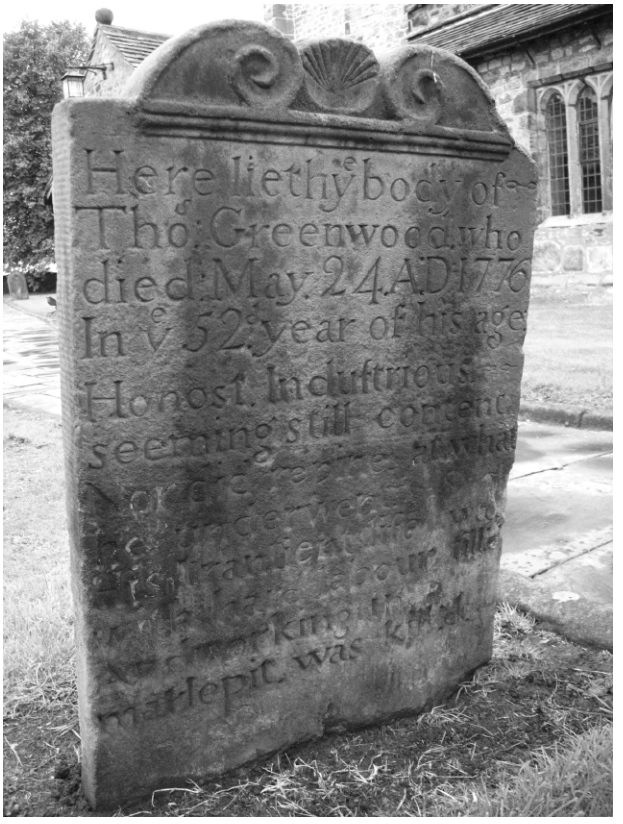


FIGURE 2. Gravestone of Thos Greenwood, killed in a marl pit, 1776, Ribchester church yard (Photo: Author)

As in the earlier century, there was also a darker side to marl, as can be seen for example from a gravestone in the church-yard at Ribchester (Blackburn hundred) (Figure 2) which records the fate of a marler: 'Here lieth ye body of/ Thos Greenwood who/ died May 24 AD 1776/ In ye 52^{d} year of his age/ Honost (sic), Industrious/ Seeming still content/ Nor did repine at what/he underwent/ His transient life was/with hard labour filled/ And working in a/ marlepit was killed.'

V

By the end of the eighteenth century and into the early nineteenth, marl was being used on an industrial scale to reclaim the Lancashire mosses, notably Trafford Moss (Salford hundred), where, according to Aikin, reclamation began in 1793. Because the moss was too soft and spongy to bear the weight of horse and cart, 'moveable cast iron roads' resting on wooden sleepers, were laid down, 'over which the marl is conveyed in four-wheeled wagons, containing about six hundred weight each. One horse with great ease takes six of

[85] J. Aikin, *A description of the country from thirty to forty miles round Manchester* (1795), p. 382; see also D. Hall *et al.*, *The wetlands of Greater Manchester* (North West Wetlands Survey, 2, Lancaster University Archaeological Unit, 1995), p. 126.

these wagons'.[85] By 1794, 100 acres of former moss were under tillage, apparently mainly for potatoes. Work on nearby Chat Moss began soon after, where Caird tells us that drainage in the late eighteenth century was followed by the application of 100 to 150 tons of marl per acre, the work being 'most easily effected by the use of a moveable railway'.[86] Garnett, in his classic study of farming in Lancashire in the mid-nineteenth century, further discusses this project, reporting that the average distance which the marl had to be moved by the railway was about two-thirds of a mile.[87] Another of Garnett's examples referred to improving the mosses north of the Wyre, again with the marling having been carried out 'with the assistance of a moveable railway.[88]

Away from these areas of reclamation, however, the marling era was coming to an end. With the slump in corn prices after the Napoleonic Wars, the start of the railways and the growth of the industrial towns creating the market for 'railway milk', in some parts of the region, such as the Fylde, arable was reverting back to permanent grass, meadow, and turnip and other fodder crops.[89] Moreover, from early in the nineteenth century, bone manure 'began to supersede marl in Cheshire and the West Midlands' while the process accelerated further into the century with the introduction of imported mineral fertilizers, especially guano.[90] Upon entering Lancashire from the north in 1768, Young had noted 'lime is in use among them, but it has been only for two or three years'.[91] However, lime, described by David Johnson as 'marl's competitor', really took off with the opening of the Lancaster Canal in 1819, which acquired the name 'The Black and White' from its cargoes of coal heading north from the Lancashire coalfields and limestone heading south from Cumbria.[92] A similar role was played for the southern part of the county by the Leeds and Liverpool Canal, bringing lime from Craven.[93] Although lime cost more by the load, much smaller quantities were needed, while lime also had a much more rapid effect upon the soil (although less lasting), and so marl use survived only where light soils would also benefit from its effect on soil texture. In Lancashire, Garnett reported in 1849 that 'lime is used throughout the county almost universally', and he said, of guano, that 'from one end of the county to the other … this foreign manure seems to be valued most highly': although he added that marl was still used in the county, 'chiefly on peat and moss lands': presumably where it continued to have value as an improver of the texture of the soil, which lime and guano, of course, did not.[94]

James Caird, writing on *English Agriculture in 1850–51*, reported on the continued contemporary use of marl in parts of Lancashire: but as regards 'the general class of farms', he found that in the Fylde, for example, marling 'is still practised, but not in the same wholesale manner

[86] J. Caird, *English agriculture in 1850–51* (1852), p. 276.

[87] W. J. Garnett, 'Farming of Lancashire', *JRASE,* 1st ser. 10 (1849), pp. 1–51.

[88] Caird, *English agriculture*, p. 276.

[89] G. Rogers, 'Social and economic change on Lancashire landed estates during the nineteenth century, with special reference to the Clifton Estate, 1832–1916 (Unpubl. PhD Thesis, Lancaster University, 1981).

[90] G. E. Fussell, 'Marl: An Ancient Manure', *Nature*, 24 Jan. 1959, pp. 214–17.

[91] Young, *Six month tour*, III, p. 143.

[92] D. Johnson, *An improving prospect? a history of agricultural change in Cumbria* (2016), p. 85; Canal and River Trust, 'Lancaster Canal', canalrivertrust.org.uk/enjoy-the-waterways/canal-and-river-network/lancaster-canal [accessed 24 Mar. 2020].

[93] G. Firth, 'Bradford coal, Craven limestone and the origins of the Leeds & Liverpool Canal, 1765–1775', *J. Transport Hist.*, 3rd ser. 17 (May 1983), pp. 50–62; see also Gritt, *Agrarian change*, p. 202.

[94] Garnett, 'Farming in Lancashire'.

as formerly'.[95] Rogers cited a lease of 1840 on the Clifton estate (also on the Fylde) requiring the lessee of 41 acres for nine years 'to marl yearly two acres during the term': but this was possibly one of the last such leases calling for marling.[96] Binns, writing at the same time as Caird, saw marling as something which was associated with the past, referring to a time forty years previously when he had first become familiar with Lancashire farms, when marling was very general: and he complained that the legacy of that era was 'a serious and permanent evil … by creating a large number of pits in the middle of the fields, which, from the retentive nature of the subsoil, soon become filled with water' causing 'obstructions to ploughing and cultivation, the loss of land, the injury to the adjoining land as well as to the climate'.[97]

VI

By the 1930s, the Land Utilisation Survey showed lowland Lancashire north of the Ribble to be predominantly 'Meadowland & Permanent Grass' although south of the river it continued to be predominantly arable.[98] In the text, it is reported that in the Fylde 'permanent grass [was] dominant and arable subordinate'.[99] Clearly, though, that had not always been the case: into the nineteenth century, Central Fylde was the main grain growing area of Lancashire, with Thornber declaring in 1837 that 'the Fylde is truly styled the "cornfield of Amounderness"'[100]

Rodgers noted four arable regions in Tudor Lancashire, within what was otherwise a predominantly pastoral county – namely the Central Fylde, East Fylde, Ribble Valley and Central Arable Regions – with the extension of arable in lowland Lancashire in the early modern period having been, according to Thirsk, the result of a 'period of strenuous land improvement' prior to 1640, characterized by marling, embanking against the sea, and enclosure.[101] Such evidence as there is suggests that marling had been part of the Lancashire farmer's armoury back into the medieval period and even beyond: but that it was probably in the early days a relatively rare event, involving digging marl on the lord's waste and then either using it in the near vicinity for 'assarting' the waste, or carting it to the (arable) field where it had been decided it was needed, either for a first dose, or for subsequent re-marlings. From the early-modern period, however, marl was again perhaps mainly being used for reclamation of the adjacent waste, especially the mossland edges; and for conversion of rough grazing there and on the lowland moors into arable. For much of its history, then, marl seems to have been used primarily to help turn rough, unimproved pasture into arable: it follows that marl-getting historically would mainly have been a feature of those periods when land was being taken in from the waste. However, there was always too a secondary use of improving worn-out arable

[95] Caird, *English agriculture*, p. 280.

[96] Rogers, 'Lancashire Landed Estates', Appendix 1.

[97] J. Binns, *Notes on the Agriculture of Lancashire with Suggestions for its Improvement* (1851), p. 10.

[98] *Land Utilisation Survey of Great Britain, sheet 2*, based on a field survey carried out between 1931 and 1939.

[99] W. Smith, 'Part 45: The County of Lancashire', in L. D. Stamp (ed.), *The land of Britain: The report of the Land Utilisation Survey of Britain* (1946), p. 64.

[100] Thornber, *History of Blackpool*, p. 125.

[101] H. B. Rodgers, 'Land use in Tudor Lancashire: The evidence of the Final Concords, 1450–1558', *Trans. and Papers, Institute of British Geographers* 21 (1955), pp. 79–97; J. Thirsk, 'The farming regions of England', in Thirsk (ed.), *The agrarian history of England and Wales*, IV, *1500–1640* (1967), pp. 81–2.

by adding a reviving dose of marl: although Middleton *et al.* have noted the dangers of that practice, with fields becoming 'over-marled', and very heavy to work.[102]

In the early eighteenth century, however, we enter a new phase, with marl beginning to be used far more widely and intensively, on individual holdings, some of them enclosed from former open fields: and with the big difference that many of the pits were now for the first time being dug within the fields which were themselves to be marled, rather than out upon the waste as hitherto. Perhaps a throw-away remark of Arthur Young's, referring to the land around Altrincham (Cheshire) – 'they reckon it does best on the ground it is under' – reflects a widespread justification for digging for marl in one's own field; while the 'trickle-down' effect noted in Flanders may explain this explosion in use, from the manorial lords and their 'improvements' to the ordinary small/medium farmer.[103]

The eighteenth century is without doubt the era to which most of the surviving pits of the region belong: with many if not most of them probably only being used the once, rather than being re-dug every generation or so. An observation that in the Central Fylde where traces of ridge and furrow remain, implying prolonged medieval cultivation, 'most were cut by marl pits', suggests that, as noted above, marling was now being used on land which had in times past been arable open fields, perhaps echoing Fitzherbert's sixteenth-century comments about the benefits of marling abandoned ploughland: a similar feature being noted on the western edge of Croston Moss (Leyland hundred).[104] However, the very survival of the ridge and furrow after the eighteenth-century marling episode might suggest either that subsequent ploughing was not prolonged; or that meadow and pasture were now being marled, as well as arable.

By the end of the eighteenth century, the waste in Lancashire was still extensive, despite centuries of enclosure: but only the most difficult land remained. At this period, there is evidence of 'industrial-scale' marling carried out in association with major land reclamation projects in the region: but this was the last flurry of the practice. By the mid-nineteenth century, faced with the cheaper alternatives of lime and imported mineral fertilizers, marling came to a full stop. Most of the pits shown on contemporary maps were by then redundant, having been dug, and abandoned, at least a generation previously, if not many hundreds of years earlier in some cases. In some parts of the county, the old pits were now filled and levelled – many of the pits visible on Map 7, for example, do not appear on the Six Inch map, surveyed only ten years or so later. Elsewhere, the old pits became the ponds that remain so prevalent throughout the Lancashire lowlands to this day. The marl moment was over – but its legacy remains in the considerable impact that the historic getting of marl still has upon the landscape of today.

Whether the marl balance sheet would show an overall credit or debit is now impossible to say. Clearly, applying a package of measures that began with draining and continued through ridding, paring and burning as well as marling, followed by ploughing and sowing, greatly increased the value of the land: but how much of that benefit was due to marl alone

[102] R. Middleton *et al.*, *The wetlands of north Lancashire* (North West Wetland Survey 3, Lancaster University Archaeological Unit, 1995), p. 114.

[103] Young, *Six month tour,* III, p. 180; Pieter de Graef, 'The peasant route to innovation: Fertiliser improvement in the smallholding economy of eighteenth-century Flanders, Belgium', *Agricultural Hist.*, 91 (2017), pp. 488–512.

[104] Fitzherbert, *Boke of Surveyeng;* Middleton *et al.*, *Wetlands of north Lancashire*, p. 114; R. Middleton *et al.*, *The wetlands of south west Lancashire* (North West Wetlands Survey 7, Lancaster Imprints, 2010), ch. 5.



MAP 7. Extract of Tithe Map of Ingol & Cottam (1838), showing marl pits. The word *Marlfield* has been added to the field so named. The fields to the right are in the former open field of Ingol, with strips running east-west, enclosed in the late-medieval/early-modern period. The central block of fields are similarly dated or later enclosures from Ingol Moor. The fields to the left of the through road are later still (eighteenth century?) enclosures from Cottam Moor. (Reproduced by permission of Lancashire Archives, LA DX/2048/7)

is unknowable. Nor is it possible to say whether all the substances described as marl that were dug out and spread upon the land had even vaguely similar benefits from one district to another. All that can be said is that, for many hundreds of years, farmers in lowland Lancashire were convinced of those benefits: yet nevertheless they speedily dropped marl once the far more effective lime became readily available.

Appendix I. What is Marl?

The *Oxford English Dictionary* defines 'marl' as 'Soil consisting principally of clay mixed with calcium carbonate and forming a loose unconsolidated mass, valuable as a fertiliser'.[105] It should be noted that American sources tend instead to refer to calcareous lake sediments, or to a geological bedrock strata of sedimentary mud-stone (such as the Triassic Keuper Marl in this country).[106] The German '*mergel*' similarly seems to relate to the bedrock rather than marl as we understand it, although the same word in Dutch appears to refer to the same substance which we in Britain call marl.[107]

As far as Lancashire is concerned, the best description of marl is provided by one of the monographs produced by the Soil Survey, that of Crompton, referring to the soils of the Preston district (sheet 75), which notes the large number of marl-pits in the county, and states too that many of the surface soils at the date of the survey still showed traces of the marling, which had actually ceased more than 100 years previously.[108] The local soils themselves are largely derived from the reddish-brown till which covers so much of the lowland parts of the county, and beyond: and in discussing one of the local soil series, the Cottam Series, Crompton describes the location and appearance of Lancashire marl thus:

> The surface horizon is a dark greyish brown, friable clay loam to loam with a granular to fine sub-angular blocky structure, merging at about 10 in. into slightly stony, brown or yellow-brown clay loam to clay with some pale grey mottling and with a weak blocky or prismatic structure. At about 24 to 30 in., this merges into reddish brown, slightly stony clay with grey or pale coloured mottling on structure faces. The prismatic structure, usually becoming increasingly coarse, continues to considerable depth. Between 3 and 5 ft. calcium carbonate usually occurs in the form of small pinkish white concretions or as a deposit of dendritic pattern on structure faces. This horizon has been frequently excavated in the past for marling.[109]

Of some of the other local soil series, the Salwick Series 'has large calcium reserves at depth', the Clifton Series has 'a horizon of carbonate accumulation in the form of small concretions … below 4 ft.'; while the Oakland Series has 'calcium carbonate, in the form of concretions and dendritic depositions on structure faces … between 3 ft. and 5 ft.': finally, the Salop Series, a 'Reddish brown, medium to fine textured, slightly calcareous till, mainly derived from Triassic rocks', which is perhaps the most widespread soil of the Lancashire plain, has 'at depths of

[105] *Shorter Oxford English Dictionary* (5th edn, 2002), I, p. 1704.

[106] 'Custom compels me to use the name marl for our deposits of fossil shells', J. C. Sitterson (ed.), *Edmund Ruffin, Essay on Calcareous Manures, 1832* (repr. Harvard Press, 1961), p. 169; I. D. Whyte, *A dictionary of environmental history* (2013); 'Marl', en.wikipedia.org/wiki/Marl (accessed 24 Mar. 2020); Calcareous lake deposits are not unknown in Britain, as for example the 'freshwater silty marl with a high mollusc shell component' noted at Whorley's Moss, near Nether Kellett (Lonsdale hundred) in Middleton *et al*., *Wetlands of north Lancashire*, p. 183.

[107] De Graef, 'Peasant route'.

[108] E. Crompton, *Soils of the Preston district of Lancashire* (Agricultural Research Council, Harpenden, 1966). See also B. R. Hall and C. J. Folland, *Soils of the south-west Lancashire coastal plain: Sheets 74 and 83* (Agricultural Research Council, Harpenden, 1967) and id., *Soils of Lancashire* (Soil Survey Bulletin 5, Agricultural Research Council, Harpenden, 1970).

[109] Crompton, *Soils of Preston*, pp. 61–2.

between 3 and 5 ft. calcium carbonate … in the form of a white deposit of dendritic pattern and below this horizon the till is generally slightly calcareous'.[110] More recently, the report on the *Wetlands of North Lancashire* reported that marl-pits in the vicinity of Stalmine and Rawcliffe 'tended to be excavated … to a depth of over 4m to reach calcareous clay deposits'.[111]

As to where the calcium carbonate came from in the first place, local geologist Thornber, writing in 1857, rejected the old association of marl with the Deluge in favour of a supposed marine origin, although also proposing for the first time that the lower till had been deposited by 'glaciers and icebergs, which probably floated in our ancient seas'.[112] The glacial origin is now not disputed, the greater part of lowland Lancashire having been covered in glacial drift deposited by the two ice sheets which met here, the Irish Sea and the Ribblesdale Ice Sheets, both of which had passed over and eroded limestone areas, as well as bringing with them limestone erratics.[113] Thereafter, Hall & Folland describe the marl formation process thus:

> Decalcification of the surface horizons of the boulder clay and the subsequent accumulation of calcium carbonate in the upper parts of the C horizon gave rise to a calcareous clay at no great depth which was easily dug out and spread on the surface at varying rates to correct a tendency to acidity and to improve aggregation of the surface soil.[114]

As regards its use, possibly the best guide comes from the authors of *The Complete Farmer,* who were writing at the time of its final flourishing.[115] Although the extreme variability from place to place made generalizations all-but impossible, the best marls (perhaps stating the obvious) were 'such as contain the largest proportion of calcareous earth'. The consensus then was that marl was most efficacious when applied to land that had never been ploughed (and indeed had no beneficial effect at all on rich soils, or land which had been recently marled): and that an application of 50–60 cu yds per acre would give good results within a year or two, with its effect lasting for up to twenty years.

Appendix II. The Onomastics of Marl

Almost any tithe map of lowland Lancashire shows the same extensive scattering of pits and ponds as do the old Ordnance Survey maps. Thus the tithe map of the hamlets of Ingol and Cottam (Amounderness hundred), covering some 877 acres to the west of Preston, shows almost 100 ponds, all coloured blue, scattered widely across the map except upon the unenclosed lowland moor.[116] To the east, on the better land, there is scarcely a field that does not have one. Why then is just one of these fields called *Marlfield*? (Map 7)[117] The usual explanation for

[110] Ibid., pp. 62–6; Soil Survey of England and Wales, *Soil Association Map of the County of Lancashire* (1970).

[111] Middleton *et al.*, *Wetlands of north Lancashire*, p. 77.

[112] Rev. W. Thornber, 'On the Geology of the Fylde District', *Trans. Historic Soc. Lancashire and Cheshire* 10 (1857–58), pp. 187–98.

[113] D. Price *et al.*, *Geology of the country round Preston* (Memoirs of the Geological Survey of Great Britain, HMSO, 1963), Ch. VII, 'Pleistocene and Recent', pp. 83–93.

[114] Hall and Folland, *South-west Lancashire coastal plain*, p. 99.

[115] A Society of Gentlemen, *Complete farmer.*

[116] TNA IR 30/18/195; LA DX 2048/7.

[117] No 767 on the Apportionment, IR 29/18/195; LA DRB 1/123.

this fairly common field name is 'Land on which marl was spread, or from which it was dug': but that will not do, as by that definition almost every field in Amounderness could or should be called *Marlfield*.[118] Wainwright, writing of the 'Field-Names of Amounderness Hundred', noted that 'the countryside is still dotted with hundreds of marl-pits', adding that 'names like Marled Field, Marled Croft and Marled Hey occur frequently' on the tithe maps – but he did not comment as to why any one particular field, rather than its neighbour, should be so named.[119]

In the case of the Ingol example, the field concerned is located within the former open field of the hamlet, where most of the fields are in long narrow strips of a couple of acres. Marlfield however is square, and, at six acres, is more than twice the size of its neighbours. Clearly, this represents a different, presumably later, episode than the general enclosure of the former open field, which had probably occurred early in the sixteenth century. The old field-boundaries have been removed and a new field made, and marled. Possibly all the other neighbouring fields had been marled several generations earlier; and so it is the *novelty* of both the field and its recent marling that is being commemorated in the field name.

A similar question is raised by a five-acre field named by Basil Eccleston as 'Great Marled Earth'.[120] Given the frequency of his references to marling, there had to have been something exceptional about this particular field for him to have named it so. We therefore have to conclude that the field-name *Marlfield* and its variants does *not* merely record that it was 'Land on which marl was spread, or from which it was dug' – but records rather the fact that at the time that that *particular* field was marled, such activity was unusual, the exception rather than the rule – either because it was the first field in the district to be marled – which could have been the case of Eccleston's example – or, as in the Ingol example, it was a late event, occurring some (perhaps considerable) time after all the neighbouring fields had been so treated.

[118] Cavill, Dictionary of English Field Names, p. 272.

[119] F. T. Wainwright, 'Field-Names of Amounderness Hundred', *Trans. Historic Soc. of Lancashire and Cheshire* 97 (1945), pp. 181–222.

[120] Gritt, *Memoranda books,* p. 114.

Creating a landed dynasty: Sir William Heathcote (1693–1751) of Hursley, Hampshire*

By Albert Gallon

Abstract

William, later Sir William, Heathcote (1692/3–1751) was one of the wealthy outsiders with a mercantile background who purchased a country estate during the eighteenth century. He transformed a run-down manor into a prosperous enterprise and from a young London merchant became a prominent member of the Hampshire elite. The paper examines his background, his inheritance, estate finances, approach to funding large-scale purchases and projects, and the estate's continuing dependence upon Heathcote's investments in external ventures. It describes the problems encountered during periods of agricultural depression in finding new tenants and persuading existing tenants to pay their rents. It examines Heathcote's management style, his treatment of his sons and his servants, and the steps taken to ensure the estate's long-term future. Although successful in passing a financially sound estate to his descendants, his vision and business acumen was not shared by all of them and, by the late nineteenth century, estate income was significantly less than expenditure and the estate had to be sold.

On 29 September 1715, shortly after celebrating his twenty-first birthday, William Heathcote (1692/3–1751), a young London merchant, wrote in his diary:

> At Michaelmas 1715, I begin to draw home that part of my estate that I have abroad in trade, being fully resolved to leave off trade, and to be content with my present estate with a modest profit in the funds at home.

Heathcote had inherited a large fortune and within two years had begun the process of becoming a country landowner, employing an agent, William Day, to assist in choosing an estate.[1] Day had identified 12 estates at various locations across southern England by 3 November 1718, when Heathcote decided upon the Hursley estate, near Winchester.[2] His choice may have been influenced by Hampshire being a county which more readily accepted newcomers, unlike Bedfordshire and Northamptonshire, where property was concentrated in the hands of a few landowners able to expand their estates as land became available, or Devon, which was dominated by numerous small estates owned by the middling and lesser gentry and which experienced few changes in ownership. Hampshire had more in common

* All documents cited are in the Hampshire Record Office.

[1] 63M84/235, Notebook of Samuel Heathcote 1692–1716, continued after his death in 1708 by his son William, entry dated 29 Sept. 1715.

[2] 18M54/C2/2.

with Lincolnshire and Wiltshire, where significant numbers of wealthy outsiders had bought or were buying and developing estates.[3]

Hampshire was never home to a great lord and great estate. Prior to the dissolution, landownership was dominated by the Church, and the secular estates that existed in the county were generally small. The dissolution produced a major transformation of landownership, and, although the Church continued to have a major influence beyond the dissolution, as 28 manors and five boroughs remained in ecclesiastical hands,[4] a substantial amount of land passed into secular ownership. Three relatively large estates emerged, owned by the main beneficiaries of the crown's sales: William Paulet (*c.*1484–1672), first Marquess of Winchester and Lord High Treasurer of England; William Sandys (1470–1540), first Baron Sandys of the Vyne; and Thomas Wriothesley (1505–1550), created first Earl of Southampton in 1547.

The Paulet and Sandys families were already landowners in Hampshire, but Thomas Wriothesley, who 'was the greatest beneficiary of the dissolution', having gained '22 per cent of the grants of monastic manors' was a newcomer to the county.[5] He also bought a number of manors, becoming the major Hampshire landowner following the dissolution, but the family's fortune declined and, by the time that the fourth earl died in 1667, 34 of the 50 individual manors/estates owned by the first earl were no longer owned by the family. As the fourth earl died without male issue, the remaining estate was divided between his three surviving daughters and parts were later sold. The landholding of the Sandys family suffered a similar fate. They had been Hampshire landowners and lords of the manor of the Vyne, near Basingstoke, since 1368, and although Sir William Sandys (d. 1542), who had become Henry VIII's Lord Chamberlain, and was created William Lord Sandys of the Vyne in 1523, had benefited to a lesser extent than Sir Thomas Wriothesley, he had been granted the former priory lands at Mottisfont together with a number of smaller manors. The £5,000 fine and imprisonment of William, third Lord Sandys, for his part in the Earl of Essex's plot, began the breakup of the family estate, and by 1670 eleven manors had been sold, including Upper Clatford, Preston Candover, Sherborne St John, and, crucially, the family's principal seat, the Vyne, which was sold in 1653.[6] The family's financial troubles continued and in c. 1684 Edwyn Lord Sandys sold the family's other principal seat, Mottisfont, together with the remaining manors, to Sir John Mill, Bt, of Camois Court.[7]

The Paulet family estates did not suffer such reductions and the family became more powerful following the arrival of William III, but the demise of the great estates of the Wriothesley and Sandys families resulted in a substantial amount of land, mainly small, geographically dispersed estates, becoming available for purchase. Added to this, demographic and economic changes in Hampshire resulted in only a quarter of estates/manors experiencing no changes in ownership between 1690 and 1800. Just over 29 per cent of estates/manors changed hands at least once, 21 per cent changed hands twice, 13 per cent changed hands three times, and 6 per cent

[3] Christopher Clay, 'Landlords and estate management in England', in J. Thirsk (ed), *The agrarian history of England and Wales*, V (ii) (1985), p. 164.

[4] Mark Page, *The medieval bishops of Winchester: Estate, archive and administration* (Hampshire Papers 24, 2002), pp. 4–5.

[5] John Hare, *The dissolution of the monasteries in Hampshire* (Hampshire Papers 16, 1999), pp. 12–13.

[6] VCH, *Hampshire* IV, pp. 161–2.

[7] Ibid., pp. 449–51.

changed hands more frequently.[8] The manor of Hurn, for example, changed hands six times.[9] Many of these estates were beyond the means of existing smaller landowners,[10] but were within the means of wealthier existing landowners, such as the Portal family of Laverstoke and the St John Mildmay family of Dogmersfield, who extended their landholding within the county. They were also within the means of landowners from outside of the county, and John Smith de Burgh (1720–82), eleventh Earl of Clanricarde, acquired the manor of Warnford,[11] and Henry Temple, (*c*.1673–1757), first Viscount Palmerston, bought the Broadlands estate.[12] Both Smith de Burgh and Temple were seeking a country base with reasonable access to London, which spared them the long journey back to their Irish estates. Hampshire was also attractive to naval officers because of the easy access to Portsmouth. Admiral Sir Peter Warren (*c*.1703–52), owner of the manor of Westbury, was just one of 25 naval officers identified, from the Hampshire volumes of the Victoria County History, as owning estates in the county between 1689–1800.[13]

The county also attracted wealthy outsiders, bankers, financiers, lawyers, merchants, and plantation owners. These were men whose wealth reflected their success in their chosen careers or business ventures. Estate ownership offered recognition of this together with power and status, and it could also, in certain locations, provide access to a parliamentary seat. For some of the new entrants, estate ownership was a short-term arrangement, the crowning glory to their life and career. For others, it was a long-term commitment, designed for the benefit of their descendants. The actions of William Heathcote of Hursley in Hampshire place him firmly in this latter category.

I

William Heathcote (Figure 1) was the son of Samuel Heathcote (1655–1708) and his wife Mary (1670–1720). A London merchant, Samuel Heathcote, together with his brothers, had been given £500 to begin his career by his father, Gilbert Heathcote, a bell founder from Chesterfield in Derbyshire. Samuel had started his working life as a factor in what is now Gdansk in Poland, and Kaliningrad in Russia, before becoming a London merchant, a Director of the East India Company, and a Director of the Eastlands Company. He also held various appointments, which included that of Deputy Lieutenant of Tower Hamlets. William Heathcote followed his father into the world of commerce under the guidance of his uncle on his mother's side of the family, William Dawsonne (d.1727). Following the early death of his elder brother, Gilbert (1691–1710), William Heathcote became the main beneficiary of his father's fortune, which amounted to £73,788 19*s*. 0*d*. His inheritance was subsequently enhanced by a legacy of £3,000 from his uncles, John and William Heathcote, and by a further legacy of £39,597 2*s*. 5*d*. from William Dawsonne.[14]

[8] Analysis of the ownership of manors and estates in Hampshire was derived, principally, from VCH *Hampshire*, supplemented by records in the form of feet of fines, family and estate accounts and correspondence.

[9] VCH, *Hampshire* V, pp. 96–7.

[10] Clay, 'Landlords', p. 182.

[11] VCH, *Hampshire* III, p. 270.

[12] VCH, *Hampshire* IV, p. 454.

[13] VCH, *Hampshire* III, p. 68.

[14] 63M84/110/2, Statement of account showing how Sir William Heathcote 'came by my present Estate as appears in My Ledger to be £190,522 16*s*. 2*d*.', 25 Mar. 1740.

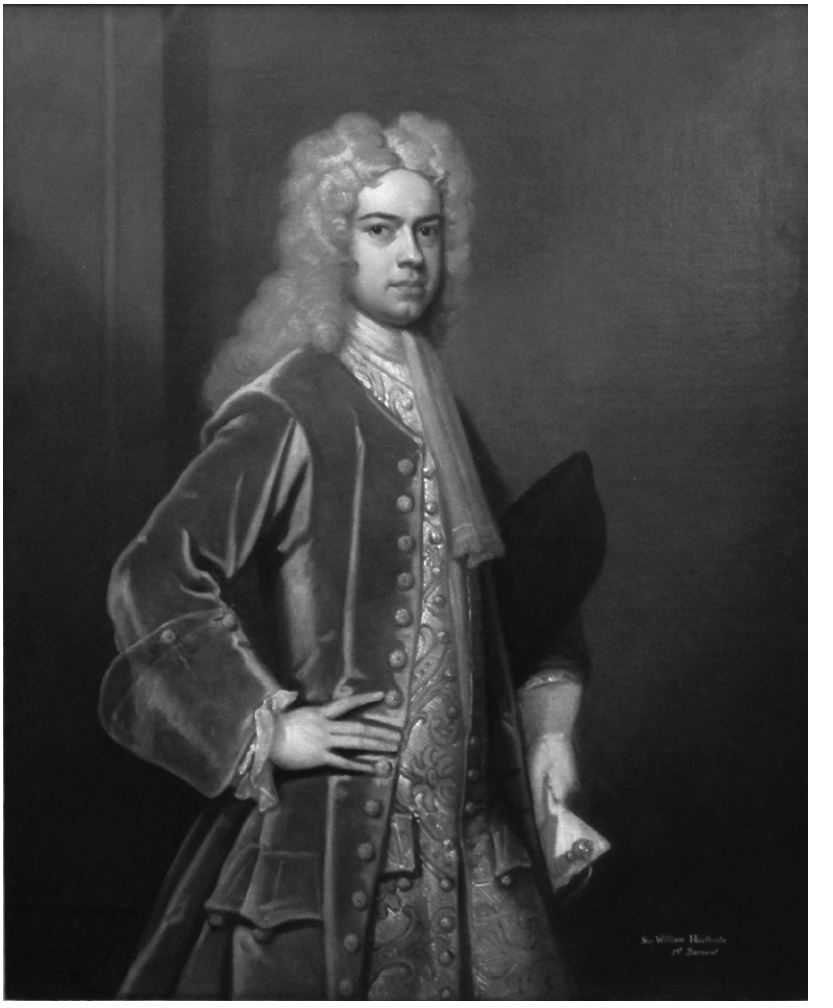


FIGURE 1. Sir William Heathcote (1692/3–1751) by Sir Godfrey Kneller, reproduced courtesy of the Heathcote family.

It was the availability of a significant part of this inheritance, following his twenty-first birthday, which enabled William Heathcote to purchase the Hursley estate, near Winchester in Hampshire, completed on 6 November 1718, with possession twelve days later.[15] The return of £736 per annum on the capital investment of £31,500, was poor in comparison with Heathcote's earnings in the world of commerce. He was, in Christopher Clay's words, one of those wealthy outsiders 'for whom land was a "conspicuous investment" in the sense that acquiring it involved conscious acceptance of a relatively low rate of return on capital because of the social (or political) advantages its possession conveyed'.[16] Heathcote believed that the

[15] 63M84/287, Memorandum book of William Heathcote, 1716–49, entries for 6 Nov. 1718 and 18 Nov. 1718; 58M71/E/T31, Bargain and sale for £35,000: the manor and manor farm of Merdon, the park of Hursley and the advowsons of Merdon and Hursley, 6 Nov. 1718.

[16] Christopher Clay, 'Henry Hoare, banker, his family, and the Stourhead estate', in F. M. L. Thompson (ed.), *Landowners, capitalists, and entrepreneurs: Essays for Sir John Habakkuk* (1994) p. 135.

estate offered potential for improvement and expansion, and his actions indicated that his thinking stretched beyond his own lifetime to his descendant's inheritance.[17] The estate was not a short-term 'refuge from urban sights and smells', but the means of entering county society.[18] He moved quickly, and on 10 December 1718, he was writing to his mother advising of the work he had initiated for reclaiming some of the swampy areas of the estate, of his plans for improving the returns on the estate's timber, and of his recent purchase of carp for restocking the already cleared fish ponds. He had also begun work on reclaiming the deer park, in readiness for importing deer.[19] The park had been in existence in 1588,[20] and Heathcote would have been aware of the importance of venison, and of the use of gifts of venison by the gentry, as symbols of landed power.[21] His deer park would, in later years, provide the venison for making such gifts to a wide range of people, including the Earl of Peterborough and the Mayor of Southampton, relatives, such as Lord Macclesfield, and in support of the organizers of charities, such as the stewards of the 'Alien's Feast', an event organized by a charitable organization that supported apprentices born outside of Winchester.[22] A sister organization supported apprentices born within the city.

Extending the estate was another early priority and consideration was given to purchasing an estate at Owslebury almost immediately,[23] and to acquiring an unspecified estate near Winchester eighteen months later.[24] A number of small additions were made in the area close to the estate before, in 1722, the manor of Compton became the first major addition.[25] Other substantial purchases followed, including the manor of Stoke Charity in 1728,[26] the manor of Fullerton in 1730,[27] and the manor of Pittleworth in 1734.[28] All of this property was reasonably close to, although not always coterminous with, the main estate at Hursley. Heathcote was following the common practice of the time, having begun with a substantial purchase, then consolidating this with nearby farms and manors and pursuing opportunities to add more substantial nearby properties as they became available. The long-term aim of ambitious landowners, as earlier studies have indicated, was to consolidate the ownership of land around their main seat and '[t]he ideal holding was one where the estate stretched out from the country house'.[29] Christopher Clay has described the Hoares of Stourhead as the ultimate example of this. They made their first purchases at Stourton in Wiltshire and Stourton Caundle in Dorset in 1718, the same year as Heathcote made his first purchase, and they went on to add a substantial number of properties at both estates between then and 1785, none of which lay more than six miles from the centre of the original purchases.[30] Heathcote

[17] 63M84/107.

[18] Clay, 'Henry Hoare', p. 116.

[19] 63M84/335, Letter from William Heathcote [hereafter Heathcote] to his mother, 10 Dec. 1718.

[20] Timothy Mowl and Jane Whitaker, *The historic gardens of England: Hampshire* (2016), p. 44.

[21] Susan E. Whyman, *Sociability and power in late Stuart England: The cultural worlds of the Verneys, 1660–1720* (1999), pp. 29–33.

[22] 63M84/362/25, Letter from Lord Macclesfield, 7 Sept. 1741.

[23] 63M84/185, Letter to Heathcote from his uncle, also William Heathcote, 6 Dec. 1718.

[24] 63M84/188.

[25] VCH *Hampshire*, III, p. 407.

[26] Ibid., p. 449.

[27] VCH *Hampshire* IV, p. 413.

[28] Ibid., p. 429.

[29] J. V. Beckett, 'The pattern of landownership in England and Wales, 1660–1880', *EcHR* 37 (1984), pp. 7–8.

[30] Clay, Henry Hoare', p. 127.

did not match this, although the overall acreage of his Hampshire estate was well in excess of the 11,625 acres owned by the Hoares. He was one of the very few eighteenth-century businessmen, who Christopher Clay suggested, would have built up larger estates than the Hoares.[31]

Prior to purchasing the Hursley estate Heathcote had expressed the view that it would not be worth spending money in repairing and refurbishing the Old Lodge, claiming that 'the patchwork will not keep us dry this winter'.[32] The mansion was old and in poor condition, but there were other reasons for replacing it. A large number of new or replacement houses were built by landowning families during the late seventeenth and early eighteenth centuries, including those of Heathcote's Hampshire neighbours at Dogmersfield Park, Farleigh House, Hackwood House, Herriard House, South Stoneham House, Warbrook House, and West Green House.[33] As a new landowner seeking to establish himself in the higher echelons of county society, Heathcote saw the need to provide himself with a comparable seat. The country house during this period was the outward demonstration of the power of the landowner. It was 'the headquarters from which land was administered and power organised', the 'show-case, in which to exhibit and entertain supporters and good connections' and the tangible evidence of the owner's wealth.[34] Heathcote set about demolishing the Old Lodge and building a new mansion.

The design of the new house, which became known as Hursley Lodge, has been attributed to John James (*c.*1672–1746).[35] The son of a Hampshire vicar, James worked with Nicholas Hawksmoor at Greenwich Hospital, at Lord Lempster's house at Easton Neston in Northamptonshire, and as a member of the Commission, established in 1711, for Building Fifty New Churches in or near the Cities of London and Westminster. His major contribution was the baroque-style St George's Church in London's Hanover Square. He was also responsible for the design of country houses in Hampshire, including Warbrook House, built for himself in the village of Eversley, and described by Pevsner in *The buildings of England* as 'An impressive, remarkably individual house'.[36] Having agreed the design with his architect, Heathcote followed a pattern adopted by many landowners at the time in that he engaged his own workmen, arranged the various contracts, and supervised the building work himself, assisted by John Draper, Clerk of Works, and his uncle, William Dawsonne. Dawsonne had recently retired from his business and had moved from London to Hursley.[37] Building work was completed in 1724,[38] and Heathcote recorded the cost of building the new mansion as £11,000, with more than £3,000 being saved as a result of making use of materials from the Old Lodge. As well as the new house, Heathcote's rebuilding programme included a new brew house and laundry, which cost £500; the garden was developed at a cost £800; reclaiming and

[31] Clay, 'Henry Hoare', p. 116.

[32] 63M84/232, Heathcote family scrapbook, 1721–1877, letter dated Oct. 1718.

[33] Nikolaus Pevsner and David Lloyd, *The buildings of England: Hampshire and the Isle of Wight* (London, 1999), p. 192, p. 228, p. 261, p. 288, pp. 581–3, p. 216, pp. 646–7.

[34] Mark Girouard, *Life in the English country house: A social and architectural history* (1978), p. 3.

[35] Pevsner, *Hampshire,* p. 300.

[36] Ibid., pp. 215–6.

[37] 63M84/563, William Dawsonne to Sir Francis Drake, 18 Jan. 1722.

[38] 63M84/100, William Dawsonne to Heathcote, 4 Apr. 1724.



FIGURE 2. Hursley Lodge. *Source:* J. P. Neale, *Views of the seats of noblemen and gentlemen, in England, Wales, Scotland, and Ireland* (1818, repr. 1830/31). Hampshire Record Office: HP286.

paling the park amounted to £1,000; bringing in water added a further £1,200 of expenditure; and provision of a new farmhouse for the home farm cost £500.[39]

Shown in Neale's *Seats* of 1818 as a square, red-brick building, with long first- and second-floor windows and dormer windows in a hipped roof[40] (Figure 2), Hursley Lodge was fairly typical of the more modest country houses that appeared in the years following the Restoration, which were based on the Palladian style of Inigo Jones and incorporated Baroque and Dutch features. It did not generate the bitterness and resentment among his neighbours as that shown by Lord Townshend when his Raynham estate, which he had viewed as the metropolis of Norfolk, was eclipsed by the arrival in the county of Robert Walpole, who purchased nearby land, and built the splendid and lavishly equipped and furnished Houghton Hall.[41] Rather, Heathcote's new country house would have drawn no more than favourable comparison with the houses of his neighbours in early eighteenth-century Hampshire. An article in *Country Life*, written in 1909, noted that 'Sir William built the house in excellent material from good classic design,

[39] 63M84/288, Memorandum book of William Heathcote, 1724–39, note of start and completion dates and a breakdown of the costs associated with building Hursley Lodge, 30 Mar. 1730.

[40] James Lees-Milne, *English country houses: Baroque, 1685–1715* (1970), p. 275.

[41] Girouard, *English country house*, p. 4.

but the design was uncompromisingly square'.[42] William Heathcote was, nevertheless, highly pleased with the outcome of his building work, claiming that Hursley Lodge, together with its furnishings, was 'one of the best seats in England'.[43]

He appears to have been less ambitious about the surrounding grounds. An offer from the garden designer and author, Stephen Switzer, was rejected. Heathcote apparently preferred to undertake the work himself. Little of his scheme has survived, however, as a result of developments by subsequent owners in the late nineteenth and early twentieth century and by IBM, who have occupied the main house since 1958, and built a large office complex on the adjoining grounds in the early 1960s.[44] Heathcote's garden development is recorded as costing £800,[45] which was not on the scale of gardens at other eighteenth-century estates. The famed classical landscape at Stourhead, initiated and developed by the banker, Henry Hoare II (1705–85), took twenty years to complete, and accounted for a significant proportion of the £20,000 spent on the new house, landscape, and paintings.[46] The second Earl of Egremont paid Launcelot 'Capability' Brown £5,500 over a twelve-year period, for creating the extensive landscape park at Petworth,[47] and on a much smaller scale within Heathcote's own county, Brown was paid £1,400 for landscaping the estate at North Stoneham.[48] These estates all employed gardeners, in some cases in large numbers, but only a single gardener, paid £9 per annum, was included in the list of servants at Hursley during the early 1720s, and there are no records of any gardeners being employed in later years.[49]

II

Within two years of acquiring his estate, Heathcote had begun to build a modern mansion and initiate various improvements to the estate, and he had married. His marriage to Lady Elizabeth Parker, the only daughter of Thomas Parker, Baron (soon to be Earl) Macclesfield, Lord Chancellor, took place in the Royal Chapel of St Peter ad Vincula, Tower of London, on 7 April 1720.[50] Lady Elizabeth brought with her the status of the aristocracy (admittedly new aristocracy), a £12,000 settlement,[51] and an influential father who later appointed his new son-in-law to enter commissions of bankruptcy on record and to receive the appropriate fees.[52] It is also possible that he helped his new son-in-law in the acquisition of a parliamentary seat at Buckingham.

The Parkers and the Heathcotes were London neighbours and friends, and their connections were re-enforced by a political affinity. Both families were Whigs. Despite the relationship

[42] 'Hursley Park, Hampshire, the seat of Sir George Cooper, Bt.', *Country Life* 2 Oct. 1909, pp. 562–4.

[43] 63M84/110/7.

[44] Mowl and Whitaker, *Historic gardens*, p. 82.

[45] 63M84/288, Memorandum book of William Heathcote, 1724–39, note of start and completion dates and a breakdown of the costs associated with building Hursley Lodge, 30 Mar 1730.

[46] Victoria Hutchings, *Messrs Hoare Bankers: A history of the Hoare Banking dynasty* (2005), pp. 50–4, 81.

[47] Christopher Rowell, *Petworth: The people and the place* (2012), p. 150.

[48] Mowl and Whitaker, *Historic gardens*, pp. 110–11, 127; Dorothy Stroud, *Capability Brown* (1975), p. 241.

[49] 63M84/313/1 and 2, salaries and wages of servants for the years 1724, 1732, and 1745.

[50] 63M84/287, Memorandum book of William Heathcote, 1716–49, entry for 7 Apr. 1720.

[51] 63M84/110/2.

[52] 63M84/258.

between the Parkers and the Heathcotes and, more particularly, the evident advantages and benefits of the marriage, William Heathcote does not appear to have entered into it lightly. The 'creation of an elite landed family' demanded rather more and he considered it necessary to check on Lady Elizabeth's suitability as his partner in providing descendants for his future family. In a letter addressed to Mr Griffeth, described as a 'most faithful and affectionate friend', he referred to an earlier discussion they had had 'about ye matter proposed', which is a 'great concern', and he asked if Mr Griffeth would be 'in a convenient place' to:

> make all ye enquiry at a distance yet possible you can, into ye temper & qualifications of ye party, and likewise into ye family's on both sides in every particular & especially whither there is any hereditary distemper on either side & whither integrity and honesty has been prevalent amongst them.

Mr Griffeth's conclusions about 'Mistress Parker' and her family background, which were not to be placed in writing, as the affair was to 'be a secret to all', were obviously favourable. The marriage went ahead, and in time there would be nine children, six sons, and three daughters.[53]

The marriage and the related strict settlement provided a further indication of Heathcote's long-term plans for his estate. The strict settlement had developed during the mid-seventeenth century from earlier arrangements into a form of property settlement. It had been adopted by most segments of English landed society by the early eighteenth century and, until the twentieth century, it was the usual means by which landed wealth was transmitted through the generations.[54] The Heathcote settlement followed the standard arrangement whereby, the settled estate, a specified part of the overall family estate, descended in each generation to the eldest surviving son, with the interest of the father and his eldest son in the settled estate being limited to that of life tenants. Beyond their lifetimes the estate was entailed on the eldest son of the following generation, the father's grandson, who was known as the tenant in tail. The arrangement would normally be repeated on each occasion that the eldest son of the family married or came of age. Heathcote's family legacy would thus be preserved in ensuring the succession – male succession – to the family estate. The settlement provided further insurance as it prevented an irresponsible son or grandson frittering away the settled estate, which was specifically reserved for the purpose of raising jointures for wives, dowries for daughters and portions for younger sons.[55]

The Heathcote settlement included a further, and less frequently used, provision to protect against possible long-term failures in the male line of either family, by placing titles and estates in remainder for specific descendants. In the event of a failure of male heirs in the descendants of her father, the heirs male of Lady Elizabeth would be in remainder to the titles and estates of the Earls of Macclesfield. A reciprocal arrangement was made in respect of a failure of the male heirs of Sir William and his wife, Lady Elizabeth, whereby the Heathcote estates would

[53] 63M84/6, 'Copy of letter my dear mother wrote for me to Mr Griffeth enquiring about Mistress Parker', n.d..

[54] Lloyd Bonfield, *Marriage settlements, 1601–1740: The adoption of the Strict Settlement* (1983), p. xiii. Barbara English and John Saville, *Strict Settlement, A guide for historians* (1983), 17–30; Sir John Habakkuk, *Marriage, debt, and the estates system: English landownership, 1650–1950* (1994), pp. 146–68.

[55] 219M87/E/T26.

pass to the male descendants of the Earls of Macclesfield. In practice, neither family benefited from this arrangement. The respective male lines have survived down to the present day, and any advantage for the earl's descendants was removed in the late nineteenth century when the Heathcote estate was sold.[56]

During the first four years of their married life, the Heathcotes lived in London. Following the completion of Hursley Lodge in 1724, the family divided its time between Hursley and London. Initially, their London home was in Hackney, where Sir William had been born and brought up. By 1725 they had moved to a rented house in Great Russell Street.[57] In 1734 Sir William bought a property in St James's Square and, in a repeat of his earlier actions at Hursley, he demolished the old house and built himself a new one at a cost of £6,000.[58] The plans for the new house were illustrated in a small booklet,[59] and the architect on this occasion was Henry Flitcroft. The house, number ten, together with the house adjoining has been described as 'perfect examples of the Palladian idea of a London street front reduced to its barest elements'.[60] Number 10, St James's Square, was subsequently home to three Prime Ministers, Chatham, Derby, and Gladstone, and it is now one half of the headquarters of the Royal Institute of International Affairs, formerly Chatham House.

Following their move to Hampshire, the family's time in London was determined by the requirements of Parliament, the business affairs of Sir William, and their social connections. They were usually in London by late November and returned to Hursley the following May. There were shorter visits at other times of the year to accommodate Sir William's business interests, including his investments in stocks and shares, and his arrangements for and the provision of loans. In later life he accepted various London appointments, which ranged from being a vestryman of the parish of St James, Westminster,[61] to being a Justice of the Peace for the liberty of the Dean and Chapter of the Collegiate Church of St Peter, Westminster and St Martin le Grand.[62] He also acted as a trustee for a number of London improvement and repair schemes, such as the repair of the road from St Giles's pound to Kilburn Bridge, and the provision of paving in Oxford Street.[63]

The younger Heathcotes would have grown up experiencing urban and rural social networks. Susan Whyman has described the urban community in London as being made up of a wide range of people at different levels of society, living closely together and linked by business, political and social interests that would have included landed society. Landed society, she claims, was equally flexible, 'forever expanding and contracting, in response to moral and practical considerations, with people mingling together on the basis of shared interests and

[56] C. Mosley, *Burke's Peerage and Baronetage* (1999), p. 1366.

[57] 18M54/B2/2/4, Records of purchases by William Heathcote of household goods and furniture from the late Lady Gower's house in Great Russell Street, 17 May 1723; 63M84/287, Memorandum book of William Heathcote, 1716–49, recording birth of his son, Samuel, at 'my house in Great Russell Street', 2 Sept. 1725, and the birth of his son, George, also at Great Russell Street, 1 Mar. 1735, and 18M54/B2/2/7, Counterpart of assignment by Sir William Heathcote to Sir John Eyles of his house in Great Russell Street, 2 May 1735.

[58] 63M84/110/7.

[59] 63M84/104.

[60] John Summerson, *Architecture in Britain, 1530–1830* (1992), p. 337.

[61] 63M84/265.

[62] 63M84/264.

[63] 63M84/266.

neighbourhood, not just status and occupation'. Whyman does not accept the long-held view that there was a simple dichotomy between rural and urban culture, but claims that rural and urban culture 'teemed with interconnections.' Her examples include John Verney, a younger son of a gentry family. He had become a London merchant and 'created new Metropolitan networks with landed gentry, merchant colleagues, and financiers that overrode social, religious and political values' and, through him, his family had 'gradually absorbed urban culture.'[64]. Two of the Heathcote's Hampshire neighbours provide a further and rather different example of this interconnection. Anthony Henley (1667–1711) of the Grange at Northington, and Richard Norton (1667–1732) of Southwick, were both wealthy landowners, fully immersed in the life of the county, but who spent the major part of the winter months in London. They were members of parliament, patrons and practitioners in the world of the arts, members of the Whig Rose Club and the Kit Kat Club, and contributors of satirical articles for *The Tatler* and *The Medley*. Their social, business, and political networks included the aristocratic leaders of the Whig Party, fellow MPs, the leading wits of the day, playwrights, actors, musicians, concert and theatre impresarios, writers and publishers. Norton would later bring acting companies from London to his house in Hampshire during the summer months, where he staged plays for the entertainment of the local population.[65]

Heathcote's networks would not have extended as widely as those of Henley and Norton but, as a London merchant moving into the country, Sir William Heathcote did not experience the 'barrier between business and land', whereby a family could expect to wait for one or two generations before they would be fully accepted into the landed community.[66] In contrast, he found a ready acceptance from the landowning community in Hampshire following his purchase of the Hursley estate, becoming part of the social circle of the county elite and active in local administration. Appointed Deputy Lieutenant for the county as early as 1723,[67] he had become a Member of Parliament for Buckingham in 1722, and from 1729–1741 he sat as one of the members for Southampton. He may have looked towards the more prestigious county seats, but both were dominated, at the time, by the powerful Powlett family, dukes of Bolton.[68]

William Heathcote's acceptance into the Hampshire elite would have been assisted by his upbringing within London's merchant community, his education, his exposure to landed society during the London season and at events outside the capital, a background similar to that of the sons of the aristocracy and gentry.[69] His acceptance would have been further assisted by his wealth and his obvious long-term commitment to the county, and the fact that there were gaps to fill because of the loss, during the late seventeenth and early eighteenth century, of a number of established landed families. Heathcote's intention had clearly been to become a

[64] Whyman, *Sociability and power*, pp. 67–73, 18, 80.

[65] Albert Gallon, 'The West End Theatre comes to Hampshire: Richard Norton (1667–1732) of Southwick Park, landowner and man of the theatre', *Theatre notebook: A journal of the history and technique of the British theatre*, 72 (2) (2018), pp. 66–77.

[66] G. E. Mingay, *The gentry, The rise and fall of a ruling class* (1976), pp. 6–7, and Lawrence and Jeanne C. Fawtier Stone, *An open elite*? *England, 1540–1880* (1984), p. 221.

[67] 63M84/259.

[68] 63M84/287, Memorandum book of William Heathcote, 1716–49, entry 22 Oct. 1722; Romney Sedgwick (ed.), The History of Parliament, *The House of Commons, 1715–54* (2 vols, 1970), II, p. 197.

[69] Mingay, *Gentry*, p. 6.

county landowner and establish a landed dynasty.[70] By 1733 he was the owner of a large estate and country seat in Hampshire, he had built a new house in fashionable St James's Square in London, he was a Member of Parliament, he had a prominent role in the governance of the county, and he had a wife and six children which, importantly, included four sons. His position within the county elite was sealed on 16 August of that year, when he was created a baronet.[71]

III

Sir William Heathcote's Hursley estate was run in a business-like manner and, in necessarily delegating much of the work to his steward, he provided detailed instructions, expected to be kept informed through regular communications, and was quick to intervene if he disagreed with the actions being taken. He was particularly interested in the woods and the production and sale of timber, given that this made a significant contribution to estate income. He continually sought improvements, kept up to date with developments in agriculture, and was happy to seek advice from fellow landowners on a range of matters. In February 1728, for example, he was questioning the number of deer that he should keep in his park and received a response from a Mr Cartwright who advised him to keep 200, out of which he would kill eight brace of bucks and eight brace of does each year. The keeper of the Duke of Bedford (the duke kept deer at his Stratton Park estate, near Micheldever in Hampshire), and Lord Lymington were also consulted, and the advice received was rigorously followed.[72]

Servants provide further examples of Heathcote's continuing practice of consulting and seeking advice from fellow landowners. An entry in his diary in March 1738, noted that he had consulted Sir John Shelley and Sir Henry Gough about the wages they paid to their stewards. Sir John, with an estimated income of £6,000 per annum, is recorded as paying his steward '30 guineas a year', with board and a horse, whilst Sir Henry paid his steward '£40 a year', with his board when he was in town.[73] Heathcote's steward was paid £50 per annum in 1732, and £80 in 1745, but did not receive any allowances for board, and does not appear to have been supplied with a horse.[74] On another occasion he consulted on the wages paid for keepers, and his diary records that the figures varied from the £4 per annum paid by the Earl of Radnor, to the £12 per annum paid by Colonel Fleming.[75] The annual wage of Sir William's keeper had been £14 since 1732.[76]

It is not clear if these consultations and comparisons reflected a concern about paying too much, or the need to establish if his wage rates were sufficient to attract and retain key servants. Heathcote did, nevertheless, pay well. His wages bill for 17 servants in 1724 amounted to £215, for 18 servants in 1732 it was £283, and for 17 servants in 1745 it was £198.[77] These figures

[70] 63M84/235, Notebook of Samuel Heathcote 1692–1716, continued after his death in 1708 by his son William, entry for 29 Sept. 1715.

[71] 63M84/262, 232 p. 11, nineteenth-century copy of the Patent of Baronetcy granted to William Heathcote of Hursley in 1733.

[72] 63M84/288, Memorandum book of William Heathcote 1724–39, entries for 28 Feb. 1728, Jun. 1728, and 13 Aug. 1730.

[73] 63M84/288, Memorandum book of William Heathcote, 1723–39, entry Mar. 1739.

[74] 63M84/313/1 and 2.

[75] 63M84/314.

[76] 63M84/313/1 and 2.

[77] Ibid.

compare favourably with those paid by the dukes of Bolton, the leading landowning family in Hampshire during the first half of the eighteenth century. The figures were also at the higher end of the wages of eighteenth-century servants provided by J. Jean Hecht,[78] so it is perhaps not surprising that the Heathcotes were rather more successful in retaining their servants for lengthier periods than many other landowners. Samuel Pineau, for example, was employed by the Heathcotes for over 30 years. John White, the steward, was in the employment of the Heathcotes for over 15 years, whilst John Noyce, a butler, and Edward Bishop, a keeper, were both employed for over 25 years. William Clark, a coachman, remained with the Heathcotes for 23 years, and Richard Fielder, postilion and groom, for over 20 years. Mary Potter, the housekeeper, Charles Nichols and Joseph Lane, both footmen, stayed with the Heathcotes for at least eight years.[79] Pineau was particularly well regarded as provision was made for him to receive a pension of £25 per year – equivalent to half his wages – in Heathcote's will.[80] Pineau had initially been employed as a tutor for the Heathcote children and had later become a valued administrative assistant.

There were other examples of Heathcote's generosity towards servants. John Laison was pardoned for what was clearly not a first offence, and although 'his most insolency saucy behaviour deserved his being immediately discharged my service', he was forgiven because 'he seems to be penitent for his offence and in compassion for his wife'. Any future such behaviour would, nevertheless, result in him 'being turned away'.[81] Referring, in a letter to his steward, to the servant Ruth Fielder, he noted that 'I had no occasion for Ruth this winter, but kept her out of kindness to her family, & that we take her to be truly honest and diligent servant'. The same letter illustrates the other side of his character: his strong sense of discipline. His steward was criticized for failing to exercise his responsibilities, with Sir William expressing his surprise:

> that the Dairy Maid refuses to let you see the directions Lady Betty (Heathcote's wife, Elizabeth) left with her that you may see she performs her directions. When I am absent you are in my place; on receipt of this ask her for her directions which if she refuses to produce discharge her from my service and employ Ruth Fielder to do her business.[82]

On another occasion, when he had been advised that some of his servants were frequenting the Dolphin Inn in Hursley, 'which is represented as a very bad house and that they get drank & keep very disorderly company', he left instructions that, 'without noise', his steward 'would have a watchful eye upon them and the house, to prevent any bad consequences that may happen by a company of drunken fellows'.[83]

The steward, John White, was later discovered to have embezzled £614 9s. 4d. after being criticized for failing to keep the books up to date and to provide the accounts.[84] Heathcote dismissed him from his service, demanded that he pay back all of the money, and in a letter

[78] J. Jean Hecht, *The domestic servant class in eighteenth-century England* (1956), pp. 141–9.

[79] 63M84/313/1 and 2.

[80] 18M54/D7/7.

[81] 27M54/3, Heathcote to Benjamin White, 12 June 1748.

[82] 27M54/2, Heathcote to John White, 22 Oct. 1730.

[83] 27M54/2, Samuel Pineau to John White, 26 Nov. 1730.

[84] 27M54/3, Heathcote to John White, 28 Jan. 1738

to his son, John White Jun., an attorney of Romsey, said that he was 'unwilling to go to extremities with him, but will give him some time to pay the money though he deserves no favour from me having made such bad returns for all the kindness I have shown him and his family'.[85] Heathcote appointed another of White's sons, Benjamin, as his steward. He also allowed the family to continue living in their house because he did not consider that John White's wife should suffer for her husband's misdemeanours.

Heathcote could also adopt a harsh approach to servants if they posed a threat to his household, for example, at times when outbreaks of illness were prevalent. When employing Henry Collins as a postilion in April 1729, a year when smallpox was causing great concern, Heathcote included a clause in the terms of his offer of employment noting that if Collins 'shall be taken ill of the smallpox he is to quit my service and be at his own expense'.[86] This combination of discipline and paternalism was not untypical among landowners. Susan Whyman has provided examples of a similar approach by Sir Ralph Verney of Claydon (1613–96) who provided money for a servant who was sick, as he did not want her to continue suffering, and he also undertook to pay for the funeral of another servant, but with the proviso that she was buried at Claydon and not elsewhere.[87]

IV

William Heathcote's treatment of his sons could be equally harsh. He believed in making them independent and encouraged them to live frugally, and the allowances he gave them were considered, particularly by his elder sons, Thomas and William, to be far less generous than those provided by the fathers of their contemporaries.[88] Their younger brother Samuel, at school in Hackney, and on a particular occasion plainly feeling the cold, asked that his father make arrangements for him to have a fire in his room as provided by parents of other boys.[89] On another occasion, Samuel, anxious to come home to St James's Square in London during a holiday period, asked his mother if he might be so bold as:

> to beg the favour of you and my father to be so kind as to give me leave to come home this Shrovetide and if you please I will walk it as I did last Shrovetide for I would much rather walk it than go in the coach and I will only have two shirts which I can carry in my pockets.[90]

Samuel's hope of coming home was not to be jeopardized by using the coach and having to ask for money over and above his agreed allowance.

The terms and conditions of such allowances were generally specified with little, if any, room for manoeuvre. When the Heathcote's eldest son Thomas completed his studies at Oxford in the summer of 1742 (he had come of age on 22 July), his father agreed to 'continue to allow him

[85] 27M54/3, Heathcote to John White Jun., 29 Apr. 1740.
[86] 63M84/288, Memorandum book of William Heathcote, 1724–39, entry for 21 Apr. 1729.
[87] Whyman, *Sociability and power*, p. 19.
[88] 63M84/305.
[89] 63M84/366.
[90] Ibid.

£150 a year'. He would also provide him and his servant with board and lodging at his houses in London and Hursley, and 'allow you hay and grass for two horses in the country', with Thomas having 'to find shooing, farriering, saddles, bridles, etc.' Thomas could also expect to be provided with stable room, 'If at any time you have a mind to have your horses in town', but he would have to find the horses 'hay and corn, etc.' Sir William also undertook to hire a man for Thomas, 'before we go to Hursley next summer', with Thomas paying his wages and having to 'pay for his livery the same that I give'.[91] When Thomas's younger brother Samuel returned, in 1750, from a less than successful venture as a merchant in Lisbon, arranged by his father, Sir William advised him that he would

> give you your lodging and board and washing and an allowance of £60 a year, to be paid until I can get you into some business or purchase you some place. You are to pay me all the money you shall receive from Mr Burrell or from Lisbon towards discharging the £2,700 that I have paid on your account. You are to pay for clothes, apothecaries' bills and other expenses.[92]

Samuel obviously lacked his father's energy and business acumen. He spent the rest of his long life living on the Hursley estate on a small allowance with some additional financial assistance from his elder brother Thomas.

The ordered and disciplined approach adopted by Sir William Heathcote, together with the general avoidance of anything other than small and short-term debts, and the financial and legal arrangements made for the future, did nevertheless ensure that the family estate was never under any form of financial threat. There were occasions when he did borrow, as illustrated in the 1728 purchase of the Stoke Charity estate. Heathcote had intended to fund the purchase from the sale of East India stock, but it took longer than expected and he borrowed £10,000 from his uncle, Sir Gilbert Heathcote, and from the bank, to avoid selling the stock 'when they are so much fallen'.[93] There was a further illustration in 1738 when he rejected a request for a loan from Sir Francis Drake, his brother-in-law, because he has himself had to borrow 'to make up a sum to pay the Earl of Burlington (of the order of £30,000 for an estate in Ireland) and have ready money only from hand to mouth'.[94] It is worth adding that he was also reluctant to loan anything to this particular relative because he had a poor record in making repayments.

A full account of his financial affairs is available for the year ended 30 March 1730 and is reproduced in Table 1. This shows the value of the Hursley estate to be £91,100. Associated items, such as jewels and plate, books, furniture, coaches, horses, and the stock of deer, brought the figure up to £97,500, and this accounted for a little under two thirds of his total wealth of £152,885. The remaining third, £54,885, was accounted for in various investments, loans (which he prosecuted vigorously when interest and capital payments were not made on time), and from property he owned in London and Oxfordshire.[95]

[91] 63M84/305/1.

[92] HRO 6M84/305/2.

[93] 27M54/2, Heathcote to the earl of Macclesfield, 7 and 11 Dec. 1728.

[94] 27M54/3, Heathcote to Sir Francis Drake, 19 May 1738.

[95] 63M84/288, Memorandum book of William Heathcote, 1724–9, entry for 30 Mar. 1730.

TABLE 1. The value of William Heathcote's estate, 30 March 1730

Hampshire Estate	
Income of £2,100 per annum freehold at 25 years purchase	£52,500
Income of £800 per annum leasehold at 17 years purchase	£13,600
Value of timber computed at	£25,000
Total	£91,100
Investments	
East India stock: £6,000 at 80	£10,800
South Sea stock: £5,500 at 103	£5,665
Bank stock: £3,000 at 140	£4,200
Total	£20,665
Loans, mortgages, and small investments	
Earl of Macclesfield on mortgage	£26,000
Half a New River share	£2,500
Ferne & Company on Bond	£1,500
Robert Brisco	£1,300
Nicholas Cory	£500
Thomas Parker	£400
Mrs. Holworthy	£200
Freeme & Company (turnpike)	£300
Circulating Exchequer bills	£200
Total	£32,900
London and Oxfordshire property	
House in Chequer Alley, London	£50
House in Portugal Street, London	£300
House in Great Russell Street, London	£600
Great Russell Street furniture	£300
Houses in Bensington, Oxfordshire	£70
Total	£1,320
Other	
Jewels and plate	£1,500
Hursley books	£1,000
Cash	£1,800
Hursley furniture	£1,700
Two coaches, chariot, harnesses, seven coach horses, eight saddle horses	£200
Stock of deer	£200
Total	£6,400
Overall total	£152,885

Source: HRO, 63M84/288, Memorandum book of William Heathcote, 1724–9, entry for 30 Mar. 1730.

The policy of retaining a significant proportion of wealth in other forms of investments was crucial in enabling him to build capital to finance the development and expansion of his estate, and it also provided a safeguard against a downturn in estate income. Annual income in 1733 from the settled estate (entailed on his eldest son, Thomas), for example, amounted to £2,445 9*s*. 6*d*.[96] Eight years later, in 1741, it had risen to £2,542 19*s*. 8*d*. Income from leasehold properties in that year amounted to £859 8*s*. 10*d*., which increased the overall income from the Hampshire estate to £3,619 11*s*. 10*d*. Timber was valued at £30,000 and computed at 4 per cent to provide an annual value of £1,200, although it was not sold on an annual basis. Expenditure on the estate during 1741 amounted to £910, of which almost half, £440, was accounted for by the Land Tax at 4 per cent. Repairs and deductions accounted for a further £150; bad debts £72; wages for the steward, Benjamin White, £80; management of the woods and coppices £18; loss on the park £100, and a further £50 on small items. Available income was thus reduced from £3,619 11*s*. 10*d*. to £2,709 11*s*. 10*d*.[97] It was further reduced by the £2,000 expenditure incurred by the house and family on various items ranging from housekeeping (£410); servant's salaries and wages (£280); stable expenses at Hursley (£275); and clothes for the family (£200); to the cost of dancing and writing masters for the children (£25); liveries for servants (£50); and garden expenses (£90).[98] Although financially healthy, the resulting balance of £709 11*s*. 10*d*. would not have been sufficient to have funded the various building projects, estate expansion and improvements undertaken by Heathcote, without long-term borrowing and this he sought to avoid.

V

Concern for meeting such expenditure in the future prompted him to look at increasing his landholding and he briefly considered the purchase of estates at Kings Somborne and at Odiham, but he was, by this time, becoming disillusioned with his Hampshire estate. From the late 1730s and for much of the 1740s there were repeated failures to find tenants for his farms and to obtain payment of rents for farms that were leased. It was a period of agricultural depression that stemmed from a long-term decline in grain prices stretching back to the 1650s, and it affected farming over a wide area from Yorkshire and Cheshire in the north, through the Midland counties to as far south as Kent, Sussex and Hampshire.[99] He was continually demanding that his steward send him some rents, complaining that 'there is now owing me in Hampshire near £9,000 which appears by the books, this is a very great sum to lie dead'. He referred to another problem in asking 'can you hear of no good tenants yet to take Merdon, Pittleworth, and Park farms, and what of Hiltingbury and Growd Hill farms? I am very unfortunate to have these farms so long in my hands'.[100] Two months later he was again complaining about the failure to find suitable tenants, but, strangely, was prepared to pay up to £2,050 for 'Fielder's estate'.[101] In late February of the

[96] 63M84/109.

[97] 63M84/110/4 and 5.

[98] 63M84/288, Memorandum book of William Heathcote, 1724–39, computation of yearly expenditure, 30 Mar. 1730.

[99] G. E. Mingay, 'The agricultural depression, 1730–1750', *EcHR* 8 (1956), pp. 333–4.

[100] 27M54/3, Heathcote to John White, 17 Oct. 1737.

[101] 27M54/3, Heathcote to John White, 20 Dec. 1737.

following year, he was pressing the need to collect rents and arrears briskly, as he is to 'pay about £30,000 in three to four months in part of a purchase' (of an estate in Ireland).[102] The pressure on his steward continued and he was still being urged to collect money from tenants into the 1740s.[103]

Landowners 'could not prosper unless their tenants prospered and, if their tenants were in difficulties, they could not expect to escape unscathed. The best way to deal with the situation was to help tenants to weather the storm'. Christopher Clay has provided examples of such help, which included allowing tenants to accumulate arrears, providing rebates and loans which, in some cases, amounted to hundreds of pounds. Landowners also looked to improvements that could result in rents being more reliably paid. They included improving the land and introducing changes in the way farming was carried out and, more controversially, combining small tenancies into larger holdings.[104] Heathcote regularly sought means of improving his land, but opportunities were limited because of the location of his estate. Hampshire has three basic agricultural regions: the 180 square miles of peaty, sandy, and clay soils in the north, part of the London Basin, which is relatively unproductive; the 550 square miles in the south of the county, known as the Hampshire Basin, which includes the New Forest, and apart from some fertile and productive land in the south west, is particularly poor agricultural land; and the 760 square miles of fertile, elevated, and undulating chalk lands, known as the central chalk lands, which provided the best returns on investment,[105] and where the largest estates, as well as the most extensive occupations, were found.[106] The Heathcote estate was partly within the Hampshire Basin and partly within the central chalk lands and, as a valuation of the late nineteenth century indicated, the northern area of the estate was productive and attractive to tenant farmers, but the southern part of the estate, located in the Hampshire Basin on tertiary clays, gravels, and sands, was poor and unproductive land and unattractive to tenant farmers.[107] This was the area of his estate where Heathcote experienced continuing difficulties in the 1730s and 1740s.

By 1746 he was again informing his steward that:

> I am in want of money therefore be diligent in dunning my tenants to get some to remit me. I am quite sick of my Hampshire estate for I believe that few gentlemen have their rent so very ill paid as mine are, if they had they must all run away which would be my case if I had not estates in other places where my rents are punctually paid.[108]

The estate had not lived up to his expectations, and the need for other, more reliable income was a major factor in his decision to look beyond Hampshire and buy a large estate in Ireland in 1737. This estate, which exceeded 60,000 acres across the counties of Cork and Waterford, and included freehold and leasehold property, was managed by agents and, following deductions, brought in just over £3,100 per year.[109]

[102] 27M54/3, Heathcote to John White, 28 Feb. 1738.
[103] 27M54/3, Heathcote to John White, 18 Dec. 1739.
[104] Clay, 'Landlords', pp. 230–41.
[105] Ruscombe Foster, *The politics of county power. Wellington and the Hampshire gentlemen, 1820–52* (1990), pp. 6–7.
[106] Charles Vancouver, *General view of the agriculture of Hampshire, including the Isle of Wight* (1813), p. 51.
[107] 63M84/499.
[108] 27M54/3, Heathcote to John White, 29 Apr. 1746.
[109] 63M84/110/7; 18M54/C2/1/27.

TABLE 2. The value of Sir William Heathcote's estate, 10 May 1751

Estates	
Hampshire	£90,932 13*s.* 1*d.*
Value of Hampshire timber computed at	£23,390 19*s.* 5*d.*
Ireland	£55,000 0*s.* 0*d.*
Total	£169,323 12*s.* 6*d.*
Investments	
New River shares	£5,250 0*s.* 0*d.*
London Assurance: 200 shares	£2,355 0*s.* 0*d.*
7 per cent Emperors Loans (£2,000 principal)	£2,000 0*s.* 0*d.*
5 per cent Emperors Loans (£2,400 principal)	£2,287 15*s.* 0*d.*
4 per cent Bank annuities (£2,000 stock)	£2,000 0*s.* 0*d.*
4 per cent Bank annuities (£7,500 stock)	£7,500 0*s.* 0*d.*
Total	£21,392 15*s.* 0*d.*
Loans, mortgages, and small investments	
Peter Colson on mortgage	£336 0*s.* 0*d.*
Hawksworth Cleverley due on Bond	£312 0*s.* 0*d.*
Josiah Cannon due on mortgage	£108 0*s.* 0*d.*
Eliza Holworthy	£338 6*s.* 9*d.*
Harper & Company	£4,972 7*s.* 2*d.*
Samuel Heathcote, Junior	£1,938 0*s.* 2*d.*
Gilbert Heathcote	£800 0*s.* 0*d.*
Bank circulation	£500 0*s.* 0*d.*
Advowson of Walton, Liverpool	£3,220 1*s.* 0*d.*
Total	£12,524 15s. 1d.
London and Oxfordshire property	
House in St James Square, London	£3,000 0*s.* 0*d.*
House in Portugal Street, London	£447 6*s.* 6*d.*
Houses in Bensington, Oxfordshire	£72 0*s.* 0*d.*
Total	£3,519 6*s.* 6*d.*
Other	
Jewels and plate	£1,500 0*s.* 0*d.*
Hursley books	£14,998 17*s.* 0*d.*
Cash	£967 8*s.* 6*d.*
Total	£17,466 5*s.* 6*d.*
Overall total	**£224,226 14*s.* 7*d.***

Note: The figure was reduced by Sir William Heathcote's debts of £3,647 2*s.* 5*d.*
Source: HRO, 63M84/110/2, Summary of the source of Sir William Heathcote's wealth, 25 Mar. 1740.

Despite all the frustrations with legal disputes, the lack of tenants, and tenants who did not pay their rents on time, Sir William Heathcote was able to demonstrate a handsome profit on his business transactions, landed estate, and other incomes. His wealth at 25 March 1740 was estimated at £190,522 16*s*. 2*d*.[110] and by 10 May 1751, the day he died, his estimated wealth, as shown in Table 2, was recorded as £220,580 2*s*. 2d.[111] Dissatisfaction expressed with the Hampshire estate should also be placed in perspective. Sir William Heathcote could certainly have derived a greater return from investments other than land, or from land elsewhere, but the annual Hampshire estate income of £3,619 11*s*. 10*d*., plus the further £1,200 of timber income, and the income (in excess of £3,000) from the Irish estate, placed the Heathcotes within the wealthy category of gentry families, according to various estimates of gentry family incomes. Using the figures of the contemporary statisticians, Edward Chamberlayne, Patrick Colquhoun, and Gregory King, Mingay estimated that a wealthy gentry family of England and Wales would have earned between £3,000 and £5,000 from their estate by 1790, the figures having doubled during the one hundred years from 1690.[112] By this estimation, the Heathcote family with an income close to £8,000 would be categorized as very wealthy gentry, but other problems were increasing his dissatisfaction.

There was his wife's health, the discovery that his trusted steward had embezzled the sum of £614 9*s*. 4*d*.,[113] and then, in December 1742, the news that his son and heir, Thomas, had secretly married Elizabeth Hinton, a local girl from the village of Hursley. Heathcote and his wife were furious. As heir to the baronetcy and his father's estate, valued at the time by his father as providing an income in excess of £9,000 per annum,[114] Thomas was expected to make a good match and to benefit from a handsome dowry, but his new wife was the daughter of a carpenter, and she brought neither status nor dowry. His parents' anger did not readily subside. In a letter to Thomas, some four years after his marriage, his mother described her continuing unhappiness at the rift that had developed between them and claimed that 'the loss of my health or life would have been little in comparison with the loss of my child'. He was recommended to 'use your utmost endeavours to regain some degree of your father's favour and mine', reminded that he had failed to perform his duty to his parents, and in so doing had failed to perform his duty to God. The letter offered little hope of reconciliation, with Lady Elizabeth signing herself as 'Your Afflicted Mother', rather than her customary 'Your Affectionate Mother'.[115]

Thomas was not reconciled with his mother, and his father was unable to reconcile himself with Elizabeth's family, who were living in a house provided by him in Hursley village. He instructed his steward to remove them.[116] Although he was not able to alter the strict settlement arrangements made for Thomas to succeed him, he did withhold the provisions for his eldest son to have a portion of the unsettled estate at Lady Day 1746, when Thomas would have been 25 years of age, by when, it had been assumed, he would be married to a wife of his

[110] 63M84/110/2.

[111] 63M84/303.

[112] G. E. Mingay, *English landed society in the eighteenth century* (1963), pp. 22–6.

[113] 27M54/3, Heathcote to John White Jun., 29 Apr. 1740.

[114] 63M84/110/7.

[115] 63M84/49, Lady Elizabeth Heathcote to her son, Thomas, n.d.

[116] 27M54/3, Heathcote to Benjamin White, 17 Feb. and 12 Mar. 1742/3.

parents' choice. Proposed initially in 1733, and updated in 1742, these provisions would have given Thomas an income of £1,907 per annum, based on his father's 1742 calculations.[117] But, in his will, dated 11 June 1748, Heathcote confirmed that he had devised the unsettled estate on his son, Thomas, for life, and to trustees to provide contingent remainders. The will also contained the proviso, which illustrated his continued disapproval of his son's choice of wife, that Thomas 'should not permit or suffer his present wife to come to or reside in the parish of Hursley, and that if he should permit or suffer her to come and reside there the said two devises should henceforth become absolutely void'.[118]

Elizabeth may not have been acceptable, but her children received full recognition from their grandfather. Succession was a key factor in Heathcote's long-term plans. He recorded the births in his memorandum book, noting, for example, that 'On 21 June 1746 my grandson William (eldest son of my son Thomas) was born, his Godfathers were his great uncle, the Rt. Hon. George, Earl of Macclesfield, and myself,' and that his Godmother was 'the Lady Drake, his great aunt'.[119] The ban on Elizabeth was subsequently revoked in a codicil dated 1 July 1749, and Sir William was very sympathetic when soon afterwards, on 27 December 1749, his daughter-in-law died of smallpox. He wrote expressing his pity and hope of 'God to support you under this great affliction' and agreed immediately to Thomas's request that Elizabeth should be buried in the family vault at Hursley. 'It shall always be my endeavour', Sir William added, 'to shew myself a kind and affectionate father to you and to your children', and it was 'his desire and advice that Thomas should come home to live with me directly, where you will always find a hearty and sincere welcome'.[120]

VI

Thomas did return to Hursley, and when Sir William died on 10 May 1751, he inherited his father's title and the settled part of his father's Hampshire estate as a tenant for life. Sir William had achieved his part in creating a landed dynasty by passing on a financially sound estate to his descendants. The estate continued in the family's ownership through the next four generations, but the external wealth of the first Sir William Heathcote, so crucial in the development and running of the estate, was no longer available by the time that the fifth Baronet, another Sir William (1801–81), inherited the estate in 1821. Added to this, the Irish estates, property in London and Oxford, and a significant part of the Hampshire estate had been disposed of following a modification of the entail and a subsequent family disagreement. Income was less than that required to support the lifestyle of a country elite family throughout the tenure of the fifth Baronet, and he struggled to resolve this by borrowing and then mortgaging parts of the estate. His hopes of recovery ended with the onset of the late nineteenth-century depression and the estate, by this time just over 14,000 acres,[121] was placed in the hands of

[117] 63M84/110/6–7, and 63M84/111.

[118] 18M54/D7/10.

[119] 63M84/288, Memorandum book of William, later Sir William, Heathcote, 1716–49, entry for 21 Jun. 1746.

[120] 18M54/D7/10, codicil to Heathcote's will, 1 Jul. 1749, and 63M84/350, Heathcote to Thomas Heathcote, 30 Dec. 1749.

[121] John Bateman, *The great landowners of Great Britain and Ireland* (1878), p. 215.

Trustees following his death. The house and main estate at Hursley was sold in 1889,[122] and the remaining parts of the Hampshire estate, the manors of Compton,[123] Stoke Charity,[124] Fullerton,[125] Pittleworth,[126] and Durley, together with a number of advowsons and smaller properties, had all been sold by 1892.[127] The first Sir William Heathcote's vision of a landed dynasty had suffered the same fate as that of many of his wealthy contemporaries who had become part of the eighteenth-century landed elite.

[122] 219M87/E/T46; VCH *Hampshire,* III, p. 420.
[123] VCH *Hampshire,* III, p. 407.
[124] Ibid., p. 449.
[125] VCH *Hampshire*, IV, p. 413.
[126] Ibid., p. 492.
[127] VCH, *Hampshire,* III, p. 289; VCH *Hampshire,* IV, pp. 432, 447.

The land agent and the old poor laws: examining the correspondence of William Spencer in Sapcote, Leicestershire*

by Samantha A. Shave

Abstract

Limited research has been conducted on the ways in which land agents were involved in the administration and management of poor relief on estates. Literature on the old poor laws has focused on the individuals vested with powers under law to administer poor relief (such as parish officers and magistrates) and literature on land agents has overlooked this role. In order to address this deficiency, this article examines the richly detailed correspondence of William Spencer, who worked in Leicestershire for John Frewen Turner, and his role in the implementation of a deterrent workhouse system in the early nineteenth century. Spencer directed the establishment of the new institution, negotiated between the landowner and key individuals in the community, and gleaned information about poor relief practices in other locations. Spencer also held prejudices against individuals in the community, and reported their resistance to the new workhouse. This case study illustrates some of the ways in which land agents influenced and managed poor relief system in nineteenth-century rural England.

On 1 February 1829, the major landowner John Frewen Turner died aged 73. The *Leicestershire Chronicle* reported that he was 'greatly beloved and lamented', a 'true old English Gentleman, being the sincere christian [sic], the faithful friend, the parent of his tenantry, and the benefactor of the distressed, and poor'.[1] But the poor were not always at the forefront of his mind. In 1806 Frewen Turner had to be encouraged by his land agent, William Spencer, to attend the opening of a new workhouse in Sapcote in Leicestershire.[2] Like so many absentee landowners of the era, Frewen Turner's land was left in the hands of a land agent who was partly responsible for the relief of the poor enshrined in the old poor laws – laws established and developed from the Elizabethan era, until the centralized New Poor Law was implemented from 1834. But despite the prevalence of this arrangement, how land agents negotiated, managed and established poor relief polices and practices, especially in the modern era, has been under-researched.

* I would like to thank Tom Akehurst, Paul Warde and the anonymous referees for their helpful and supportive comments on earlier versions of this article. All quotes remain unaltered from the original source, and any alterations or clarifications have been placed in square brackets.

[1] *Leicester Chronicle*, 7 February 1829.

[2] 17 Mar. 1806, Spencer to Frewen Turner (Cold Overton [hereafter CO]), The Keep FRE/9075.

This article provides a micro-history of the management of poor relief in one rural estate in England by one land agent.[3] Its purpose is to the demonstrate the ways in which land agents could help landowners establish new poor relief regimes, especially institutional relief, in the final decades of the old poor laws, years when poverty was increasing dramatically. It does this by examining over 50 letters sent by William Spencer to Frewen Turner over an eight-year period, from 1804 to 1811, alongside surviving parish records.[4] This correspondence provides numerous and rich details about Spencer's involvement in the establishment of a new workhouse. As Andy Wood has recently stressed, scrutinizing local records such as estate papers and correspondence relating to one place and one community enables us to 'reveal something of wider social structures, sensibilities and understandings'.[5] Following this same micro-historical approach, this paper provides an examination of Spencer's letters according to four main themes, each one focusing on an aspect of Spencer's poor law work. Firstly, the establishment of a large, purpose-built deterrent workhouse so that indoor, rather than outdoor, relief could be administered. The second theme examines Spencer's relationships with those administrators involved in the provision of poor relief, especially the members of the workhouse committee and local magistrates. The third section will outline Spencer's role in researching other practices of relief, and how he used knowledge drawn from a range of locations to manage the workhouse. The final theme focuses the lens on Spencer's prejudices towards individuals as well as the labouring poor and, in turn, how the labouring poor resisted the new workhouse. Land agents could, as this case study shows, establish, manage, research, and defend the use of deterrent workhouses on rural estates.

To begin it is necessary to provide an overview of the relevant poor law historiography, demonstrating that our understanding of land agents' involvement in the provision of poor relief lacks significant detail. The second section provides a contextual sketch, including Spencer's employment, the nature of poor relief and the workhouse at Sapcote. The article then explores the four themes outlined above before drawing conclusions. It will be argued that the findings presented here suggest the importance of undertaking further micro-historical case studies to reveal more about the role of land agents in the administration of poor relief under the old poor laws.

I

The landowner had significant power over the welfare of the labouring poor in England into the early nineteenth century. In a 1972 article in the *Review*, Holderness argued to that 'close' parishes – parishes where the land was in hands of one or a few people – were 'rigidly controlled by landlords and ratepayers'. In particular, and of most concern to Victorian policy-makers, was the restriction of cottage-building. The agricultural labourer in these parishes

[3] This paper adopts the more modern term 'agent' as in other recent research on the subject.

[4] All letters referred to are in series FRE are in The Keep [hereafter TK]; all parish level records are from the Leicestershire, Leicester and Rutland Record Office [hereafter LLRRO].

[5] A. Wood, 'Afterword: small places, big questions: reintegrating social and economic history, c. 1350–1750', in J. P. Bowen and A. T. Brown, *Custom and commercialisation in English rural society* (2016), p. 251.

often walked considerable distances to and from work, and people regularly had to move out to the overcrowded housing in 'open' parishes.[6] The landlord's aim was to control the number of families they had to employ, and of course, the number of individuals 'chargeable' on the parish rates for poor relief. While the number and density of 'close' parishes across England varied according to region, Holderness noted that they were particularly prevalent in the 'light soil uplands' of the Cotswolds, Norfolk, the East Midlands and East Riding.[7] In this regard landowners, especially in these regions, have been placed under significant scrutiny. Beatrice and Sidney Webb's seminal volume on the old poor laws (1922) pointed to the forcible removal of the poor from estate land and, by the early nineteenth century, the authority exercised by landowners over the way relief was provided.[8] For instance, in 1830 Uley, Gloucestershire, the landowner and magistrate J. H. Lloyd Baker was inspired to develop a deterrent workhouse regime implemented in Southwell, Nottinghamshire.[9] Baker put the workhouse 'practically into his own management, drew up strict rules as to regimen, and refused Outdoor Relief to any able-bodied Labourer'.[10] The 'rigorous application of the poor law' in tightly held parishes could force the labourer from the land.[11]

Of course, we know that many parishes could not be 'so tidily classified', as Brundage puts it, into 'open' and 'close' categories and also that many landowners and their tenant farmers were not necessarily focused on controlling the population or reducing the poor rates. A 'strong paternalistic commitment', he argues, continued amongst the propertied classes. Anne Digby's research on Norfolk highlighted the continuing humanitarianism within the propertied classes towards the poor within their estates. Indeed, in this county a series of Local Acts were created in the 1770s, permitting parishes to unite (into an 'Incorporation') in order to provide workhouses for the more vulnerable poor. In most of these institutions the able-bodied poor were employed in some form of work, but the vulnerable poor were looked after too. At Rollesby, for instance, the 'needs of all kinds of poor people were liberally provided for'.[12] The passage of Gilbert's Act in 1782 (Geo. III c.83) saved parishes the expense of passing such legislation. Gilbert's Act was solely meant to be for the creation of a workhouse for the accommodation of the vulnerable poor such as the unwell, older people and children. This 'enabling Act' was taken up by the Norfolk parishes enthusiastically, so that by 1834, one in ten parishes were in a Gilbert's Union, and one in four were in a Local Act incorporation.[13] In West Sussex, two workhouses were established under Gilbert's Act by Lord Egremont, and many other neighbouring parishes soon unionized to conform to the ideal.[14] The wax seal

[6] B. A. Holderness, 'Open' and 'close' parishes in England in the Eighteenth and Nineteenth Centuries', *AgHR* 20 (1972), pp. 126–39, quote from p. 126.

[7] Ibid., p. 134.

[8] S. Webb and B. Webb, *English poor law history, part 1: the old poor law* (1922), p. 320.

[9] Ibid., p. 256–58; see also J. D. Marshall, 'The Nottinghamshire reformers and their contribution to the New Poor Law', *EcHR* 13 (1961), pp. 382–96.

[10] Ibid., p. 258.

[11] Reading of A. Charlesworth 'The development of the English rural proletariat and social protest, 1700–1850: a comment', *J. Peasant Studies* 8 (1980), pp. 101–11 by R. Wells, 'Social conflict and protest in the English countryside in the early nineteenth century: a rejoinder', in M. Reed and R. Wells, *Class, conflict and protest in the English countryside, 1700–1880* (1990), p. 67.

[12] A. Digby, *Pauper palaces* (1978), p. 37.

[13] Ibid., p. 32; for Suffolk see J. Shaw, *The Loes and Wilford Poor Law Incorporation, 1765–1826: 'A prison with a milder name'* (2019), pp. xi–xviii.

[14] S. A. Shave, *Pauper policies: poor law practice in England, 1780–1850* (2017), pp. 56–110.

stamped on the correspondence from one of these institutions captured that initial paternalist sentiment well: 'Goodwill towards men'.[15] Dunkley has shown how fragile and faint that paternalism had become by the early nineteenth century, however.[16] Increasing poor relief costs were dealt with through a series of punitive outdoor relief schemes, reductions in the scale and scope of relief, and policies to make workhouses places of last resort rather than care. Such measures, some legitimized though statutory acts, eroded rural societal stability.[17] No wonder landowners' property was targeted during the 1830–31 Swing Riots.[18]

The influence of the propertied class over poor relief prior to 1834 is very apparent in the historiography, yet what is remarkable is how rarely the landowner's employee, the land agent, is discussed.[19] Land agents do not appear in the work of the Webbs, and are also absent from key works on the poor laws. Previously, in *Pauper Policies*, I used the example of William Tyler, the land agent for Lord Egremont's estate, to suggest that land agents could be heavily involved in the development and management of relief regimes. Indeed, by piecing together a wide range of administrative documents, it has been shown that Tyler acted as a clerk for the workhouse committees, and undertook a variety of other important tasks, such as advertising for prospective workhouse contractors and reviewing their applications. Tyler was 'pivotal' in development and administration of welfare reforms in this expanse of 'close' Sussex parishes.[20] How other land agents were involved in the administration of poor relief has not been studied by poor law historians. The position and other responsibilities of land agents within rural society have, however, been addressed in literature specifically focused on land agents, to which we now turn.

Challenging the long-held stereotype beloved of popular literature that land agents were terrifying tyrants, a wave of new research has foregrounded their positive attributes and achievements. Sarah Webster's work, for instance, has focused on land agents' contribution to agricultural innovation and the diversity in management styles and gradual professionalization of agents on Lord Egremont's estate.[21] James Bowen has explored the role of chief agent James Loch in improving the Lilleshall Estate owned by the Marquis of Stafford in Shropshire.[22] Research has also highlighted the careful relationship between land agents and people working and living on rural estates. Carol Beardmore has analysed the everyday policies and politics of the land agent William Castleman on the Marquis of Anglesey's estate, in Dorset and Somerset.

[15] Ibid., p. 56.

[16] A. Brundage, *The English poor laws, 1700–1930* (2003), p. 23; P. Dunkley, 'Paternalism, the magistracy and poor relief in England 1795–1834', *International Rev. Social Hist.* 24 (1979), pp. 371–97.

[17] S. A. Shave, 'The impact of Sturges Bourne's poor law reforms in rural England', *Historical Rev.* 56 (2013), pp. 399–429 with Corrigendum, 57 (2014), p. 593; Shave, *Pauper policies,* pp. 111–49.

[18] See C. J. Griffin, *The rural war: Captain Swing and the politics of protest* (2012).

[19] See A. Brundage, 'The landed Interest and the New Poor Law: a reappraisal of the revolution in government', *EHR* 87 (1972), pp. 27–48; P. Dunkley, 'The landed interest and the New Poor Law: a critical note', *EHR* 88 (1973), pp. 836–41; A. Brundage, 'The landed interest and the New Poor Law: a reply', *EHR* 90 (1975), pp. 347–51; B.K. Song, 'Continuity and change in English rural society: the formation of Poor Law Unions in Oxfordshire', *EHR* 114 (1999), pp. 314–38.

[20] Shave, *Pauper policies*, pp. 158–9, quote from p. 158.

[21] S. Webster, 'Estate improvement and the professionalisation of land agents on the Egremont estates in Sussex and Yorkshire, 1770–1835', *Rural Hist.* 18 (2007), pp. 47–69; id., 'Agents and professionalisation: improvement on the Egremont estates c. 1770–1860' (Unpubl. PhD thesis, University of Nottingham, 2011).

[22] J. P. Bowen, 'A landscape of improvement: the impact of James Loch, chief agent to the Marquis of Stafford, on the Lilleshall estate, Shropshire', *Midland Hist.* 35 (2010), pp. 191–214.

Agent and tenants were engaged in a carefully orchestrated relationship. She argued that, 'Both understood the responsibilities and duties expected of the other', with 'an unspoken agreement that the landowner would support his tenants during periods of economic downturn'. Beardmore also examined the networks of wealthy individuals Castleman maintained to secure the financial footing of the estate.[23] The character and abilities of several land agents in Scotland, Ireland and Wales have been re-evaluated in a similar spirit.[24] These carefully researched case studies present us with a more nuanced and cooperative view of land agents, conducting a tricky 'juggling act' with difficult issues and rural relationships, and crucially as Webster contends, acting 'as mediator' between different social groups.[25]

Notwithstanding the scale and scope of this recent re-evaluation of the role of land agents, little attention has been given to their involvement in the administration of poor relief. An exception is Beardmore who showed that land agents set and collected poor rates, and at times discouraged the poor from seeking relief. More documentation has survived, however on the organization of small scale charitable donations, such as food, money and fuel, and the setting up of paternalistically motivated self-help schemes beyond statutory control, such as allotments and savings banks.[26] Steven King has demonstrated that after 1834 land agents entered into dialogue with the Poor Law Commission on behalf of their employers, and could shape the composition of each unions' board of Guardians.[27] In a similar period, the land agent William Scott Owen in Montgomeryshire established a new school and sought to turn a workhouse into a hospital.[28]

Notably, the lack of prominence given to land agents in the provision of poor relief prior to 1834 is reflected in land agents' handbooks of the time. While some failed to outline the poor laws or the practice of giving poor relief, others instead recommended that the reader refer to generic popular handbooks. John Lawrence's 1801 guide, *The modern land steward*, for instance, referred readers to handbooks popular amongst parish officials and magistrates, such as *The parish laws* or *The universal parish officer*, which went through several editions.[29] Instead of detailing poor relief administration, Lawrence emphasized the role of the land agent in finding parishioners work and charitable forms of assistance. Unsurprisingly, these guides largely focus on the management and improvements of lands, buildings, ponds, roads, railways, livestock, flora and fauna.[30]

[23] C. Beardmore, 'Landowner, tenant and agent on the Marquis of Anglesey's Dorset and Somerset estate, 1814–44', *Rural Hist.* 26 (2015), p. 196; ead., *Financing the landed estate: power, politics and people on the Marquis of Anglesey's estate, 1812–1854* (2019).

[24] E.g. L. A. Rees, C. Reilly, and A. Tindley (eds), *The land agent 1700–1920* (2018).

[25] First quotation: C. Beardmore, 'The rural estate through the eyes of the land agent: a community in microcosm, c 1812–1844', *Family and Community Hist.* 19 (2016), p. 31; second quotation: Webster, 'Estate Improvement,' p. 54.

[26] Beardmore, 'Rural estate', pp. 28–30; ead., *Financing the landed estate,* pp. 167–98.

[27] S. King, 'The role of the land agent: continuity and continuity', in C. Beardmore, S. King, and G. Monks (eds), *The land agent in Britain: past, present and future* (2016), p. 147.

[28] R. Jones, 'William Scott Owen, 1853–1920: an English-born land agent in mid Wales', *Family and Community Hist.* 21 (2018), pp. 87, 90.

[29] J. Lawrence, *The modern land steward, in which the duties and functions of stewardship are considered and explained with their several relations to the interests of the landlord, tenant, and the public* (1801), p. 58.

[30] See also G. Jacob, *The complete court-keeper: or, land-steward's assistant* (7th edn, 1781), which only refers to the collection of forfeits to be distributed to the poor, pp. 65–6.

The appeal to further explore the land agent's involvement in the administration of poor relief is a reflection of the changing focus of poor law history in recent years. Poor law historians have been increasingly concerned with the face-to-face and everyday nature of poor relief, those quotidian negotiations between welfare claimant and welfare administrator. Coined as the 'welfare process', by Lyn Hollen Lees and Steve Hindle, this work has often focused on that interaction between claimant and parish overseers, and their assistants, whose responsibility it was to hear cases and allocate poor relief.[31] This focus reveals something of the 'micro-politics' of poor relief – 'the local negotiations that took place over the allocation of resources between the prosperous and the needy'.[32] Many historians have been able to access these negotiations through 'pauper letters': letters written by or for individuals and families asking for relief from their parish of settlement when they were unable to attend the vestry to make the claim in person. Over the last 15 years or so, research into pauper letters has flourished, providing insights into the dynamics of negotiating and petitioning for poor relief, and intimate details about the lives of the poor, their relationships, and communities, as well as their knowledge, power and agency.[33]

Hindle noted that the 'welfare process' was broader than the relief claimant and the vestrymen; 'various participants' also included county magistrates.[34] Under law, magistrates maintained a 'supervisory' role, ensuring that parish officials were elected fairly and relief was operating within the legislation. Many also listened to appeals against the parish relief decisions, and exercised their powers in overturning them.[35] Bedfordshire magistrate and MP, Samuel Whitbread, overturned about two-thirds of the cases he heard, although such a high rate might not have been replicated by others in this role.[36] Nevertheless, the magistracy could 'defend' the welfare of the poor; powers noted in pauper letters to urge poor relief to be provided.[37]

The levels of 'obligation and responsibility', as Hindle puts it, within the 'welfare process' amongst parish officials, magistrates and the poor has received much attention.[38] Within this work land agents are largely absent, although notably in Hindle's own work on the early modern period we find a few examples of how they defined and distributed charitable

[31] L. H. Lees, *The solidarities of strangers: The English poor laws and the people, 1700–1948* (1998), p. 33; S. Hindle, *On the parish? The micro-politics of poor relief in rural England c.1550–1750* (2004), p. 363.

[32] Hindle, *On the parish?,* p. 6; For an introduction to the politics of the parish, see K. Wrightson, 'The politics of the parish in early modern England', in P. Griffiths , A. Fox and S. Hindle (eds.), *The experience of authority in Early Modern England* (1996), pp. 10–46. Further research with a focus on the micro-politics of poor relief includes: D. Eastwood, 'The republic in the village: the parish and poor at Bampton, 1780–1834', *J. Regional and Local Studies* 12 (1992), pp. 18–28 ; S. Hindle, 'Power, poor relief, and social relations in Holland Fen, c. 1600–1800 ', *Historical J.* 41 (1998), pp. 67–96; J. Healey, 'The development of poor relief Lancashire, c. 1598–1680 ', *Historical J.* 53 (2010), pp. 551–72 .

[33] For the most comprehensive volume on pauper letters, see S. King, *Writing the lives of the English poor, 1750s–1830s* (2019).

[34] Hindle, *On the parish?*, p. 363.

[35] P. Slack, *The English Poor Law, 1531–1782* (1990:1995), p. 11; Dunkley, 'Paternalism, the magistracy and poor relief'.

[36] P. King, 'The rights of the poor and the role of the law: the impact of pauper appeals to the Summary Courts, 1750–1834', in P. Jones and S. King (eds.), *Obligation, entitlement and dispute under the English Poor Laws* (2015), pp. 235–62; S. Williams, *Poverty, gender and life-cycle under the English Poor Law, 1760–1834* (2011), pp. 93–4.

[37] Quote from Hindle, *On the parish?*, p. 406; King, *Writing the lives*, p. 211.

[38] Hindle, *On the parish?*, p. 6.

provision and statutory poor relief on estates.[39] Arguably however the 'welfare process' approach has too narrowly focused on examining the work of individuals who were directly vested with powers to administer poor relief under laws, rather than those individuals without such powers; this includes land agents who, unless they took an official role themselves, have hitherto been perceived as marginal. As literature on the land agent noted above demonstrates, these individuals had 'a unique position within agrarian society', being situated – and a point of contact – between the landowner and everyone else in the places they were employed.[40] The rest of this article will illustrate how entangled and embedded land agents could be within the administration of the old poor law on behalf of the landowner, dealing both with parish and local officials, and those in need of relief. The next section provides context about the case of Spencer: the landowner employing him, Spencer's multiple roles, and the local poor relief contexts and schemes at Sapcote.

II

Spencer's employer, John Frewen Turner (born in 1755), inherited parts of Sussex, Leicestershire, and Yorkshire throughout the second half of the eighteenth century from various immediate and extended family.[41] He came to own land in Sapcote in south-west Leicestershire and Cold Overton Hall, a seventeenth-century country house, in the Melton district on the eastern edge of the same county in 1791 on the death of his father, Reverend Thomas Frewen Turner.[42] The Sapcote land was approximately 1600 acres and under Thomas Frewen Turner's control it was enclosed in 1778.[43] In the same year his son inherited the land, John Frewen (as he was then known) took up the additional surname Turner. He also became a magistrate, the deputy lieutenant-colonel of the yeomanry cavalry, and received the title of High Sheriff of Leicestershire.[44] Within three years he became a Major of the Leicestershire Yeomanry, and in another three had secured the title of Lieutenant Colonel.[45] These inheritances and powerful titles would 'lay the foundations for the rise of one of Leicestershire's major landowning families in the nineteenth century'.[46] Frewen Turner became an MP for Athlone (1807–1812) in Ireland as an independent candidate, although it appears that he never spoke in the House.[47] In 1808 he married Eleanor Clarke, the sister of the intellectual, feminist and Parisian salon host Mary Elizabeth Clarke (later Mohl) who visited Eleanor at Cold Overton Hall from time

[39] Ibid., pp. 46, 108, 168, 169.

[40] Beardmore, 'Rural estate', p. 20.

[41] For a full description of the inheritance see P.S. Shipley, 'A Georgian country gentleman and his world: the diaries of John Frewen Turner of Cold Overton Hall, 1781–1805', *Trans. Leicestershire Archaeological and Historical Soc.* 88 (2014), pp. 114–19.

[42] B. J. Burke, *A genealogical and heraldic dictionary of the landed gentry in Great Britain & Ireland for 1852* (3 vols, 1852), I, p. 450.

[43] J. Monk, *General view of the agriculture of the County of Leicester*, Board of Agriculture (1794), p. 73.

[44] Burke, *Genealogical and heraldic dictionary*, I, p. 450.

[45] Ibid.; J. M. Collinge, 'Frewen Turner, John (1755–1829) of Cold Overton, Leics. and Brickwall, Suss.', in Member Biographies; [online] Available: www.historyofparliamentonline.org/volume/1790-1820/member/frewen-turner-john-1755-1829 [accessed 18 June 2020].

[46] P. S. Shipley, 'The Leicestershire gentry and its social and cultural networks c. 1790–1875' (Unpubl. PhD thesis, University of Leicester, 2011), p. 57.

[47] Hansard 1803–2005, 'Mr John Frewen-Turner'; [online] Available: api.parliament.uk/historic-hansard/people/mr-john-frewen-turner [accessed 4 August 2020].

to time.[48] Frewen Turner mostly lived in Brickwall House on his Sussex estate in Northiam near Rye, but also spent time in Westminster and Bath. Nevertheless, he was interested in what was happening on his other estates.

It is unclear exactly when Frewen Turner first employed Spencer as a land agent, but it is obvious that the employer valued and respected him. Spencer lived with his wife Mary in the parish of Knossington, adjacent to the parish of Cold Overton. When he died in 1824, aged 51 years, Frewen Turner funded a memorial plaque, to which Mary's name was later added.[49] This gesture is not surprising given that the agent had a 'status closer to the nobility than the tenant farmer'.[50] The plaque, erected in Sapcote parish church, pointed towards all the standard qualities of the land agent. He was 'endowed with a scientific mind and firm integrity he was singularly valuable in the duties of his station while his kindness of disposition endeared him to his family'. Like many other land agents of this era, he pushed the estate into new phases of 'improvement' beyond the agriculture of the estate, with plans for new bakehouses, turnpikes and clocks, amongst other things.[51] He took notice of the infrastructure and services within the estate and surrounding areas, such as the time a hurricane in 1811 damaged all of the local windmills and completely demolished one in Hinckley.[52] He also noted things in his capacities as schoolmaster, constable and churchwarden, such as sparse school attendance, robberies from grocery stores and from individual's houses, and the impregnation of a 'lunatic' by a married man.[53] He relayed bad news as well as good. Correspondence was Spencer's way of securing the 'confidence of his employer', as Geoff Monks puts it, so that he could undertake his duties with self-assurance.[54] There were moments, however, when Spencer wanted more support from Frewen Turner, as will be detailed below.

Spencer also oversaw poor relief matters for Frewen Turner in difficult circumstances. The Midland counties were not immune to the economic depression that caused much destitution and hardship amongst the labouring classes. The £2 million spent on relief in England and Wales in 1783–85 had doubled by 1802–3 and then quadrupled to £8 million by 1818. Cost per head of the population went from 4*s*. in 1776 to 13*s*. in 1818.[55] Leicestershire was providing 14*s*. per head of the population between 1812–13, 1*s*. higher than the average across England. Relief costs in the county decreased to 11*s*. per head by 1822–23, but remained 1*s*. higher than

[48] P. Law, 'Mary Clarke and the nineteenth-century salon', *Sydney Studies in English* 11 (1985), p. 62; Collinge, 'Frewen Turner, John'.

[49] See J. Finlay, 'Tombstone Tuesday: the Spencers of Sapcote', *Finding Family* (blog post, 19 March 2013); [online] Available: findingthefamily.wordpress.com/2013/03/19/tombstone-tuesday-the-spencers-of-sapcote/ [accessed 18 June 2020].

[50] Beardmore, 'Rural estate', p. 20.

[51] 1 Feb. 1804, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9071; 20 May 1811, Spencer (Sapcote) to Frewen Turner, TK FRE/9187; 7 Mar. 1813, Spencer (Sapcote) to Frewen Turner (6 Green Park Buildings, Bath) TK FRE/9216; 26 Feb. 1811, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9208.

[52] 30 Oct. 1811, Spencer (Sapcote) to Frewen Turner, TK FRE/9216.

[53] 26 Feb. 1811, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9209; 7 Mar. 1811, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9209; 5 Oct. 1805, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9061; 21 Feb. 1828 and 21 Apr. 1829, Sapcote Vestry Minute Book 1810–1856, LLRRO DE933/27.

[54] G. Monks, 'William Gould, land agent and the rural community in Nottinghamshire and Derbyshire', *Family and Community Hist.* 21 (2018), p. 68.

[55] B. Harris, The origins of the British welfare state: social welfare in England and Wales, 1800–1945 (2004), p. 43.

the national average.[56] Parishes on the land belonging to Frewen Turner do not feature in the readily available and often digitized poor relief surveys so it is difficult to give more local detail. Fredrick Morton Eden did not tour through this area in the making of his 1797 survey, *The state of the poor*, for instance.[57] Also, there were no survey returns from these parishes to the Royal Commissions' *Rural queries* in 1832, although perhaps this is not surprising given that just over ten per cent of parishes across England and Wales provided these.[58] It is worth highlighting that these returns were often completed by parish officers, magistrates, landowners and, occasionally, their land agents. We do know, from the notes Spencer gave on the census of 1811, that the location of the workhouse – the parish of Sapcote – was a small community consisting 120 households, or 127 families, totalling 692 people. The majority of men were employed in the trades rather than agriculture in this particular parish, indicating that it provided a variety of local services.[59]

As outlined above, landowners showed a renewed interest in indoor relief throughout the end of the eighteenth and into the early nineteenth centuries as poor relief costs mounted. In the early 1800s Frewen Turner decided to adopt Gilbert's Act (1782), which enabled him to unite parishes for the provision of poor relief, and establish a central workhouse – in Sapcote – for the accommodation and employment of the poor. The motivations of landowners, as well as parish welfare administrators in general, to adopt this legislation related to both parish economy and the morality of the poor themselves. In the first instance, adopting Gilbert's Act to unite parishes was much cheaper than passing special government-level statutes for an 'Incorporation'. Indeed, Gilbert's Act simply required local-level arrangements to be made: a two-thirds majority in favour of the idea in each parish vestry, and the ratification of two magistrates. Mass incarceration was viewed as economical, by saving on the costs of outdoor relief (such as money or food to top up inadequate or non-existent wages) and the costs of accommodation provided by other means, such as paying the rent or maintaining parish-owned houses and cottages for the poor.[60] In southern England, the majority of parishes had clearly adopted the Act during years of distress in order to make 'considerable savings', as one parish put it, in the longer term.[61] Indeed, although Thomas Gilbert, the Act's creator, wanted these workhouses to act as refuges for the separate care of vulnerable relief claimants, as discussed above, many were used to accommodate the under- and unemployed able-bodied. Strict work routines were established and contractors were appointed in order to secure profits, and they effectively became the deterrent workhouses we are more used to observing under the New Poor Law.[62] The use of Gilbert's Act in this way mirrored common outdoor relief practices implemented in the final

[56] BPP 1824 420, Report from the Select Committee on Poor Rate Returns, p. 11.

[57] Eden visited Leicester, and two market towns and one rural parish in Leicestershire; F. M. Eden, *The state of the poor* (3 vols, 1797, repr. 2001), ii, pp. 374–89.

[58] M. Blaug, 'The poor law report re-examined', *J. Economic Hist.*, 24 (1964), p. 234.

[59] 14 June 1811, Spencer (Sapcote) to Frewen Turner (CO) TK FRE/9212.

[60] For more about the provision of parish accommodation see J. Broad, 'Housing the rural poor in southern England, 1650–1850', *AgHR* 48 (2001), pp. 151–70; and what happened to parish property after the passage of the Poor Law Amendment Act, see R. Wells, 'The Poor Law Commission and publicly-owned housing in the English countryside 1834–47', *AgHR* 55 (2007), pp. 181–204; J. Broad, 'The parish poor house in the long eighteenth century' in J. McEwan and P. Sharpe, *The housing and living arrangements of the English poor* (2011), 246–62.

[61] Shave, *Pauper policies*, p. 70.

[62] Ibid., 72–99.

decades of the old poor laws, all conceived to deter claimants: overseers instigated humiliating forms of parish work and intrusive assessments of 'character and conduct', for low amounts of relief in return.[63] Land agents such as Spencer were, therefore, operating within a variable landscape of hardening attitudes, and narrowing relief provision.

In Leicestershire the adoption of Gilbert's Act was very popular. By 1834 there were at least 11 Gilbert's Unions in operation including Sapcote.[64] Historians of the poor laws, including the Webbs and Felix Driver, somewhat underestimated the number of adoptions of Gilbert's Act, suggesting around 1000 parishes across England were within Gilbert's Unions or had adopted the legislation alone as a Gilbert's Parish.[65] The Webbs, therefore, argued that the Act had a 'relatively trifling' impact, given that it was meant to reform the system of the old poor laws.[66] This perspective is gradually shifting due to new research on locally created records which, rather than snapshot surveys produced by Select Committees or the Poor Law Commission, has uncovered more adoptions. In the western part of Sussex alone, for instance, there were 80 parishes providing relief according to Gilbert's Act, regularly sending their poor to workhouses.[67] Examining local records has also exposed the informal dynamics of Gilbert's Act, such as how parishes not officially under Gilbert's Act would send their parish poor to a Gilbert's Act workhouse. This was usually at a set rate per head per week. Both parishes would benefit from this economy, as would any contractors who were permitted to keep the profits from their labour.[68]

The Sapcote Union expanded over time. At its official formation it comprised seven parishes, but by the spring of 1812 this had increased to 21 (see Table 1).[69] This story of growth was a common one, not least because parish officers and ratifying magistrates would have talked to each other, informing each other of their practices and agreements.[70] Although no workhouse committee minute books have survived for the Sapcote Union, scrutinizing the surviving parish records, such as overseers' account books, provides us with some further nuance. Desford regularly sent a monthly payment (5–10*s*.) to the workhouse committee by 1807 and from around 1808 started to receive money for the work undertaken by their poor 'at Sapcote', so the parish had joined the union before 1811.[71] Interestingly, because of the proximity of other

[63] For a summary of parish work see C. J. Griffin, *Protest, politics and work in rural England, 1700–1850* (2013), pp. 31–5; for assessments of 'character and conduct' see literature in note 17.

[64] For a list see K. Morrison, *The workhouse: A study of poor-law buildings in England* (1999), p. 27; also see a list managed by P. Higginbotham, 'The history of poor law unions' [online] Available: www.workhouses.org.uk/unions/index.shtml#Gilbert [accessed 19 June 2020]. Assistant Commissioner Mr Hall noted a cluster of eight Gilbert's Unions in one part of Leicestershire in the *Second Annual Report of the Poor Law Commissioners* (1836), p. 436.

[65] The Webbs acknowledged 67 unions (totalling 924 parishes) but overlooked the fact that single parishes could, and did, adopt the Act unilaterally; Webb and Webb, *English poor law history*, pp. 173, 275. They refer to the *Ninth Annual Report of the Poor Law Commissioners* (1843). Driver notes there 68 Gilbert's Unions and 3 Gilbert's Parishes adopting the legislation alone (covering a total of 1,000 parishes), although a separate return of Gilbert's Unions (1844) lists 76 adoptions (1,075 parishes); F. Driver, *Power and pauperism: the workhouse system 1834–1884* (1993), p. 44, fn 45; BPP 1844 543, Select Committee on Poor Relief (Gilbert Unions).

[66] Webb and Webb, *English poor law history*, p. 276.

[67] Shave, *Pauper policies*, p. 66.

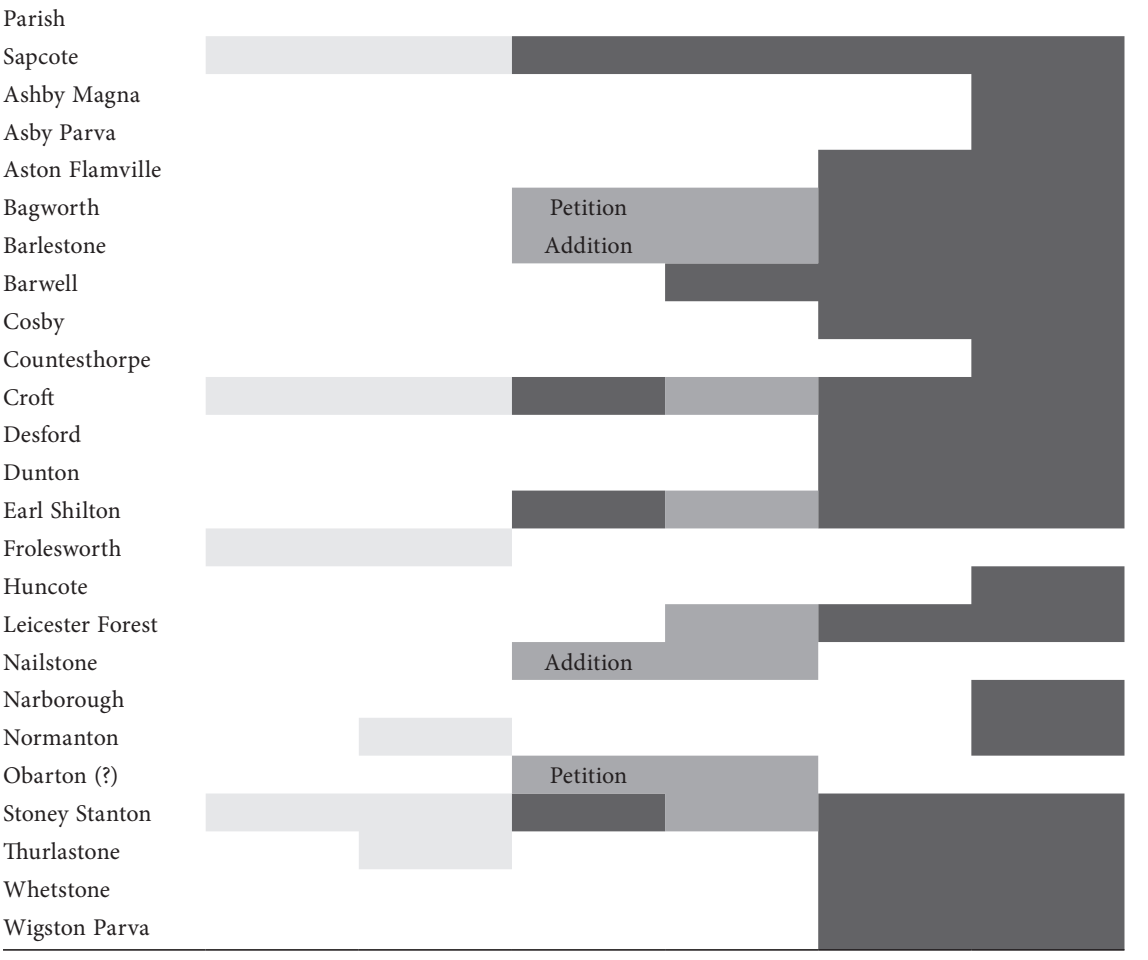
[68] Ibid., p. 71.

[69] 7 Mar. 1813, Spencer (Sapcote) to Frewen Turner (6 Green Park Buildings, Bath), FRE/9216.

[70] Shave, *Pauper policies*, p. 71.

[71] Various dates from 1807 onwards, Desford Overseers Account Books 1804–1818 and 1813–1819, LLRRO DE 64/4 and 5.

TABLE 1. The development of the Sapcote Gilbert's Union, 1804–12



Legend:
Expressed interest in joining a union
Likely in Sapcote Union
Member of Sapcote Union

Context:
(a) Parishes that wish to join a neighbouring union.
(b) Parishes that wish to join a union.
(c) Parishes in the Sapcote Union, with additional parishes joining the union ('Addition') and parishes that have petitioned to join the union ('Petition')
(d) Parishes in the incorporation of the '7 united parishes'. Barwell asked to join in May 1806. Other parishes which may have been in the union are highlighted given the contextual information in (c) and (e).
(e) Parishes noted in union.
(f) Parishes listed on a workhouse rules poster.

TABLE 1. *continued*

Sources:

(a) 13 Jan. 1804, Spencer to Frewen Turner (CO), TK FRE/9035; (b) 6 Mar. 1804, Spencer to Frewen Turner (7 South Parade, Bath), TK FRE/9036; (c) n.d. [probably Jan.] 1806, Spencer to Frewen Turner (CO), TK FRE/9070; (d) 6 Apr. 1806, Spencer to Frewen Turner (CO), TK FRE/9078; 23 May 1806, Spencer to Frewen Turner (CO), TK FRE/9079; (e) 26 Feb. 1811, Spencer to Frewen Turner (CO), TK FRE/9208; (f) 11 May 1812, Rules of the Sapcote House of Industry, LLRRO DE933/40; in H. Whitley, *History of the parish of Sapcote in the county of Leicester. Compiled by the Rev. H. Whitley, M.A.* (1853), pp. 12–13, it notes that Sapcote Union comprised 15 parishes, but that may only be correct *c.*1811.

Gilbert's Unions, some parishes which expressed initial interest in joining the Sapcote Union, eventually sent poor parishioners elsewhere. Normanton, for instance, sent at least one pauper to the Empingham Union workhouse in the early 1800s.[72] Whether it officially 'joined' the Empingham Union or not is not clear, but as Table 1 shows, the parish was considered part of the Sapcote Union by 1812. The Sapcote Union was dissolved during the implementation of the 1834 Amendment Act, although several Gilbert's Act workhouses across England maintained their status until the Act was officially repealed in 1869.[73]

III

Spencer was involved in the establishment of the Sapcote Gilbert's Union from the very beginning. The plan to form a union at Sapcote commenced when local parishes expressed their intention to join a pre-existing union. Spencer wrote to Frewen Turner in January 1804, informing him that local farmers of Stoney Stanton and Croft were 'now all wishing for a House of Industry' like that operated by the parishes of Sharnford and Claybrooke.[74] These parishes operated a workhouse whereby any profit derived from the labour of the inmates was divided amongst the parishes.[75] Within three months, a new union was announced with Sapcote at the centre, which Stoney Stanton and Croft would join. Two additional parishes also 'signified their wishes to join'. Demonstrating Spencer's detailed knowledge of the poor relief systems in these areas, he did write that: 'If this [the union] ever comes about I hope they remember that a Doctor will be necessary', 'they' being the parishes desiring the union.[76] While the provision of free medical attendance was not compulsory under the old poor laws, it was customary for parishes to provide this when it was required, and clearly it was a form of relief Sapcote had often provided but other local parishes had not.[77] Spencer both knew, and could compare, the sorts of poor relief offered in each parish, and had thoughts about how to standardize it.

With enough local interest for a union, which Spencer had garnered by attending local meetings, the next task was to find or build a union workhouse. Spencer advised Frewen Turner

[72] Normanton Churchwardens and Overseers Account Book 1769–1813, LLRRO DE1579/5.

[73] See note 60 for literature on workhouse buildings after 1834.

[74] 13 Jan. 1804, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9035.

[75] See accounts 23 Apr. 1808 to 10 Oct. 1808, as well as further accounts, Sharnford Overseers Account Book 1779–1830, LLRRO DE2401/10.

[76] 13 Jan. 1804, Spencer to Frewen Turner (CO), TK FRE/9035.

[77] Shave, *Pauper policies*, p. 199.

that a purpose-built, new building was most suitable, whereby each parish in the union could pay rent for the house and grounds, including interest on the money spent. A site had already been considered, and Spencer now had to check it and develop a workhouse plan.[78] Two years, though, passed before the workhouse opened its doors. There were several hurdles Spencer had to clear first. He had to ensure Gilbert's Act was both supported by ratepayers, and that the adoption was undertaken according to the formal, legal procedures required. Spencer knew that, in order to adopt the Act legally, a general meeting was required where both building plans and the means of raising the money to fund the building could be discussed.[79] He was concerned the reforms would not pass, however, and wrote to Frewen Turner in detail about the words of Mr Ackmore, who provided some reassurance. Ackmore did not think the Act would be rejected, and mentioned that a gentleman, Mr Lowett, previously against the plans, was now in favour of them. Someone may have intervened. Such reassurance led Spencer to line up Ackmore for a place as a guardian on the workhouse committee.[80] Spencer reported to Frewen Turner that the incorporation of parishes had 'at length' taken place in May 1805. The deed, which would have been ratified by two magistrates, was taken into his possession.[81] The documents were not left to overseers or other vestrymen to take care of, as would have been the case in other, open parish contexts.

The next stages in the establishment of the Sapcote Union were the search for the right piece of land on which to situate the new building, as well as manage its construction. Spencer seemed to be integral to both of these roles. Initially there were concerned tenants to pacify. The rumours of a new workhouse upset tenants, such as John Saunt who had heard a rumour that the workhouse would be built on his homestead. He asked to be told the truth, requesting a meeting with the landowner himself. Spencer felt compelled to say it was either on his, or on Cobcroft, whose tenant was Mr Brown, but that a decision had not yet been made. Spencer writes to Frewen Turner 'it must rest entirely with you to make the choice'. Spencer had already been pushing for the building on Saunt's land some days before – Saunt had no family and only used it as a garden, he argued, and would continue to be able to keep two cows. If the workhouse was built on Brown's homestead, which is likely to have been smaller, Brown would have been unable to keep cows.[82] While it is unclear whether Saunt's or Brown's land was seized, this reflects the mediator and messenger roles of land agents highlighted by Beardmore. Indeed, Spencer had to encourage the landowner to make a difficult decision, carefully inform tenants of these plans, and then deliver the bad news to one tenant.

Spencer now had to finalize the workhouse plans, stake out the land and buy in and store the building materials.[83] He consulted several men, possibly architects or land surveyors,

[78] 6 Mar. 1804, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9036.

[79] n.d. 1804, Spencer to Frewen Turner, TK FRE/9040.

[80] Ibid.

[81] 10 May 1805, Spencer to Frewen Turner, TK FRE/9054.

[82] Ibid.; 14 May 1805, Spencer to Frewen Turner (CO), TK FRE/9055.

[83] 24 May 1805, Spencer to Frewen Turner (CO), TK FRE/9056; 7 June 1805, Spencer to Frewen Turner (CO), TK FRE/9057; 14 June 1805, Spencer to Frewen Turner (CO), TK FRE/9058; 6 Sept. 1805, Spencer to Frewen Turner (CO), TK FRE/9059; 15 Sept. 1805, Spencer to Frewen Turner (CO), TK FRE/9060.

when putting the plans together. Spencer also wanted to show Frewen Turner the plans of the Bedworth and Meriden workhouses which he obtained on a Saturday trip to Warwickshire, as well as the proposed plan for Sapcote.[84] This illustrates, as will be discussed below, the extent to which land agents could undertake research on behalf of employers. By June 1805, the plan for the workhouse building was finalized.[85] Spencer continued with comparisons during the building phases, possibly to reassure his employer, and/or himself, that he was managing the work well. Concurrently, a small workhouse was being constructed 14 miles away at Kibworth (Leicestershire) for a union of three or four parishes. Spencer wrote: 'it is remarkable they ordered the same quantity of plaster for theirs which I have for ours'.[86] Spencer also relayed setbacks to his employer, such as when the canal was damaged causing a low supply of wood.[87] The workhouse was fenced off in January 1806 and opened for inmates in April.[88]

It would be wrong to assume that Spencer was an enthusiastic implementer of the reforms, even though the achievements noted above might suggest that conclusion. As early as 1804, Spencer informed Frewen Turner that he did not wish to sit on the workhouse committee: 'I am determined to hold no office under it'. He went on: 'It has cost me a good deal of time and trouble writing Letters &c. already and I had much rather be at my studies'.[89] Two years later, when the workhouse building was being fenced off and internal works were underway, Spencer expressed how alone and abandoned he felt – and in need of more support from his employer: 'I should be glad to have you here while the building is about, as I don't like to be left too much to myself'. The second half of the sentence is also rather despondent and small: 'but you may depend on my doing for the best as far as I know I am able'.[90]

IV

When the workhouse was near completion, Spencer turned his attention to assembling the workhouse committee. Frewen Turner himself assumed the position of Visitor. The Visitor could be predominately a symbolic role, with more of the groundwork undertaken by the Deputy Visitor.[91] By 1811, the Reverend James Eyre Harington was the Visitor.[92] This was not an unusual selection – Lord Egremont placed the loyal Reverend Thomas Sockett at the head of his Sutton Union.[93] Spencer managed to avoid the role of Deputy Visitor for several years,

[84] 24 May 1805, Spencer to Frewen Turner (CO), TK FRE/9056.

[85] 14 June 1805, Spencer to Frewen Turner (CO), TK FRE/9058.

[86] 26 Oct. 1805, Spencer to Frewen Turner (Brick Wall Northiam, Sussex [hereafter BW]), FRE/9063.

[87] 6 Sept. 1805, Spencer to Frewen Turner (CO), TK FRE/9059.

[88] 10 Jan. 1806, Spencer to Frewen Turner (CO), TK FRE/9069; 6 Apr. 1806, Spencer to Frewen Turner (CO), TK FRE/9078. The total cost was £1226 3*s.* 11*d.* 3 Oct. 1806, Spencer to Frewen Turner (CO), TK FRE/9089.

[89] n.d. 1804, Spencer to Frewen Turner, TK FRE/9040.

[90] 4 Jan. 1806, Spencer to Frewen Turner (CO), TK FRE/9063.

[91] 17 Mar. 1806, Spencer to Frewen Turner (CO), TK FRE 9075; renewed by Spencer evidence, 6 July 1808, Spencer to Frewen Turner (11 Millbank Row, Westminster [hereafter MR]), TK FRE/9139.

[92] 11 May 1812, Rules of the Sapcote House of Industry, LLRRO DE933/40.

[93] Shave, *Pauper policies*, pp. 96–7; also S. Haines and L. Lawson, *Poor cottages and proud palaces: the life and work of Thomas Sockett of Petworth 1777–1859* (2007).

probably until 1811.[94] But in the meantime, it appears Frewen Turner asked him to take the role of Treasurer. Spencer replied saying that he was 'pretty well acquainted with the Act of Parliament' – the Treasurer also had to be an elected Guardian.[95] Spencer's lack of a formal committee position caused people some confusion. It was assumed, on at least one occasion, that he was a Deputy Visitor by a parishioner with a complaint.[96] In the first instance, two men filled the roles of Deputy Visitor and Treasurer, namely Mr Joshua Clark, a farmer, and Mr John Smith, a framework knitter.[97] They were interested in the reforms from the outset, helping Frewen Turner and Spencer to select a location for the workhouse.[98] Spencer's attempt to persuade Clark to become the Deputy Visitor failed; such a significant role would interfere with his 'other engagements'.[99] Smith took the role of Deputy Visitor initially, and Clark finally took the role by 1810.[100] Smith did not enjoy his role – it was tiring and confusing, and he reported that he would have not got through the year if Clark 'had not stood at his elbow'.[101] Clark also found his role onerous, and relinquished his Deputy Visitor position at roughly the same time as he retired from farming.[102] Spencer continued to carefully consider the suitability of people for these leadership roles. He thought that the new or returning magistrate, Mr Harrison, needed to be 'better acquainted with this business and the habits of the poor in this neighbourhood', and was perhaps more suited to the role of Visitor rather than Deputy Visitor to avoid 'the labourious part of the business'.[103]

Spencer clearly selected, managed and conversed openly with these men in senior roles of the workhouse committee. His relationship with the Guardians, however, was more difficult. Guardians were elected representatives from the parishes that joined the union. Alongside the Visitor and Deputy Visitor, it was their role to manage the institution, deciding who went into the workhouse, what routines and work to implement, how it should be supplied with items such as furniture, clothing and food. They also appointed salaried staff such as governors. Spencer appears to have understood the Guardians' preferences in his correspondence to Frewen Turner. In July 1808, when more parishes requested to join the union, he wrote 'I think the Guardians would have no objection to add a few more parishes', especially given the 'very small' population of only 21 people from the 15 parishes currently there.[104]

[94] 11 May 1812, Rules of the Sapcote House of Industry, LLRRO DE933/40.

[95] 14 Oct. 1805, Spencer to Frewen Turner (CO), TK FRE/9062.

[96] 11 Dec. 1807, Spencer to Frewen Turner (CO), TK FRE/9119.

[97] *The poll, at the electing of two knights of the shire to represent the county of Leicester in parliament* (1830), pp. 94–5 [online] Available: www.ancestry.co.uk Poll Books and Electoral Registers, 1538–1893. Provo, UT, USA: Ancestry.com Operations, Inc., 2012. Original data: London, England, UK and London Poll Books, London Metropolitan Archives and Guildhall Library [accessed 5 Aug. 2020].

[98] 14 May 1805, Spencer to Frewen Turner (CO), TK FRE/9055; 24 May 1805, Spencer to Frewen Turner (CO), TK FRE/9056; 7 June 1805, Spencer to Frewen Turner (CO), TK FRE/9057; 15 Sept. 1805, Spencer to Frewen Turner (BW), TK FRE/9060.

[99] 14 Oct. 1805, William Spencer to Frewen Turner (BW), TK FRE/9062.

[100] 18 Oct. 1807, Spencer to Frewen Turner, TK FRE/9114; 8 June 1810, Spencer to Frewen Turner, TK FRE/9188.

[101] 16 Feb. 1806, Spencer to Frewen Turner (CO), TK FRE/9095.

[102] 11 Feb. 1810, Spencer to Frewen Turner, TK FRE/9178; 26 Feb. 1811, Spencer to Frewen Turner (CO), TK FRE/9208.

[103] 14 June 1811, Spencer to Frewen Turner (CO), TK FRE/9212.

[104] 6 July 1808, Spencer to Frewen Turner (CO), TK FRE/9139.

Spencer also presented himself as a reassuring presence to the Guardians, such as when a magistrate was presented with complaints from the poor, he stated that Gilbert's Act 'is so full and strong in favour of the officers of the House there is nothing to fear'.[105] But the relationship was unsteady, and there are several examples of when the Guardians resented and resisted the interference. When Spencer took the role of Treasurer from Smith in 1807, with a salary, he wrote rather defensively, 'They have no personal objection to me', just that the Guardians wanted to keep the books, and the money, themselves. In the same letter, Spencer said the Whetstone Guardian would rather remove the poor children from the workhouse than pay the workhouse teacher.[106] Spencer had hired the teacher when the workhouse opened.[107] These seem fairly mild areas of contention, but Spencer was also informed by his ally Smith that, 'in plain terms … it would prevent disputes if I was to keep away'. Spencer was now caught between the Guardians and Frewen Turner: 'You seem to be angry that I do not go to the House of Industry', he wrote, 'I hope it will satisfy you so far as not to force me upon them, as that would make me very uncomfortable'.[108] The Sapcote Union Guardians, a year into the operation of the new workhouse, were obviously pushing the land agent and by logical extension, the powers he represented, away from the workhouse committee.

This uneasy dynamic between land agent and the Guardians was also mirrored in Spencer's relationship with the magistrates. This is illuminated in a case from October 1807, when several Guardians and Spencer interviewed a Corley parishioner in the workhouse. He used to live with his daughter while in receipt of 10*s*. per week in outdoor relief. Spencer reported that the money was not put towards his welfare; 'he was literally swarming with vermin when he was brought to the House'. The parish offered 4*s*. for his daughter to take care of him again, but she asked for 5*s*. Eventually the vestrymen of Corley compromised and allowed 4*s*. 6*d*. per week, but the parishioner did not want to return, and attempted suicide. It is clear the magistrates wanted to investigate the case further. Spencer wrote that Clark, the union Visitor at the time, suggested a 'public notice should deter needy and selfish Magistrates from interfering so much with Houses of Industry'. The magistrate they were at odds with was Mr Noel who wanted the case brought before the next quarter sessions. Spencer was livid – because Noel did not take evidence directly from the man: 'Why dont [sic] the Magistrates learn the truth from his own Mouth'. Noel was an 'enemy' of workhouses; but Spencer thought this was due to their costs rather their impact on the poor.[109] Spencer was also not pleased that the poor had long-held entitlements to complain about poor relief to magistrates, referring to a poor woman as causing 'trouble' by doing just that.[110] As well as checking the legality and accountancy of Gilbert's Act workhouses, magistrates could specify changes to their management. At Sapcote in 1810, magistrates recommended separate rooms, away from the workrooms, for the aged and infirm to rest, and private rooms for married couples, but Spencer bolshily intimated there would be

[105] 11 Feb. 1810, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9178.

[106] 28 Sept. 1807, Spencer to Frewen Turner (BW), TK FRE/9111.

[107] n.d. 1804, Spencer to Frewen Turner, TK FRE/9040.

[108] 28 Sept. 1807, Spencer to Frewen Turner (BW), TK FRE/9111.

[109] 18 Oct. 1807, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9114.

[110] 15 Aug. 1809, Spencer (Sapcote) to Frewen Turner, TK FRE/9161.

little need for the latter.[111] Clearly this land agent struggled with the independence of both magistrates and Guardians, two groups within the micro-politics of poor relief who did not have to seek his approval or that of his employer.

V

Previous research has shown that those involved in the administration of the old poor law sought information on how to run workhouses from other places. This knowledge, often framed as 'best practice', was shared in correspondence, through visits to each other's workhouses, through the recommendations of other people (especially employees such as schoolteachers and workhouse contractors) and publications such as pamphlets. These networks of knowledge were dominated by welfare administrators – overseers and other vestry members at parish level, magistrates, and members of workhouse committees.[112] The evidence for land agents is limited. The only example I have identified in administrative documents was how William Tyler, who served as a land agent and a clerk for two of Egremont's Sussex Gilbert's institutions, compared workhouse contractor rates between the two. It was 'likely that other aspects of workhouse management were compared'.[113] Spencer's detailed correspondence illustrates that land agents could do much more to gather knowledge on how to practice poor relief, just like the official administrators of the poor laws.

Spencer drew upon the practices of both neighbouring workhouses and those from further afield. He actively sought information from the Ullesthorpe workhouse in Claybrooke parish, just two parishes away from Sapcote. Before the Sapcote workhouse opened, Spencer requested Frewen Turner to send him the rules of the Ullesthorpe workhouse to examine.[114] Spencer obviously knew Frewen Turner had these in his possession. The Ullesthorpe workhouse, also established under Gilbert's Act, became a source of tension and competition at times. When Spencer mentioned how Ullesthorpe was considering 'taking in' the parish of Barbage, its boundaries expanding further towards Sapcote, he became defensive and eager to support new additions to his union, this new welfare domain. Parishes were 'continually applying to be admitted into our house', Spencer wrote boastfully.[115] This neighbouring union was also used by the land agent to think about matters of economy, as Tyler had at Sussex. The 1*s*. extra it cost to accommodate one inmate per week at Sapcote compared to Ullesthorpe led Spencer to question whether their master was competent and economical; he was also taking home 10*s*. per week from the inmates' stocking-making Spencer reported. In the same letter he noted 'I cant [sic] say I ever had a good opinion of him'.[116] In 1811, Spencer seemed resigned to the fact that the Ullesthorpe workhouse was 'better managed' overall, and a better governor for Sapcote, he thought, could be appointed.[117]

[111] 19 Oct. 1810, Spencer to Frewen Turner (CO), TK FRE/9196.

[112] Shave, *Pauper Policies*, pp. 150–65.

[113] Ibid., p. 158, throughout pp. 151–9.

[114] n.d. [probably Jan. 1806], Spencer to Frewen Turner (CO), TK FRE/9070; 17 Mar. 1806, Spencer and Frewen Turner (CO), TK FRE/9075.

[115] 6 July 1808, Spencer to Frewen Turner (MR), TK FRE/9139.

[116] 29 Jan. 1810, Spencer to Frewen Turner (MR), TK FRE/9176.

[117] 14 June 1811, Spencer to Frewen Turner (CO), TK FRE/9212.

Spencer gleaned further information during visits to other workhouses within Leicestershire. In 1808 he told Smith that a manufactory 'similar to that which I saw last week in the Industry School at Oakum' could be set up in Sapcote. Oakum, on the east side of Leicester, instructed poor children to make gloves, 'by a method entirely different to any I ever saw before'; Spencer was impressed by the 'faculty with which the children' worked.[118] In addition, Spencer reported on the attempts workhouse committee members had made to obtain information too. Between the summers of 1808 and 1809 the workhouse population had almost doubled, and it was agreed by the committee that a uniform should be introduced. Uniforms were commonly associated with charitable institutions at this time, such as almshouses and London's Foundling Hospital, but increasingly they were becoming associated with the more punitive regimes of prisons and workhouses. Workhouse committees were also keen, especially from the beginning of the eighteenth century, to differentiate, stigmatize and control particular groups of paupers within the uniformed population, requiring unmarried mothers, for instance, to wear yellow.[119] Considering styles of uniform, two members of the workhouse committee, including Clark, 'went to Bedworth to see the dresses there'. But the workhouse, about 20 miles away in Warwickshire, had discontinued the use of uniforms, as had another nearby workhouse. Clark reported that if any nearby workhouse had a uniform they would like to implement one, 'but they do not like to be singular'.[120] They understood that the Sapcote workhouse could look more punitive, in the eyes of the public, with the introduction of a uniform.

Spencer reported these practices back and forth to Frewen Turner, explaining to his employer the information he and members of the workhouse committee had obtained and from whom. Land agents could themselves also become a repository of information on the modes of best running workhouses, which landowners readily drew upon too. Frewen Turner asked Spencer for his thoughts on the how to employ the poor on his other estates. 'Sure something might be thought of to employ the poor in Sussex' Spencer replied, there was 'advantageous' cotton weaving at 'Stamford, Clay Brooks [*prob.* Claybrooke], &c.' for the making of gowns and other articles and mops were made 'with considerable success' at Leicester's House of Correction, he wrote.[121] The skills of the land agent in acquiring and communicating information were beneficial to the development of practices in workhouses on estates.

VI

Spencer held a multitude of prejudices that reflected what Keith Snell has termed the 'culture of local xenophobia', as well as the classist and patriarchal character of rural society at this time.[122] He thought that a 'gang robbery' was led by a man he called 'Irish Pratt', and

[118] 6 July 1808, Spencer to Frewen Turner (MR), TK FRE/9139.

[119] The practice continued after it was banned by the Poor Law Commission in 1839; V. Richmond, *Clothing the poor in nineteenth-century England* (2013), p. 289; S. Williams, *Unmarried motherhood in the metropolis: pregnancy, the poor law and provision, 1700–1850* (2018), p. 63.

[120] 15 Aug. 1809, Spencer to Frewen Turner, TK FRE/9161.

[121] 5 Oct. 1805, Spencer to Frewen Turner, TK FRE/9061.

[122] K. D. M. Snell, 'The culture of local Xenophobia', *Social Hist.* 28 (2003), pp. 1–30.

a woman from Hinckley who penned her grievances to a magistrate was 'of ill fame'.[123] The masons employed on the workhouse were 'slack', he said, because there was too much work available for them.[124] He also embarked on a character assassination of the Methodist workhouse governor. The governor apparently had little control over the inmates, and in 1807 Spencer described him as having 'more tongue than all the rest'.[125] In 1810 he thought his ability to earn profits from stocking-making in the workhouse involved 'Methodical tricks'.[126] Spencer's prejudices extended to the family of the governor. Sometime after the governor died and Spencer advertised for his replacement, a 'violent' meeting of the Guardians took place.[127] Some Guardians wanted to keep the governor's widow as governess and their 19-year-old son as the new governor, whilst other Guardians, and Spencer, wanted a change.[128] Spencer focused on the son: his character was 'none of the best'; he was not able to 'write and figure properly' and managed with 'neglect and extravagance'. But perhaps the primary reason for their expulsion was that Spencer thought it wrong that the workhouse children were sent to the Meeting School, led by the Methodist chapel, instead of to the parish church every Sunday.[129]

Spencer's ill-feelings extended towards the labouring poor as well, as he revealed in his commentary about the impact of the building of the workhouse on local parishioners. When the workhouse was still being constructed he wrote that while 'the poor are exerting themselves to prevent going into the new house', 'their behaviour seems to be rapidly altering for the better'.[130] This commentary reveals something about the true purpose of the workhouse, which may have been to provide suitable accommodation for the vulnerable in line with Gilbert's Act, but was also – as was the case for many workhouses by the early nineteenth century – to act as a deterrent for able-bodied poor. He wrote enthusiastically: 'I am more than ever convinced of their utility. As the real poor are much better taken care of, and the designs of the idle and profligate frustrated.' They would be 'obliged to become useful members of society', he contended.[131] While, under the Act, outdoor relief could still be granted by the Guardians on appeal to the Visitor and Deputy Visitor, this could at times cause tension, as it had in Egremont's Unions in Sussex.[132] The magistrate Noel, for instance, was upset to know the Shilton Guardian was distributing outdoor relief rather than admitting the poor into the workhouse.[133] Maybe now there was a workhouse in place, he was determined to fill it up to make financial savings. The workhouse did indeed become

[123] 26 Feb. 1811, Spencer to Frewen Turner (CO), TK FRE/9208; 15 Aug. 1809, Spencer (Sapcote) to Frewen Turner, TK FRE/9161.

[124] 14 Oct. 1805, Spencer to Frewen Turner (CO), TK FRE/9059.

[125] 6 Feb. 1807, Spencer to Frewen Turner (CO), TK FRE/9095.

[126] 29 Jan. 1810, Spencer to Frewen Turner (MR), TK FRE/9176; 6 Feb. 1807, Spencer to Frewen Turner (CO), TK FRE/9095.

[127] 2 Feb. 1810, Spencer to Frewen Turner, TK FRE/9178; 31 Aug. 1810, Spencer to Frewen Turner (CO), TK FRE/9195.

[128] 10 May 1811, Spencer to Frewen Turner (CO), TK FRE/9211.

[129] 14 June 1811, Spencer to Frewen Turner (CO), TK FRE/9212.

[130] 6 Sept. 1805, Spencer to Frewen Turner, TK FRE/9059.

[131] 5 Oct. 1805, Spencer to Frewen Turner, TK FRE/9061.

[132] Shave, *Pauper policies*, pp. 96–7.

[133] 11 Dec. 1807, Spencer to Frewen Turner, TK FRE/9119.

crowded in 1809, and by the winter Spencer thought it was 'filling too fast' on account of parishes sending in men with wives and families. Spencer had a solution to this, but one which displayed his cold-hearted attitude towards the poor: 'I think the Governor ought to be instructed counteract these as much as possible,' Spencer wrote, 'by tasking them in such a manner as will make them glad to go out again'.[134]

Spencer's letters give us an impression that the deterrent nature of the workhouse developed over time, but to the labouring poor the workhouse was an instant symbol of oppression, preventing access to the long-held entitlements to an independent life supported by outdoor relief. Gilbert's Act workhouses were intentionally damaged by the labouring poor, and were also targeted during the Swing Riots in many parts of southern England, illustrating the perception, as well as reality, of them as a site of oppression.[135] Sapcote workhouse was also perceived by the local population as oppressive, and the governor and his wife were the faces of the system. When the governor and governess first arrived at the workhouse, on a cold January day of 1806 they were hit with snowballs, thrown by several women whom the Spencer called 'viragos', a term used pejoratively to mean unpleasant, violent and masculine women.[136] There were attacks on the physical fabric of the workhouse itself. In March, several boys 'did much mischief' by going up and down the house and pulling bits of the building down. Whilst bricks were pelted against the door from the outside, one of the governor's children happened to open the door from the inside, and was struck.[137]

Disobedience amongst inmates within the workhouse was also a form of resistance to the system itself. In 1808 Mrs Hacket was prosecuted for 'misbehaviour' within its walls. Several Guardians decided that she should be given outdoor relief, to remain out of the workhouse with her child, rather than receive a sentence in the bridewell. This decision could have been made on financial grounds, and/or to maintain order within the workhouse.[138] Two men were locked into the workhouse prison for 24 hours for complaining to the magistrates about workhouse clothing. Spencer, as well as the Guardians, preferred it if complaints passed to the governor and then to the Guardians for redress, although we cannot be sure whether or not these men had already tried this route. Their actions antagonized Spencer, and probably the Guardians as well, except for the independently spirited Guardian Mr Mettam who – according to Spencer – encouraged inmates to 'fetch warrants' from magistrates.[139] Indeed this was within their rights. Spencer, in his role as a constable, was also able to intervene on violent acts of resistance, such as in 1810 when three men, who were deemed fit to work according to a medical inspection but remained 'idle', assaulted the workhouse governor. Spencer, in his letter to Frewen Turner, claims to have broken up the conflict, before two of the men were sent to the bridewell.[140]

[134] 24 Nov. 1809, Spencer to Frewen Turner, TK FRE/9169.

[135] Griffin, *Protest, politics and work*, p. 38; an example: J. O. Smith, *One Monday in November…and beyond: The Selborne and Headley workhouse riots of 1830 … and their aftermath* (rev. edn, 2002).

[136] n.d. [probably Jan. 1806], Spencer to Frewen Turner (CO), TK FRE/9070.

[137] 17 Mar. 1806, Spencer to Frewen Turner (CO), TK FRE/9075.

[138] 1 Aug. 1808, Spencer to Frewen Turner (CO), TK FRE/9142.

[139] 11 Feb. 1810, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9178.

[140] 31 Aug. 1810, Spencer (Sapcote) to Frewen Turner (CO), TK FRE/9195.

VII

In a letter in 1809, Spencer asked his employer to stop should he pass through the estate one day, so 'that you may see the many improvements that have taken place since you was here last'.[141] From Spencer's perspective, such 'improvements' could have included the workhouse as well as other areas of estate management. Indeed, land agents such as Spencer were intensely involved in the provision of poor relief in the parishes they presided over on behalf of their employers. Not only did they seek to improve the land and, as recent literature has demonstrated, tenure and facilitates within rural communities, they were also intimately involved in improvements, as they saw it, in the provision of statutory poor relief. The correspondence which flowed from Spencer's study to Frewen Turner's residences is rich and, in combination with surviving parish records, provides exhaustive details surrounding the establishment of a new workhouse. These letters give us a window into how deeply land agents could be involved in the administration of poor relief. Spencer had an important role in the founding of a new workhouse, the shaping of how it was managed, and sought out new policies and practices and ultimately reported on the progress of the regime and its impacts.

Spencer used his close attention to detail and research abilities to develop a good knowledge of how to implement Gilbert's Act at Sapcote. The letters demonstrate that he secured the support of ratepayers in the locality, understood the intricacies of the Act, the importance of different workhouse committee roles, and who should ideally take them. He drew upon the knowledge of local men and fellow workhouse administrators residing in other parishes and unions, both near and far. Land agents were able to research and understand different modes of 'best practice' and identify new relief practices. He reported on the endeavours of the workhouse committee, such as when they considered adopting a workhouse uniform. This particular case revealed that the workhouse committee and Spencer understood what practices should not be adopted. To some extent, Spencer became a bank of knowledge on which his employer could draw, even leading him to be consulted on poor relief matters on estates he was not managing. Steven King compared the skills and attributes taught to potential new land managers on degree programmes today with those possessed by land agents of the past. An interest in all matters financial was important, both then and today, including making sound investments with minimal risks, but also and perhaps equally importantly careful diplomacy was essential to nullify rumours and resolve disputes, as well as 'stamina for lots of travelling'.[142] Such attributes were to be found in the land agents of the nineteenth century implementing new welfare regimes.

It is interesting that Spencer sought to increase the size of the union, especially in response to the prospect of the neighbouring union swelling in size. To some extent this may have been about economy, as already detailed. But this was also about spreading Frewen Turner's influence and power over large tracts of land adjacent to his own. Lord Egremont had the same attitude, to the extent to which, when new unions were formed under the New Poor Law, some years later, he was most perturbed that a parish which, according to an ally 'belonged to

[141] 15 Aug. 1809, Spencer to Frewen Turner, TK FRE/9161.
[142] King, 'The role of the land agent', p. 136.

him', had been placed into a union formed mainly of parishes belonging to his neighbour, the Duke of Richmond.[143] This research reveals that land agents too could be enthralled by the prospect of empire building, and developed competitive strategies against the union-building of their neighbours, in this case Ullesthorpe. Interestingly Thomas Gilbert MP had been a land agent himself for Lord Gower in Staffordshire. This position may have allowed him licence to imagine just how such unions would have been formed.[144] As the landlord's eyes and ears in the local community, land agents could, in their written dispatches, provide information about such parochial affairs, allowing the landowner themselves to perhaps persuade a parish to join through gentle written or verbal encouragements.

Spencer's letters about implementing the new poor relief regime tell us about the ways in which he negotiated relationships in the rural community. The purpose of a land agent, Webster outlined, was to act 'as "mediator" between rural and urban communities, and between aristocrats and rural labourers'.[145] By examining a land agent's influence over poor relief, the multifarious relationships he had with other key individuals within the 'welfare process' is evident. His role as agent, plus his roles as schoolmaster for the children of Sapcote and the rotating roles of constable and churchwarden, gave Spencer considerable authority within the locality. It is little wonder that the key welfare administrators – the Guardians on the workhouse committee – gave him and his ideas some respect. They were unable to object to Spencer's early preferences, to appoint a schoolteacher and for himself to receive a salary in post as Treasurer. Spencer, on several occasions, also spoke on behalf of the Guardians, assuming some insight into their needs and desires. Spencer may have had a confidence or even complacency in this dynamic, resulting in his own defensiveness when things did not go as he wanted. He was aware that the business of a land agent could be troublesome to the wider populous, writing once that 'I may give some offence, which I should not like to do on any account'.[146] This awkwardness was also detected in the relationship between Spencer and another group within the 'welfare process': magistrates. Spencer's letters indicate that land agents could be quite opposed to the autonomy of the magistrates, and their powers to oversee local relief practices.

Beardmore concluded in her study that the relationship between the land agent and tenant was 'based on an unspoken and unwritten contract', both silent and respectful, each acknowledging the other's position and expectations.[147] Relationships between land agents and those in need of poor relief did not follow this pattern. Spencer's letters illustrate the low regard the poor felt towards his innovations and, in return, the lowly view Spencer had of those in need. The workhouse represented the oppressive power of the landed elite. Spencer's dispatches detailed the showering of snowballs to welcome the workhouse staff, and bricks which were pelted at the deterrent institution's door. Insubordination, both within or outside of the institution, which could amount to little more than voicing concerns, exposed the injustices which the new

[143] Haines and Lawson, *Poor cottages and proud palaces*, p. 169, cited in Shave, *Pauper policies*, p. 171.

[144] R. S. Thompson, 'Gilbert, Thomas (bap. 1720, d. 1798)', Oxford Dictionary of National Biography (Oxford, 2004; online edition, Oct. 2013); [online] Available: www.oxforddnb.com/view/article/10703 [accessed 18 Aug. 2020].

[145] Webster, 'Estate improvement', p. 54.

[146] 24 Nov. 1809, Spencer to Frewen Turner, TK FRE/9169.

[147] Beardmore, 'Landowner, tenant and agent', p. 196.

system legitimized. These were the disenfranchised, and often able-bodied, labouring poor, not the 'real poor' according to Spencer, whose entitlements for outdoor relief to support their low wages was under threat when institutions such as these were opened. Accommodation and arduous repetitive work within the workhouse would shock them out of idleness, thought Spencer, regardless of the national economic downturn. Such viewpoints were commonly held by landowners of the time, and seemingly also land agents, so rather than seeing Gilbert's Act as a 'wave of humanitarian feeling' in England, letters about the implementation of it on the ground could demonstrate somewhat the opposite: the end of benign paternalism.[148] This makes the Amendment Act of 1834, with the deterrent-based workhouse system, all the more unsurprising. The relief regimes implemented by land agents for Frewen Turner and his contemporaries provided the predecessor regimes to this national transformation.

More micro-studies such as this one could enhance our knowledge of the tasks undertaken by land agents, and the relationships they forged, under the old poor laws. Although such research may put the lens on the land agent, the correspondence examined here also provides insights into their recipient, which is worth reflecting on. Unlike the Marquis of Anglesey, who did not set foot near his estate on the Dorset-Somerset border, Frewen Turner visited the estate intermittently.[149] This could be partly why Frewen Turner was interested in the matters of poor relief, as he perhaps understood that managing it was a key part of his role, similar to Lord Egremont. Clues as to Frewen Turner's interest can be found throughout Spencer's letters: he held a copy of the rules to the Ullesthorpe workhouse before such an institution was set up at Sapcote, for instance, and he then encouraged Spencer to write about the evolution of the workhouse and how it was received in detail. This should perhaps not be overstated; as Spencer occasionally felt overwhelmed by his work and sometimes requested that Frewen Turner pay the workhouse more attention. Nevertheless, it would be unlikely that an employee would go to such lengths, and spend so much time writing, if the interest was not reciprocated in mirroring messages. The landowner also received Spencer's immediate impressions of the poor, workers and workhouse employees, Guardians and magistrates. These contained prejudices he only detailed knowing that they would have been received by someone with the same or similar discriminatory mind-sets. Landowners of the era expected agents to be clubbable men who, as Monks' research shows, developed into their close friends.[150] Spencer's work at Sapcote, and his detailed reportage, evidently gained him the trust of Frewen Turner.

[148] D. Marshall, *The English poor in the eighteenth century: a study in social and administrative history* (1926), p. 159.

[149] Beardmore, 'Landowner, tenant and agent', p. 195.

[150] Monks, 'William Gould', p. 78.

Inequality and commons in the Ardennes in the second half of the eighteenth century*

by Esther Beeckaert

Abstract

This article examines the impact of the commons on economic inequality in the eighteenth-century rural society of the Ardennes in the Duchy of Luxembourg. A unique set of cadastral sources provides an opportunity to quantify the distribution of the income derived from the commons on the level of households. More precisely, we ask if and how the distribution of common land rights diminished or strengthened existing inequalities in private land use. This brings more direct empirical evidence to bear on the historiographical observation that commons were not institutions that generally and automatically improved equality among rural societies. Indeed, in contrast, there were substantial differences not only between community members and outsiders, but also between the commoners themselves. The following case study brings the socially differential use of common rights to the fore as an important indicator for rural inequality, hence contributing to historical research on rural inequality and commons.

In 1766 the central government of the Austrian Low Countries, representing the empress Maria Theresa, introduced a reform of the taxation system of its most southern province, the Duchy of Luxembourg (Map 1). The so-called Cadastre Thérésien was designed to align the taxes – first as an experiment in the duchy, but after some time extended to other provinces – with the assessments of the value of landownership and land use, not with personal titles as had formerly been the case. The choice of Luxembourg was no coincidence since the Austrian government and its predecessors all experienced major difficulties in getting a handle on the economic and political organization of the duchy. In particular, its taxation system was a thorn in its side as it was shaped by the far-reaching privileges and corruption of the nobility and clerical institutions, who paid almost no taxes, and therefore did not contribute to the national treasury. The self-interested character of the political and fiscal system of the Duchy of Luxembourg was reinforced by its somewhat remote location, accentuated by a physical barrier of dense forests and a road infrastructure that hampered transportation and communication.[1]

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[1] C. de Moreau de Gerbehaye, 'Un cadastre véritable et original? La réforme fiscale au Luxembourg et le Cadastre Thérésien de 1766', *Catastro* (2004), pp. 267–85; P. Servais, 'Common lands and agricultural development in the foothills of the Ardennes, 1750–1900', in G. Béaur, P. R. Schofield, J.-M. Chevet, and M.-T. Perez-Picazo (eds), *Property rights, land markets, and economic growth in the European countryside (13th–20th centuries)* (2013), pp. 139–56.

Notwithstanding many difficulties along the way, the Austrian government eventually succeeded in its aim to align taxation in Luxembourg with income derived from land, although as it turned out the reform was never exported to other provinces.

The Cadastre Thérésien constitutes a unique source for the historical study of income inequality since it not only includes the personal income derived from private landholding and land ownership – as was normally the case in tax records – but also the income that an individual earned by means of common land rights. The inclusion of income from common land use naturally has a significant bearing on the rural region in Luxembourg that had the most commons, the Ardennes. Here, the concept of commons encompasses both common landownership by municipalities and the common use of the fruits of privately owned land. This area, which occupied the centre of the Duchy of Luxembourg, is the focus of the current article (Map 1). More specifically, the Cadastre Thérésien allows the investigation and quantification of the differences between various private and common land rights in constituting income inequality in the Ardennes. As such, the following case study on the impact of commons on economic inequality contributes simultaneously to two much-debated strands of research, one focused primarily on the topic of inequality and the other on the commons. In both domains it has thus far been difficult to fully reconstruct the utilization and distribution of common rights and their impact on income inequality.

The comparative framework on issues of economic inequality that exists for pre-industrial rural societies remains modest, but significant progress for Europe has been made in the past decade.[2] Worthy of mention in this regard is the research done on Italy and by extension Western Europe by Guido Alfani and Matteo di Tullio.[3] They related long-term trends in inequality to processes of economic growth, demographic changes and institutional arrangements such as tax collection. They explicitly included rural communities in their analysis, while most studies remain predominately focused on cities, studies on the Low Countries being no exception.[4] Despite such progress in the field, inequality research remains mostly limited to private landholding and ownership. This is largely due to the limited availability of sources that allow the quantification of inequality in access to and income from land in rural societies. The two main archival sources that we do have to capture inequalities in the personal or household distribution of income or wealth are fiscal sources and the registration of inheritances.[5] However, most of these sources do not fully reflect the social reality of those pre-industrial land systems that reserved an important role for common land rights in which a single resource could be claimed, owned and used by different individuals and groups.[6]

[2] See for example the ERC project 'EINITE-Economic Inequality across Italy and Europe, 1300–1800' coordinated by G. Alfani (2012–2016) or the GOA project 'Economic growth and inequality. Explaining divergent regional growth paths in pre-industrial Europe' coordinated by E. Thoen and T. Lambrecht (2016–2020)

[3] G. Alfani and M. Di Tullio, *The lion's share. Inequality and the rise of the fiscal state in preindustrial Europe* (2019).

[4] W. Ryckbosch, 'Economic inequality and growth before the Industrial Revolution: The case of the Low Countries (14th–19th centuries)', *European Rev. of Economic Hist.* 20 (2016), pp. 1–22.

[5] K. Dombrecht and W. Ryckbosch, 'Wealth inequality in a time of transition: Coastal Flanders in the sixteenth century', *TSEG* 14 (2017), pp. 70–1.

[6] E. Schlager and E. Ostrom, 'Property-rights regimes and natural resources: a conceptual analysis', *Land Economics* 68 (1992), pp. 249–62.

The observation that commons could have a crucial distributional impact on rural inequality given their importance in the property systems of many pre-industrial societies, has thus far mostly been discussed in the research field of commons. However, historians are also confronted with the limitations of sources in this area whereby it is difficult to quantify the relationship between commons and inequality. Most sources that testify to the historical presence and role of the commons (e.g. by-laws), are indeed qualitative of nature and allow scholars to map and compare various practices of regulation and negotiation.[7] From these observations, scholars generally agree that commons were only successful in the long term if management institutions defended and guarded the boundaries of the community of users, and formulated and enforced clear rules and regulations. These management practices aimed to establish a social equilibrium between different interest groups and environmental sustainability in the use of natural resources. By definition this means that commons, in almost every historical context, were rarely 'open access' or free to use by whoever was interested. This idea was advocated influentially by Elinor Ostrom, who collected an impressive amount of data on different sorts of commons, convincingly refuting Garret Hardin's negative and disruptive image of commons that had for a long time prevailed in the social sciences.[8]

Several of the studies that predominantly focus on the regulation and management of the commons nevertheless address questions of inequality as well. Their most important conclusion thus far is that the longevity and sustainability of the commons also substantially depended on the distribution of common rights among groups of users. In this regard, recent research indicated that it was essential that the distribution of the commons mirrored existing inequalities in the power relations among different social and political groups.[9] Moreover, the historiographical stance that commons automatically improved equality has been refuted, even if the commons were essential to the survival strategies of landless labourers and smallholders. The latter observation on the role of the commons in mediating poverty has been mostly discussed in literature on the English enclosure movement.[10] The divergent role of various common land rights with regard to inequality especially attracts notice when comparing historical studies of different regional rural systems.[11] Dependent on the socio-economic,

[7] M. De Moor, L. Shaw-Taylor, and P. Warde (eds), *The management of common land in north west Europe, c. 1500–1850* (CORN, 8, 2002).

[8] G. Hardin, 'The tragedy of the commons', *Science* 16 (1968), pp. 1243–8; Elinor Ostrom, *Governing the commons: The evolution of institutions for collective action* (1990).

[9] M. De Keyzer, 'The impact of different distributions of power on access rights to the common wastelands: The Campine, Brecklands and Geest compared', *J. Institutional Economics* 9 (2013), pp. 1–26; J. M. Lana Berasain, 'From equilibrium to equity. The survival of the commons in the Ebro Basin: Navarra from the 15th to the 20th centuries', *International J. of the Commons* 2 (2008), pp. 162–92.

[10] J. Humphries, 'Enclosures, common rights, and women: The proletarianization of families in the late eighteenth and early nineteenth centuries', *JEcH* 50 (1990), pp. 17–42; J. M. Neeson, *Commoners: common right, enclosure and social change in England, 1700–1820* (1996); E. S. Tan, '"The bull is half the herd": Property rights and enclosures in England, 1750–1850', *Explorations in Economic Hist.* 39 (2002), pp. 470–89.

[11] A. J. L. Winchester, *The harvest of the hills: rural life in Northern England and the Scottish Borders, 1400–1700* (2000); N. Vivier, *Propriété collective et identité communale: les biens communaux en France 1750–1914* (1998); E. Van Onacker, *Village elites and social structures in the late medieval Campine Region* (The Medieval Countryside, 17, 2017); J. L. Van Zanden, 'The paradox of the marks. The exploitation of commons in the eastern Netherlands, 1250–1850', *AgHR* 47 (1999), pp. 125–44.

political and ecological particulars at hand, the commons could maintain, diminish or increase levels of inequality.

These studies have, nevertheless, mostly interpreted inequality by looking at community members (with access rights) on the one hand and outsiders (without such rights) on the other.[12] Indeed, most European rural communities granted access to only some of their inhabitants, not infrequently the most wealthy. Access rights, however, tell only part of the story and are insufficient to fully gain insight into inequality. As has been remarked, for example, by Tine De Moor, the group of commoners legally allowed to access the commons could differ from those commoners who actually made use of the commons.[13] To the latter end, we need to map the social distribution of the benefits derived from the commons between its users. Unfortunately, internal variation between commoners is more difficult to take into account because the named normative sources tend only to give insight in formal access rights, as defined by law or custom, not in the practical and differentiated use of these rights.[14]

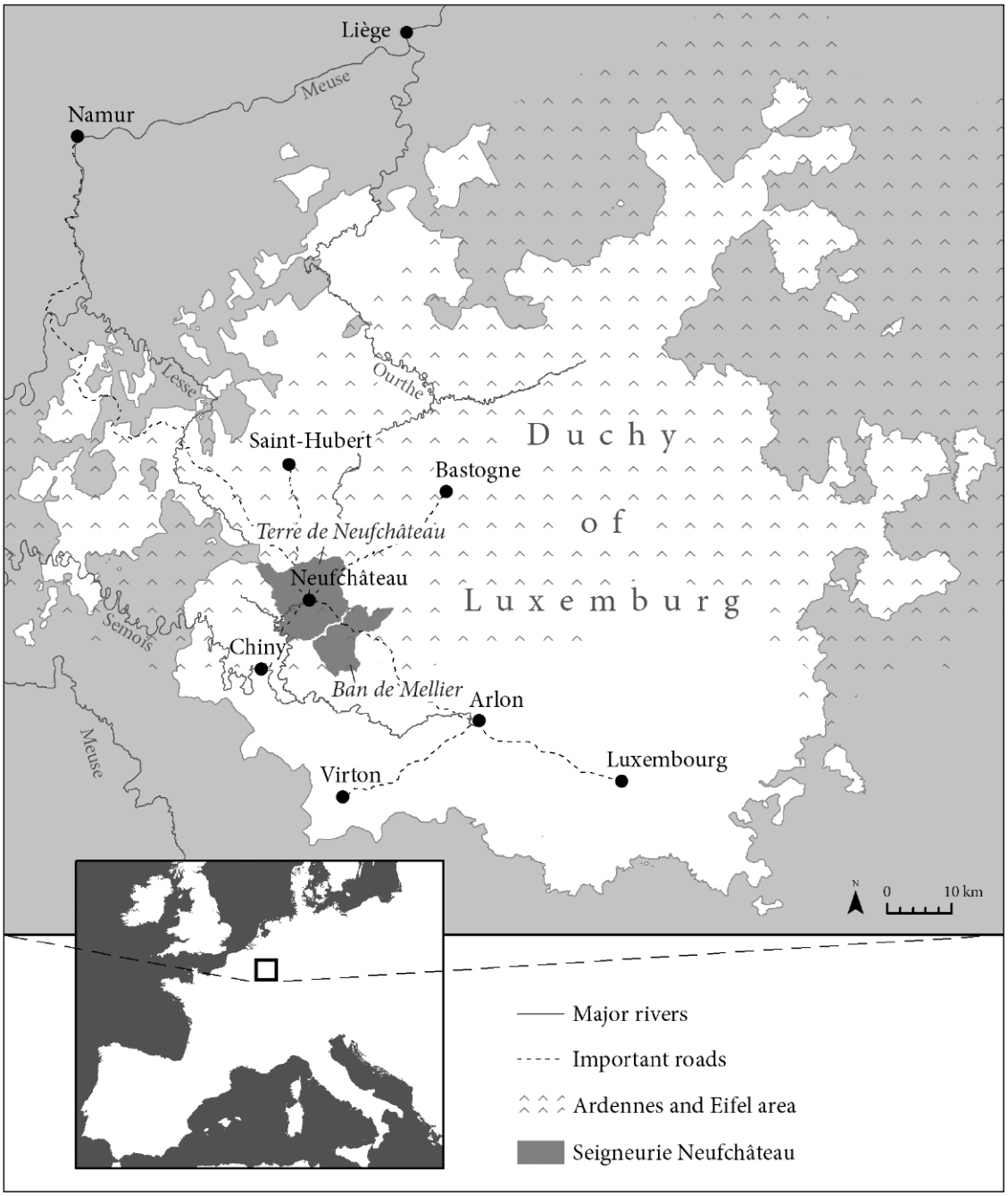
By analysing the redistributive character of common land rights in the late eighteenth-century Ardennes in the Duchy of Luxembourg, I aim to enhance the historical understanding of the impact of the commons on levels of inequality in a pre-industrial rural society. A unique set of cadastral sources, with the Cadastre Thérésien as focal point, that not only includes the income from private land possessions, but also the earnings from common land rights on the household level, allows me to shift the focus directly to the social distribution of the benefits derived from the commons. I question if and how the system of common land rights reproduced existing inequalities in private ownership, or how it potentially mitigated and transformed such inequalities. To what extent could commoners increase their income from land by means of different common rights? In particular the impact of the commons on improving the living conditions of the poorest layers of society will be analysed and compared to the other social groups in the rural society of the Ardennes.

The first section explores the main features of the property regime of the Ardennes. It also introduces the seigneurie of Terre de Neufchâteau, located in the Ardennes, as an exemplar of the regional economic and property system, which will serve as a case study throughout the following analysis (Map 1). The second part elaborates on the source material and begins by calculating the level of total income inequality in the Terre de Neufchâteau in 1766 by means of a Gini coefficient. In the third, fourth and fifth sections, this general estimate of inequality is decomposed into the different sets of land rights that were included in the analysis. Distinctions are made between 1) income from land that is privately owned and used, 2) income from common land rights exercised on land owned by the village communities or by the feudal lords, and 3) income from common land rights exercised on privately-owned

[12] A.-L. Head-König, 'Common land and collective property in Pre-Alpine and Alpine Switzerland', in N. Grüne, J. Hübner, and G. Siegl (eds), *Rural commons* (2015), pp. 232–43; L. Shaw-Taylor, 'Labourers, cows, common rights and parliamentary enclosure: The evidence of contemporary comment *c*.1760–1810', *Past and Present* 171 (2001), pp. 95–126.

[13] T. De Moor, 'Participating is more important than winning: The impact of socio-economic change on commoners' participation in eighteenth- and nineteenth-century Flanders', *Continuity and Change* 25 (2010), p. 407.

[14] N. Grüne, J. Hübner, and G. Siegl (eds), *Rural commons. Collective use of resources in the European agrarian economy* (2015).



MAP 1. The Duchy of Luxembourg in the second half of the eighteenth century showing the Ardennes and the Seigneurie of Neufchâteau consisting of the Terre de Neufchâteau and the Ban de Mellier

Source: Map designed by Hans Blomme (UGent) and based on F. Mirguet, *Le duché de Luxembourg à la fin de l'ancien régime: Atlas de géographie historique*, I, *Introduction* (1982); C. de Moreau de Gerbehaye and Pierre Hannick, *Le duché de Luxembourg à la fin de l'ancien régime: Atlas de géographie historique*, VI, *Le quartier de Neufchâteau* (1989).

land. It becomes possible to gain insight into whether and how the commons of the Ardennes had the effect of increasing or diminishing levels of income inequality. More generally, the empirical results bring to the fore the socially differential use and benefits of common rights as an important indicator of rural inequality, hence contributing to historical research on both rural inequality and the commons.

I

In the eighteenth-century the Ardennes were located near the southern borders of the Austrian Low Countries in the Duchy of Luxembourg. With the Eifel in Germany as its eastern extension, the entire area constitutes a geographical unity marked by rough terrain, hills and ridges (Map 1). The Ardennes' major economic activities – animal husbandry and the wood industry – were essentially commercial and market-oriented. Yet the property regime of the Ardennes differed substantially from those of Flanders and other well-studied regions of the Low Countries.[15] Most importantly, a major part of the income of local landholders came from land that was used in common for at least part of the year. As such, the Ardennes leans more closely to the pastoral societies in the Alps, the forest economies in south-western Germany or the heathlands of the Campine on the northern border of the southern Low Countries where the majority of land was used in common as opposed to privatized property systems where most land was both owned and used in an individual manner.[16]

First of all, each family practised mixed subsistence farming on a small peasant holding, which it most often exploited as direct property. However, these private agricultural possessions were never absolute. Arable farming was organized according to a system of collective crop rotation on the level of village communities in which every resident household participated. Consequently, even the private ownership titles to arable land were coexistent with a series of collective rights and duties by means of which farming was organized.[17] Farmers especially cultivated oats and rye. Depending on the status of the arable land, being *terres labourables* or *terres sartables* (cultivated by means of a slash-and-burn technique), each plot of land was cultivated once every ten to twenty years. In between periods of cultivation, these arable lands necessarily lay fallow and where used for pasture in order to slowly recover.[18] Although most arable land was privately owned, some of the *terres sartable*s were possessed in common by the village communities. In this case, every domiciled household received an equal share of its village's *terres sartables* on a yearly basis.[19] For most households, however, the grain production

[15] Apart from some rare cases, most commons had already been privatized in Flanders by the eighteenth century, see: M. De Moor, 'Common land and common rights in Flanders', in M. De Moor, L. Shaw-Taylor, and P. Warde (eds), *The management of common land in north west Europe, c. 1500–1850* (CORN, 8, 2002), pp. 113–41.

[16] M. De Keyzer, *Inclusive commons and the sustainability of peasant communities in the medieval Low Countries* (2018); Head-Kőnig, 'Pre-Alpine and Alpine Switzerland', pp. 232–43; P. Warde, *Ecology, economy and state formation in early modern Germany* (2006).

[17] G. Trausch, 'Structures et problèmes agraires du passé', *Hémecht. Zeitschrift Für Luxemburger Geschichte* 20 (1968), pp. 549–52.

[18] L. Hector, 'L'ancienne Ardenne – (Region de Neufchateau)', *Annales de l'Institution Archéologique Du Luxembourg* 79 (1948), pp. 97–102; G. Hoyois, *L'Ardenne et l'Ardennais: L'évolution économique et sociale d'une région* (1949), pp. 103–8.

[19] L. Lefèbvre, *Les droits d'usage dans la forêt d'Ardenne: 1754–1795. Leurs lois* (Paris, 1942), pp. 50–5.

on arable land was far from sufficient for them to be self-sustaining.[20] Thus in order to buy additional grain supplies on the market, they also engaged in animal husbandry and the wood industry, which were commercially oriented.

Animal husbandry, the most important economic activity of the Ardennes, was organized almost entirely in a collective manner. All domiciled households within one village gathered the livestock they owned individually under the surveillance of village herders (one for sheep, one for cattle, one for horses) who, by day, guided the herds over large stretches of common pasture land: 1) arable land that lay fallow, 2) natural meadows which opened for grazing after the first harvest of hay and 3) uncultivated heath land that was permanently used as pasture land.[21] As such, most of the Ardennes' lands were part of the common pasture and, moreover, were privately owned by individual households as opposed to the community land owned by the village communities themselves, especially uncultivated wastes. Because most land was predominantly used for common grazing, it was forbidden to fence off individual land possessions. As such, every household's land became part of the *vaine pâture*, even if it did not possess any livestock.[22] After the livestock had been fed by summer pasturing, most of them were sold again during autumn.[23] The trade in sheep, horses, and cattle was the primary commercial activity of the Ardennes.[24]

The economic activities related to the Ardennes' large area of forested land constituted the third pillar of the regional economy. The wood economy largely relied on common land rights that enabled every registered household to gather and cut a share of their community's forest resources on an annual basis. Wood was used primarily as firewood (*droits d'affouage/chauffage*), although on special request the households could also cut larger trees to use as building material or for making agricultural tools.[25] While common grazing rights were practised primarily over private land, common firewood rights were practised on woodland owned by one or more communities or by the local lords.[26] Common wood rights had an important commercial component as well. Although officially prohibited, the majority of rural inhabitants were involved in an intensive local wood trade as they sold part or all of their firewood on the market.[27] Wood sales were strongly connected to the largest industrial activity of the Ardennes: the metal industry. Starting in the seventeenth century, the area in

[20] E. Tandel, *Les Communes Luxembourgeoises: Partie générale* (7 vols, 1889–94), I, p. 366; R. Zeebroek, 'Le Seigle dans l'alimentation et l'agriculture Wallonnes au XIXe siècle', in J.-P. Devroey, J. J. Van Mol, and C. Billen (eds), *Le seigle. Histoire et ethnologie* (1995), pp. 135–6.

[21] E. Legros, 'Les troupeaux communs. L'organisation des troupeaux et du "herdage"', *Enquêtes Du Musée de La Vie Wallonne* IV (1947), pp. 347–51; G. Trausch, 'Structures et problèmes agraires du passé', *Hémecht. Zeitschrift Für Luxemburger Geschichte* 19 (1967), pp. 505–6.

[22] M. Dorban, 'Les communautés rurales dans la vallée de la Haute-Semois (1500–1800)' (Unpubl. PhD thesis, Université Catholique de Louvain, 1983), p. 65.

[23] Hoyois, *L'Ardenne et l'Ardennais*, pp. 118–29.

[24] F. Meunier, 'Le commerce dans la Terre de Neufchâteau de 1500 à 1750', in Cercle Terre de Neufchâteau (ed.), *Neufchâteau à livre ouvert. Mélanges publiés à l'occasion du 800e anniversaire de la Ville de Neufchâteau* (Neufchâteau, 1999), p. 115.

[25] Lefèbvre, *La forêt d'Ardenne*, pp. 39–45.

[26] A. Geubel and L. Gourdet, *Histoire du pays de Neufchâteau. La ville, la seigneurie, le Ban de Mellier* (1956), pp. 129–30; see also the cadastral form of the Arenberg family in 1766: AEA, *012*, no. 342.

[27] C. Billen, 'Peasant forestry in a metallurgical area: Forests between the Sambre and the Meuse during the Modern Period', in H. Brandl (ed.), *Geschichte Der Kleinprivatwaldwirtschaft. Geschichte Des Bauernwaldes. Proceedings der Tagung der IUFRO-Gruppe S 6.07 Forest History (Freiburg, 1991)* (Freiburg, 1993), p. 270; Hoyois, *L'Ardenne et l'Ardennais*, pp. 452–4.

TABLE 1. Landholding and landownership, Terre de Neufchâteau (1766)

	Arable land (terres labourables and terres sartables)	*Gardens (jardins)*	*Meadows (prairies)*	*Enclosures (enclos)*	*Woodland (bois)*	*Uncultivated land (terres incultes)*	*Total surface (%)*
% of total surface	22.11	0.76	8.28	1.91	30.36	36.42	100.00
Private (% of each type of land)	98.16	99.10	97.38	99.52	19.91	57.74	59.62
Common (% of each type of land)	0.08	0.36	0.26	0.00	37.57	42.04	26.76
Seignieurial (% of each type of land)	1.76	0.54	2.36	0.48	42.52	0.21	13.62

Source: Archives de l'Etat à Arlon (AEA), Cadastre de 1766 et la commission des charges publiques (1771–1794) (012), nos 342-48.

the south west of the present-day province of Luxembourg saw the establishment of several forges that reached an economic peak in the second half of the eighteenth century. These industries needed large amounts of firewood, offering an opportunity for local inhabitants to earn additional cash income.[28]

The seigneurie of Neufchâteau boasts all the typical characteristics of the regional system of the Ardennes, making it an excellent case study (Map 1). In fact, the area consisted of two jurisdictions, the Terre de Neufchâteau and the Ban de Mellier, which were continuously ruled over by the Arenberg and Löwenstein-Stolberg families from the fifteenth century.[29] In this article I focus on the territory of the Terre de Neufchâteau, which consisted of the town of Neufchâteau with 179 households and 24 small or very small nucleated rural hamlets that contained a total of 312 households in 1766. The smallest village counted five households and the largest one 35.[30] Here I will focus only on the countryside of the Terre de Neufchâteau, while leaving out the town of Neufchâteau, which was defined by characteristics specific to an urban area.[31] Table 1 indicates the relative share of each type of land of the seigneurie, divided among private, community and seigneurial ownership. This shows that uncultivated land and woodland were generally owned in common, while arable land, gardens, meadows and enclosures were individually held. While natural meadows were fields without fences that were situated near watercourses and other damper land, enclosures were set up near the inhabited centres of villages, in between the gardens and similarly fenced off. Seigneurial ownership was dominant in the case of woodland, but other than that it was negligible. Throughout the analyses below the numbers in Table 1 are used as a point of reference.

[28] P. Hannick and J.-C. Muller (eds), *L'ère du fer en Luxembourg (XVe–XIXe siècles). Études relatives à l'ancienne sidérurgie et à d'autres industries au Luxembourg* (Luxembourg, 1999), p. 491.

[29] Geubel and Gourdet, *Pays de Neufchâteau*, pp. 53–72.

[30] Archives Générales du Royaume (AGR), *Comité pour le dénombrement du Luxembourg (1101)*, nos 39: 65.

[31] The town of Neufchâteau will be included in a later stage of the research project.

II

To properly reconstruct land inequality in regions such as the Ardennes where the common use of land was omnipresent, historians should include the income from the commons in their analyses. Unfortunately, as already mentioned in the introduction to this article, most sources normally used to study the distribution of income from land before the nineteenth century only give a view of private land use and ownership. Moreover, most preserved historical sources that document information on the commons are rather qualitative in nature and do not allow for a precise calculation of income. Jane Humphries has already illustrated some possibilities to circumvent these methodological problems, namely by estimating the value of common rights 'based on the rents charged for common rights […] or by imputing values to the produce of common rights from the market prices of similar goods'.[32] This problem of source inadequacy is, however, circumvented for the late eighteenth-century Terre de Neufchâteau, where I am in a unique position to include directly the value of different common rights in my analysis of income inequality on the household level. Apart from each household's private possessions, three sets of common rights are considered: grazing rights, firewood rights and rights of *essartage* (a specific set of arable land rights).

The yearly revenue of each individual landholder or owner of the Terre de Neufchâteau from his or her private land possessions could be derived from the Cadastre Thérésien of 1766, discussed above.[33] This annual revenue was calculated by the local courts and it expressed gross income. Originally, it had been prescribed that the annual net income should be calculated based on the rents valid in a certain locality. However, in the Ardennes (and likewise in the Terre de Neufchâteau) almost all private land was exploited as direct property by the owner rather than a rent-paying tenant. Therefore, a system of calculation was put in place based instead on direct exploitation. Firstly, for each type of land – being arable land, meadows, enclosures, forests or uncultivated land – the officers of the local courts converted the average yields of cereal/hay/wood (depending on the type of land) per unit of surface in money based on the prices at the local market. Hereby, they also took into account the total duration of the production cycle and the number of years of actual cultivation within each cycle (fallow excluded). Secondly, they multiplied these numbers by the area of a certain piece of arable land, meadow, enclosure, forest or uncultivated land. Moreover, the income from gardens was calculated in accordance to the best arable lands in the village.[34]

In addition to individual forms, every community (by name of the elected village chief) filled in a form as well. These forms contained the yearly revenue from the various common rights that the inhabitants of a community enjoyed together on land owned by the local

[32] Humphries, 'Enclosures, common rights, and women', p. 23.

[33] De Moreau de Gerbehaye, 'Un cadastre véritable et original?', pp. 265–6.

[34] C. de Moreau de Gerbehaye, *L'abrogation des privilèges fiscaux et ses antécédents. Le lente maturation du cadastre Theresien au Duché de Luxembourg (1684–1774)* (Pro Civitate Collection Histoire Série in-8, 90, 1994), pp. 368–71.

lords or village communities, particularly firewood rights and rights of *essartage*. The annual revenue from firewood rights was expressed in terms of the market price per unit of wood. The income from rights of *essartage*, which were arable land rights exercised on common arable land, was calculated in the same way as for the privately held arable land.[35]

Common grazing rights or rights of *vaine pâture* were not at first included in the original survey of 1766, even though they constituted a major part of the regional economy of the Ardennes. Luckily, in 1776 the local administration of the Terre de Neufchâteau included a count of livestock in the land tax, to raise an extra contribution on households' use of the collective *vaine pâture*.[36] Although the exact local instructions for assessing this tax have been lost, earlier research has indicated that it was normal practice in the Ardennes that the count included all livestock (horses, cattle and sheep) that had profited from the common pasture during the year.[37] The tax register of 1776 can easily be linked to the original cadastral forms of 1766 as the owners have been indicated by the same number that was put on those original sheets. The annual revenue derived from grazing rights was expressed by multiplying the market prices of the different types of livestock (horses, cattle and sheep) with the number of animals a certain individual had added to the common pasture. This procedure is followed because most of the livestock was sold during autumn near the end of each grazing season since the livestock economy was largely oriented towards stock-raising for meat consumption and not the consumption of by-products such as milk and cheese.[38]

In sum, all the different land types and rights are expressed as gross income in the cadastre and the livestock tax. These estimates of yearly income included additional costs such as tenths, seigneurial contributions, the hiring of labour or the reinvestment of manure or seeds that came along with arable farming, stockbreeding or the chopping of wood. However, the research results of gross income inequality would not differ all too much from those of net income inequality in the case of the eighteenth-century Ardennes. Tithes and seigneurial contributions were the same for every owner proportional to the grain production of his or her land. Also reinvestment costs for arable and livestock farming were proportional to the extent and productivity of an individual's farming practices. The inclusion of labour costs presents the largest possibility of pushing the levels of inequality upward. Only a minority of large farms, however, actually hired labourers and servants in the Terre de Neufchâteau. As such, the increasing effect of gross income on the calculation of levels of inequality remained modest.

A population census was conducted simultaneously with the cadastre. The census contains, per village, a counting of households.[39] By reconstructing every household that was domiciled

[35] Archives de l'Etat à Arlon (AEA), Cadastre de 1766 et la commission des charges publiques (012), nos 342–8.

[36] AEA, *Justices subalternes (010)*, nos 2019–20. Caution is required when using any counting of animals. Firstly, the number of livestock fluctuated along various seasons. M. Dorban, 'Evaluation des recensements de bétail avant 1846 dans le Sud-Luxembourg', *Bulletin Trimestriel de l'Institut Archéologique Du Luxembourg* 60 (1984), pp. 39–59. Secondly, some poorer peasants rented animals from richer inhabitants (especially urban citizens) that are not directly visible in fiscal records. J.-M. Moriceau, *L'élevage sous l'Ancien Régime: les fondements agraires de la France moderne, XVIe–XVIIIe siècles* (1999), p. 19.

[37] De Moreau de Gerbehaye, *L'abrogation des privilèges fiscaux*, p. 90: 377.

[38] Ibid., 411, 459.

[39] J. Vannérus, 'Les anciens dénombrements du Luxembourg', *Bulletin de la Commission Royale d'Histoire* 70 (1901), pp. 434–6.

in the Terre de Neufchâteau, this meant that I was able to regroup all individual landowners and users on the household level.[40] Additionally, this census allowed me to discover those households without private land titles or common rights. In many other studies, by contrast, historians are not always able to estimate the number of landless households, and therefore they risk ending up with estimates of inequality that are artificially low.[41] Of the 312 households living on the countryside of the Terre de Neufchâteau only 13 households, or four per cent, did not possess any private land.[42] Eventually, I excluded all the households for which information on one or more of the different land rights was missing and for which no reliable estimate of total income from land could be calculated. Consequently, 288 of the 312 households of the Terre de Neufchâteau were included in the following analysis.

In order to have a point of reference throughout the entire analysis, I calculated a Gini coefficient for total levels of inequality.[43] The total annual revenue derived from land of all households of the Terre de Neufchâteau was distributed by a coefficient of 0.42, representing somewhat low levels of inequality in a situation where the value one expresses complete inequality and zero embodies total equality (Figure 1). Yet, considered on its own, this estimate does not tell us much. Pre-eminently, it is used for intra-regional comparison. Particularly interesting for the Ardennes are the sixteenth-century Gini coefficients for the Campine in the Low Countries as reported by Eline Van Onacker and for several communities in Germany by Paul Warde.[44] Similarly to the Ardennes, these were rural economies with extensive commons. The numbers for the former region are close to 0.5 and express inequality in landholding. The coefficients for the latter vary between 0.4 and 0.7 and express inequality in taxable wealth. However, those estimates do not include the income from the commons and, consequently, could still be higher or lower in reality.

In the sections below, I decomposed this general estimate of 0.42 into different sets of land rights with the aim of getting a firm grip on inequality in the Ardennes, each time linking them to their economic function and value (Figure 2 and Table 2).[45] In every following graph and table, I have divided the population of the Terre de Neufchâteau into five equal shares or quintiles of the total population, 288 households. All 288 households are included in the analysis, also when they did not own or use any share of a certain land right and, thus, represent the value of zero. Group one contains the 58 poorest households with between 12,525 and 123,906 deniers, group two contains 58 households with between 125,093 and 208,347 deniers, group three contains 58 households with between 211,990 and 309,639 deniers, group

[40] AGR, *I101*, 65.

[41] D. Curtis, *Pre-industrial societies and strategies for the exploitation of resources. A theoretical framework for understanding why some settlements are resilient and some settlements are vulnerable to crisis* (Unpubl. PhD thesis, Utrecht University, 2012), pp. 286–8.

[42] AEA, *012*, 342–8; AGR, *I101*, 65.

[43] I left out the priory of Longlier from the current analysis. Adding this religious institution forces the Gini coefficient up to 0.51. The priory was disproportionally rich given its large income derived from tithes and land rents.

[44] Van Onacker, *Village elites*, p. 17, 50; Warde, *Ecology, economy and state formation*, pp. 123–4.

[45] I left out three types of income from private land use: ponds, land extracting rights and woodland. These types of land were owned and used by such a small number of households (a series of noble families and leased farms with special seigneurial privileges) that they express exceptions rather than representing the average land use of the inhabitants of the Terre de Neufchâteau.

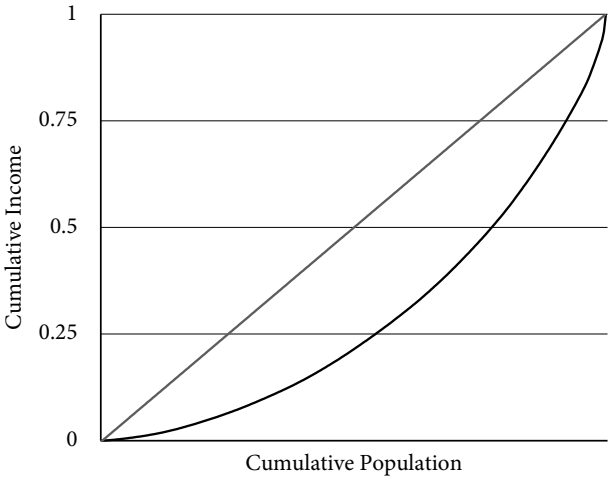


FIGURE 1. Gini coefficient for total income derived from land and its resources in the Terre de Neufchâteau: 0.42 (1766–76)

Source: AEA, *012,* nos 342-48; AEA, *Justices subalternes (010)*, 2019-20; Archives Générales du Royaume (AGR), *Comité pour le dénombrement du Luxembourg* (I101), no. 65.
Note: The Gini has been calculated on 288 households of the Terre de Neufchâteau. The formula used to calculate the Gini coefficient in this paper is $G = (2/(n-1))*\Sigma_i(F_i-Q_i)$, where *n* is the number of households, *i* is the position of each household in the ranking sorted by increased income, the sum goes from 1 to n-1, F_i is equal to i/n, Q_i is the sum of income of all the individuals comprised between position 1 and i, divided by the total income of all individuals. G. Alfani, 'Economic Inequality', p. 1067.

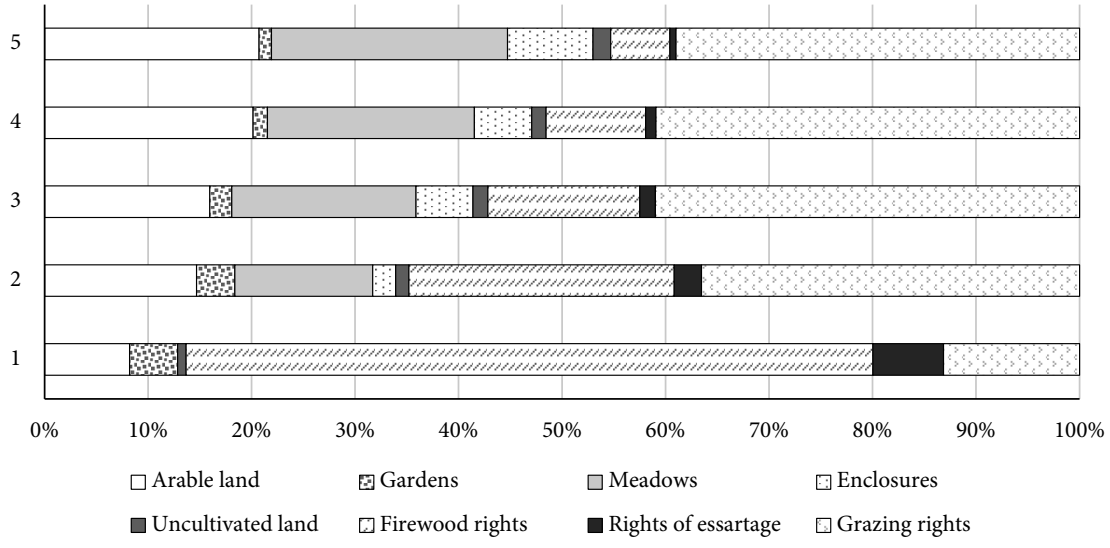


FIGURE 2. Relative importance of different sets of land rights to the total income of individual households classified in five equal groups of 20 per cent of the population (median value), Terre de Neufchâteau (1766–76)

Source: AEA, *012*, nos 342-48; AEA, *010*, nos 2019-20; AGR, *I101*, no. 65.

TABLE 2. General overview of levels of inequality in the Terre de Neufchâteau, subdivided in different sets of land rights (1766–76)

Land rights	*Gini*	*Households not making use (%)*
Arable land	0.52	6.94
Gardens	0.43	10.42
Meadows	0.57	14.24
Enclosures	0.69	24.65
Uncultivated land	0.57	13.54
Firewood rights[a]	0.00	2.08[b]
Rights of *essartage*	0.00	13.19[c]
Grazing rights	0.46	9.03

Source: AEA, *012*, nos 342-48; AEA, *010*, nos 2019-20; AGR, *I101*, no. 65.
Notes:
a The number of firewood rights differed between the various villages that constituted the totality of the Terre de Neufchâteau. However, within every village each household received an equal share of the yearly wood produce (see section V). The same accounts for the rights of *essartage*.
b Two per cent represents two farms leased by the seigneurs, one religious institution and four noble families, all with their own specific privileges granted by the *seigneurs*.
c Several village communities did not possess any *terres sartables*. Yet again, inter-village differences are not the focus of the current analysis. Intra-village differences between households are highlighted.

four contains 57 households with between 310,803 and 487,832 deniers and group five contains the 57 richest households with between 491,387 and 3,859,142 deniers. In each case, the values in the tables express median values per category of land use and/or per social group.

III

The distribution of land that was both privately owned and used (arable land, meadows, enclosures) gave rise to income streams that were more unequally distributed than those derived from common land uses. The relative importance of these private land types substantially decreased for the total household budgets between the richest and the poorest social groups (Figure 2). Moreover, the separate Gini coefficients for privately owned and used land (ranging between 0.52 and 0.69) are substantially higher than the one calculated for total landed income (0.42) (Table 2). With a Gini of 0.43, gardens appear as an important exception to these general observations. The income from gardens contributed 4.5 per cent to the household budgets of the poorest group in society, thereafter decreasing swiftly (Figure 2). They could have been quite substantial for the cultivation of potatoes, green vegetables or beans.[46] Yet, for the moment, little more is known about their economic use and they will not be studied in detail in this article. Although all land organized by private ownership and

[46] R. McC. Netting, *Balancing on an alp: Ecological change and continuity in a Swiss mountain community* (1981), pp. 36–7.

TABLE 3. The distribution of arable land among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

Income group	*Total number of households*	*Number of households without arable land*	*Productive surface: median (ha)*	*Fallow surface: median (ha)*	*Annual revenue: median (deniers)*	*Share of total annual revenue (%)*
1	58	16	0.04	0.28	180	1.65
2	58	4	0.23	1.26	834	7.64
3	58	0	0.43	2.66	1583	14.50
4	57	0	0.81	4.17	3048	27.93
5	57	0	1.44	7.06	5268	48.27

Source: AEA, *012,* nos 342-48; AGR, *I101*, no. 65.

use was substantially more unequally distributed than total income from land, there is still a substantial increase in inequality from arable land to meadows and to enclosures. The distribution of arable land used for farming in the Terre de Neufchâteau reached a Gini coefficient of 0.52 (Table 2). By contrast, the Gini coefficient for meadows is 0.57, already considerably higher. With a Gini coefficient of 0.69 the enclosures were even more unequally divided.

In accordance with the discrepancy between these three Gini coefficients, the group of households that was excluded from all incomes was substantially larger for meadows when compared to arable land and for enclosures when compared to both arable land and meadows. Only seven per cent of all households were completely excluded from the private ownership or use of arable land (Table 2). These 20 households were almost all part of the poorest income group (Table 3). All other households possessed at least a small plot of arable land. Fourteen per cent, double the number who were completely excluded, did not own or use any meadows. Again, almost all of them were among the poorest households (Tables 2 and 4). The benefits from enclosures only became generally accessible to the third social group onwards since almost 25 per cent of the population (41 households in the poorest section and 18 households in the second social group) did not have ownership or use rights in any enclosures (Tables 2 and 4).

Discrepancies between the middle and richest groups were far less considerable for each type of land, even though the predominance of the richest 20 per cent of the households is undeniable, especially in the case of enclosures. Between the middle and richest classes the relative importance of arable land and meadows for the household's total landed revenues increased from around 15 to around 20 per cent, while for the enclosures this was a quadruple increase from two to eight per cent (Figure 2). Also, while the richest 20 per cent households benefited for around 50 per cent from all revenues derived from arable land and meadows, this was already 58 per cent for the enclosures, to the detriment of the poorest households (Tables 3 and 4).

These different levels of inequality rest upon the different economic functions and values of these three land types. Arable farming constituted the basic economic activity that provided almost all households of the Terre de Neufchâteau with accessible incomes and meagre

TABLE 4. The distribution of meadows and enclosures among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

Income group	*Total number of households*	*Number of households without meadows*	*Annual revenue meadows: median (deniers)*	*Share of total annual revenue meadows (%)*	*Number of households without enclosures*	*Annual revenue enclosures: median (deniers)*	*Share of total annual revenue enclosures (%)*
1	58	32	0	0.00	41	0	0.00
2	58	8	756	6.67	18	126	3.49
3	58	1	1764	15.56	9	546	15.12
4	57	0	3024	26.67	2	840	23.26
5	57	0	5796	51.11	1	2100	58.14

Source: AEA, *012*, nos 342-48; AGR, *I101*, no. 65.

subsistence. Yet, the regional arable lands were of such a low economic value that they were only of partial or even minor importance to households' total income from land and the regional economy. Indeed, the average household could not survive solely on the arable production (largely grain) of its own plots of arable land. In general, a household in the Ardennes needed three hectares of arable land to be self-sufficient, 0.67 ha or 23 per cent being productive and the remaining laying necessarily fallow.[47] By comparison, in the nearby region of Flanders where fallow had been largely abolished at that time a household needed only one hectare, or three times less land, to feed itself.[48] The economy of the Ardennes was indeed conditioned by much less fertile soil and each unit of land produced far less cereal than was the case in Flanders. In this context, 184 households or 64 per cent of all the households of the Terre de Neufchâteau had less than the necessary 0.67 ha of productive arable land to sustain themselves (Table 3). They all had to limit themselves to a very small arable output.

These indications of structural shortcomings were confirmed in the industrial survey of 1764.[49] To buy additional grain, the inhabitants of the Ardennes were mainly oriented towards Luxembourg city and northern France.[50] Only the two richest social classes (based on total income derived from land) could sustain themselves solely by means of their own arable production as, on average, each household could use 0.81 to 1.44 ha of productive land (Table 3). But even these households did not produce substantial surpluses that could be sold on the market. As such, commercial arable farming did not exist in the Terre de Neufchâteau in the second half of the eighteenth century.

Meadows and enclosures were used by farmers to cultivate hay to sustain their livestock during cold winter months and were, therefore, an integral part of the livestock economy.

[47] AEA, Département des Forêts (013), no. 369-1; Lokstat, Ghent University, Quetelet Center, from *Statistique de la Belgique. Agriculture. Recensement général (15 octobre 1846)* (Brussels, 1850).

[48] E. Vanhaute, 'Eigendomsverhoudingen in de Belgische en Vlaamse landbouw tijdens de 18de en 19de eeuw', *Belgisch Tijdschrift Voor Nieuwste Geschiedenis* 1–2 (1993), p. 190.

[49] Tandel, *Les communes Luxembourgeoises*, I, p. 366.

[50] Hoyois, *L'Ardenne et l'Ardennais*, p. 129.

Given their central importance to this economy, the small number of meadows and especially enclosures present on the Terre de Neufchâteau (nine per cent of the total surface) were highly desired and much higher valued than arable land (cf. above). The internal difference between both types of land stems from their differential productivity. Enclosures, small fenced plots of land, could be intensely and permanently cultivated while meadows were open plots of land that only produced one harvest of hay and functioned as part of the collective *vaine pâture* for the remaining two-thirds of the year.[51] Due to their economic value, meadows and enclosures were in high demand and particularly concentrated among the better-off peasants. Poor households with no possessions of either type of land could only make use of the scarce amounts of hay, of poor quality, that they cultivated on their plots of arable land during periods of fallow and the vegetation (Fr. *genêt*) they collected on common waste land as litter for the animals in winter.

IV

Exactly the opposite of the observations in the previous section applies to commons that were permanently open to the exercise of common rights, namely firewood rights and rights of *essartage*. On a yearly basis, these rights allowed all registered households of the Terre de Neufchâteau to cut firewood in extended woodland and to cultivate rye and collect vegetation for litter on plots of uncultivated land by means of a slash-and-burn technique. In the Ancien Régime a household was fully part of the local community when, after marriage, the householders owned or rented a separate household or *feux à part*.[52] Eighty per cent of the woodland in the Terre de Neufchâteau was used as commons, of which 47 per cent was directly owned by the village communities and the remaining 53 per cent was destined as seignieurial land (Table 1). The inhabitants of the seigneurie permanently enjoyed two-thirds of the fruits of these lordly forests.[53] Common *terres sartables* were completely owned by the local communities. The distribution of the income from both types of land in the 1766 cadastre is portrayed by a Gini coefficient of zero, representing complete equality (Table 2).

Compared to the calculations of the other land rights in this analysis, this is a somewhat artificial estimate for two reasons. Firstly, between various village communities differences could occur given the diverse extent of forests or uncultivated land that the villages of the Terre de Neufchâteau owned themselves. For now, however, I put aside these variations between villages to emphasize the differences on the household level with median numbers for the entire seigneurie. Secondly, there is no concrete survey of the equal shares of firewood rights or plots of *terres sartables* that each household received, as was the case for livestock and private land possessions. Rather, the total income from firewood rights or rights of *essartage* has been indicated on the aggregate level of the village communities. Yet, equality in distribution between the households can be inferred from other evidence. Indeed the equal distribution

[51] Dorban, 'La vallée de la Haute-Semois', p. 108; H. Jacob, *Bruyères, bêtes et gens d'Ardenne (XVe–XVIIIe siècle)* (Pro Civitate Collection Histoire Série in-8, 74, 1988), pp. 191–2.

[52] R. Petit, 'Les communautés rurales en Ardenne: L'éxample du Comté de La Roche', in *Les communautés rurales. 5: Europe Occidentale et l'Amérique* (Recueils de la Société Jean Bodin pour l'Histoire Comparative des Institutions, 44, 1987), pp. 377–407.

[53] AEA, *012*, no. 342; Geubel and Gourdet, *Pays de Neufchâteau*, 129–30.

of firewood had been dictated since 1754 by a general forest regulation for the entire province of Luxembourg. Moreover, in the second half of the eighteenth century, the inhabitants made several formal complaints (eventually leading to a lawsuit in 1792–94), whose contents testify that the equal distribution of firewood was effectively practised as well. In addition, a survey of 1849 for the town of Neufchâteau that was drawn up on the household level again clearly indicated that each household in practice received its equal share.[54] Additionally, several villages testified on the equal distribution of common *terres sartables* in the surveys that they filled in as a preparation for the actual cadastre of 1766.[55]

On a yearly basis, each household could gather and cut on average a total of seven *cordes d'Espagne* or 15.4 m^3 of stacked wood in the forests of the seigneurs and in those of the village communities themselves. Although each household received an equal share in the total production of *bois de chauffage* or the cultivation of *terres sartables*, the relative importance of these products for the inhabitants' total income from land differed immensely between the five income classes of the Terre de Neufchâteau. Figure 2 clearly illustrates how the importance of firewood in household revenues from land decreased exponentially between the poorest group of households and the richest. The gains from firewood rights constituted 66 per cent of the total income from land in the poorest social class while this was only six per cent for the richest group, an enormous difference. Be it on a different scale, the rights of *essartage* were also the most important for the poorest layer of society for which the gains constituted seven per cent of their total landed value. Although this may not seem much at first, it was in fact their second largest source of income. From the second income group onwards, this percentage decreased to less than one per cent of the total landed income of the richest 20 per cent of households.

In addition, the economic use of (fire)wood and slash-and-burn agriculture structurally differed between the poorer group of small peasants on the one hand and the medium and large-sized farms on the other. In general, the latter group consumed more (fire)wood as it was needed to heat larger houses, house several servants, sustain larger numbers of animals (cf. below), fence off more land and use more agricultural tools. Not infrequently, these farmers hired labourers to cut some of their wood, or rented out their plots of *terres sartables* to poorer peasants. For the richer groups, the produce of the common *terres sartables* was indeed negligible in comparison to their total income derived from land (Figure 2). By contrast, small peasants needed far less wood to heat their houses or to perform their economic activities. For them, the distribution of firewood 'represented a precious but illegal resource' to earn a cash income to buy necessary foodstuff such as grain on the market.[56] Although officially prohibited, wood became an objective of intensive local trade whereby particularly these small peasants sold (all) their commons firewood on the market (not least to the regional metal industry) and gathered their wood for domestic use through illegal cutting or wood theft.[57]

[54] Research results of my ongoing PhD project. AEA, Conseil du Luxembourg. Affaires politiques et administratives (062), no. 3183; AEA, Conseil du Luxembourg. Dossiers de procès (001), no. 127; AEA, Ville de Neufchâteau (009), no. 277.

[55] AGR, *I101*, 39.

[56] Billen, 'Peasant forestry', p. 270.

[57] AGR, Conseil Privé. Inventaire des 'cartons' de la période autrichienne (T 460), no. 1123A.

TABLE 5. The annual revenue from common firewood rights of the households of the Terre de Neufchâteau expressed as hl grain (1766–76)

Annual revenue: median (deniers)	1455
Annual revenue recalculated as hl grain	2 hl rye/3.3 hl oats

Source: AEA, *012*, nos 342–48; AEA, *Département des Forêts (013),* nos 347–1, 351–1, 369–1 and 374–1; AGR, *I101*, no. 65; E. Hélin, 'Prix des céréales à Luxembourg aux XVIIe et XVIIIe siècles', in J. Ruwet et. al. (eds), *Marcheé ses céréales à Ruremonde, Luxembourg, Namur et Diest aux XVIIe et XVIIIe siècles* (Louvain 1966), p. 194, p. 265.
Note: Each household received on average a total of 7 cordes of wood in the *bois seigneuriaux* and *bois communaux*. Since each corde had a market value of 216 deniers, 7 cordes of wood were worthy of 1455 deniers. To express this value in hectoliters of grain, I used the following information. The price for one *bichet* (old measure in Luxembourg) of Neufchâteau in rye was 141 deniers and the price for one *bichet* of Neufchâteau in oats was 87 deniers. One *bichet* of Neufchâteau equaled 19.44 litres.

TABLE 6. The annual revenue from common rights of *essartage* of the households of the Terre de Neufchâteau expressed as hl grain (1766–76)

Annual revenue: median (deniers)	150
Productive surface: median (ha)	0.10
Estimate of yearly grain production (hl)	1.29 hl rye

Source: AEA, *012*, nos 342-48; AGR, *I101*, no. 65; Lokstat, Ghent University, Quetelet Center, from *Statistique de la Belgique. Agriculture. Recensement général (15 octobre 1846)* (Brussels 1850).
Note: I used the estimate of 12.94 hl grain/ha.

In order to estimate the importance of common firewood rights to a household budget, I compared the market value of the common firewood rights to the market price of grain. In the case where a household would sell all of its common firewood on the market, it could buy two hl rye or 3.3 hl oats in exchange (Table 5). This constituted around seventeen per cent of its yearly grain needs.[58] Apart from cutting wood, these smaller peasants spent most of their time practising slash-and-burn cultivation. Therefore, the common *terres sartables* were of vital importance. Each household received on average a plot of 0.10 ha on a yearly basis on which it could cultivate around 1.29 hl (Table 6). This was eight per cent of their total grain needs. In sum, those peasants that sold their common firewood on the market and cultivated at least one plot of common *terres sartables*, could earn approximately a quarter of their yearly grain needs by means of these two sets of common rights. Especially for the poorest inhabitants, who cultivated the smallest plots of private arable land and bred almost no livestock (cf. infra), these profits were crucial for survival. Yet, because the richer households received an equal share of the revenues of firewood and common *terres sartables*, these common rights could not reduce general levels of inequality in the village communities.

[58] An individual in the Terre de Neufchâteau needed on average 3.2 hl on a yearly basis. As a general family constituted around five members in 1766, it necessarily consumed 16 hl of grain on a yearly basis. AEA, 013, nos 374-1; 347-1; 351-1; 369-1.

V

Apart from woodland, the majority of land stood at the service of the collective organization of livestock breeding. Sixty-seven per cent of the total surface of the Terre de Neufchâteau lay (temporarily) fallow and was used as common pasture: arable land, meadows and uncultivated land. Of this area, 76 per cent was privately owned and only 23 per cent was owned in common by the village communities (Table 1). In this setting, households could only enjoy the majority of their individual land by adding livestock to the collective herds. There are very few regulations on *vaine pâture* that can be traced for the Terre de Neufchâteau in the eighteenth century. The basis was very simple, however. Every registered household that owned or rented a separate house was allowed to add animals to the collective herds. While no maximum number of animals per household was defined, as was the case in many other common property regimes, the commoners were bound to accept the principle of *hyvernage* or levancy.[59] Because almost all livestock for pasturing were counted early in January, households could only add to the collective herd those animals that they could stall during winter. This meant that the number of animals sent to the communal summer pasture was inherently dependent on the amount of hay and additional fodder such as bushes a household had at its disposal, and therefore also conditioned by the size of the private holding. Moreover, the commoners of the Terre de Neufchâteau had to pay a tax on how many of their animals participated in the *vaine pâture*. These observations taken together, even though the legal access rights to common grazing were equally open to every registered household, several practical restrictions facilitated rather unequal outcomes for the benefit of medium-sized and large farmers. The following analysis strengthens this conclusion by clearly illustrating that common grazing rights were not used by all households, let alone in an equal manner.

The benefits from livestock pastured on common land were distributed among the households of the Terre de Neufchâteau by a Gini coefficient of 0.46 (Table 2), expressing a slightly higher level of inequality than total levels of landed inequality. The coefficient of 0.46 contains 26 households or nine per cent of the population that was in practice not able or willing to make use of the grazing rights they enjoyed by law. Twenty-four of them were situated within the poorest layer of society (Table 7). As such, almost half this group failed to benefit from the collective livestock economy, even though half of these families possessed land that they were obliged to add to the *vaine pâture*, which, therefore, put them at a disadvantage. By contrast, the merits of the collective herd only really became accessible and profitable from the second social group onward, among which only two households did not profit from their grazing rights. Especially the three middle groups within society could improve their living conditions by taking a larger share in the collective herd than in the total surface used for pasturing. The middle group distinguished itself from the groups at the bottom and top of society by its share in the total revenue from common grazing rights, which was considerably larger than in any other type of landed income. Therefore, with a Gini coefficient of 0.46, grazing rights

[59] AEA, *009*, no. 39; Jacob, *Bruyères, bêtes et gens d'Ardenne*, 201.; 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. 30–48.

TABLE 7. The distribution of common grazing rights among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

Income group	*Total number of households*	*Number of households not using their grazing rights*	*Annual revenue grazing rights: median (deniers)*	*Share of total annual revenue grazing rights (%)*
1	58	24	288	1.28
2	58	1	2074	9.21
3	58	0	4061	18.03
4	57	1	6192	27.49
5	57	0	9907	43.99

Source: AEA, *010*, nos 2019-20; AGR, *I101*, no. 65.

were more equally distributed than private land titles, which rested on arable land, meadows and enclosures (cf. Section III). This number, however, conceals a social reality that was characterized by a large discrepancy between a bottom layer of society on the one hand, and the middle and rich classes of households on the other. Between these two, the distribution of livestock was less unequal than the distribution of private land types.

Even though inequality between the middle and rich income groups decreased when taking all grazing rights together, each group generally owned different sorts of livestock (Table 8). While the ownership of sheep was dominated by the wealthiest farmers, the middle group of households improved its economic position through the ownership of horses and especially cattle. The latter was also the most accessible species to the poorest income group. As such, the situation in the Ardennes confirms the research results on several other common property regimes where the grazing of cattle was more equally practised than the use of sheep, which required greater capital investments and, therefore, was reserved for the better-off farmers.[60]

Sheep constituted the largest number of beasts in the Terre de Neufchâteau, around 75 per cent. However, they were of little value, amounting to only 20 per cent of the total livestock economy. One sheep had an average market price of 29 deniers, while cattle fetched 288 deniers and horses, 576 deniers. Therefore, a household had to possess a large number of sheep in order to profit commercially from them. Moreover, spacious stables and considerable amounts of fodder were necessary to sustain them during night and winter.[61] Under these circumstances, only the richest 20 per cent of households sent large numbers of sheep to the common pasture land (median number: 81). Together their sheep represented almost 60 per cent of the entire sheep breeding economy of the Terre de Neufchâteau (Table 8). The group of large commercial sheep breeders consisted of 21 households that possessed over a 100 sheep. These sheep breeders enjoyed certain privileges that allowed them to let their flock graze apart from the collective herd. These herds enjoyed however unlimited grazing

[60] M. De Keyzer, 'The common denominator. The survival of the commons in the late medieval Campine area' (Unpubl. PhD thesis, University of Antwerp, 2014), pp. 147–53; J. Marino, *Pastoral economics in the kingdom of Naples* (1988), pp. 121–31; N. Mickun, *La mesta au XVIIIe siècle. Etude d'histoire sociale et économique de l'Espagne au XVIIIe siècle* (1983), pp. 162–74.

[61] Moriceau, *L'élevage sous l'Ancien Régime*.

TABLE 8. The distribution of sheep, horses and cattle among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

Income group	*Total number of households*	*Number of households with no sheep*	*Number of sheep: median*	*Annual revenue sheep: median (deniers)*	*Share of total annual revenue sheep (%)*
1	58	30	0	0	0.00
2	58	6	10	274	6.69
3	58	1	19	533	13.03
4	57	2	33	950	23.24
5	57	0	81	2333	57.04
Income group	*Total number of households*	*Number of households with no horses*	*Number of horses: median*	*Annual revenue horses: median (deniers)*	*Share of total annual revenue horses (%)*
1	58	52	0	0	0.00
2	58	19	1	576	8.33
3	58	6	2	1152	16.67
4	57	5	4	2304	33.33
5	57	1	5	2880	41.67
Income group	*Total number of households*	*Number of households with no cattle*	*Number of cattle: median*	*Annual revenue cattle: median (deniers)*	*Share of total annual revenue cattle (%)*
1	58	28	1	288	2.63
2	58	1	4	1152	10.53
3	58	0	7	2016	18.42
4	57	2	10	2880	26.32
5	57	0	16	4608	42.11

Source: AEA, *010*, nos 2019-20; AGR, *I101*, no. 65.

upon the common pasture land without having to pay taxes for the collective herd as all the other households had to do and without adding their own private property to the collective grazing land as even those households without livestock had to do.[62] Unsurprisingly then, the number of sheep in the possession of the majority of middle-class and poor households was much more modest, ranging from zero to 33. In an interregional perspective, a relatively large share of the population could still sustain a flock of sheep through the common waste. While 86 per cent of households possessed at least one sheep in the Terre de Neufchâteau, this was only 32 per cent in the Campine, a rural region with a strong common property regime situated on the northern borders of the Southern Low Countries. However, many of the smallholder households possessed very few sheep (the majority not more than 20), while

[62] Jacob, *Bruyères, bêtes et gens d'Ardenne*, pp. 207–8.

in the Campine each household's flock was considerably larger in size (on average 45).[63] The relatively small size of the average flock in the Ardennes was largely due to a structural lack of good quality pasture. Illustrative for the unequal distribution of sheep is a Gini coefficient of 0.58. This is considerably higher than the coefficient of 0.46 that takes all the animals together and rather joins the range of Gini coefficients measured for the private ownership and use of land (cf. Section III).

Although few in number when compared to cattle and especially sheep (five per cent of all animals), the presence of horses in the Terre de Neufchâteau was surprisingly high compared with the surrounding regions. The horses of the Ardennes were indeed highly valued for their carrying capacity and use for traction and were used in large numbers to transport wood from the local forests to its surrounding households, industries and markets.[64] Like sheep, horses were generally not accessible to the poorest layer of society and even within the second group there was a considerable number of households without any horses in their possession; in total 29 per cent of households could not afford them. By contrast, the third and fourth income groups owned on average three horses, not so many fewer than the average of five owned by the richest group. Therefore, the Gini coefficient reaches only 0.48, which somewhat fails to represent the reality that a third of society did not own any horses.

Cattle were present in considerably smaller numbers than sheep as they represented only 20 per cent of the total number of livestock. They were, however, valued higher and contributed to almost 50 per cent of the total value of the livestock economy. Moreover, cattle were the most commonly used and equally distributed species. The poorest 20 per cent of society generally only invested in cattle with a median of one animal per household whereas they did not possess any sheep or horses. They would indeed need considerably larger numbers of sheep to equal the revenues earned from a limited number of cows. Especially the three middle-income groups invested in cattle, by which means they could improve their position vis-à-vis the wealthiest 20 per cent households. Together, these three groups possessed 55 per cent of the cattle, but only 43 per cent of the sheep. Added up, cattle were the most equally distributed species. With a Gini coefficient of 0.46 it becomes clear that the breeding of cattle through collective grazing had the largest diminishing effect on levels of inequality, more so than horses and especially sheep.

The livestock sector took the largest share in the rural economy of the Terre de Neufchâteau. It could potentially constitute an enormous part in the total landed revenue of a household and high individual profits could be realized by taking the largest share possible in the collective grazing rights. However, following the preceding evidence, this was not the case for every household. Table 9 roughly estimates the amount of grain that households could buy from the number of animals they raised to illustrate the economic opportunities of the Ardennes' livestock economy, but also the unequal outcomes. Income was almost nothing for the households in the poorest category, of which 50 per cent did not participate in the collective livestock economy at all. It was precisely these households found themselves with the highest need for additional grain stocks since they could only produce a fraction of their yearly grain

[63] De Keyzer, 'The common denominator', p. 153.
[64] Hector, 'L'ancienne Ardenne', p. 96; Hoyois, *L'Ardenne et l'Ardennais*, p. 210, 285.

TABLE 9. The annual revenue from common grazing rights of the households of the Terre de Neufchâteau (classified in five equal groups) expressed as hl grain, net (1766–76)

1	0.4 hl rye or 0.6 hl oats
2	2.9 hl rye or 4.6 hl oats
3	5.6 hl rye or 9.1 hl oats
4	8.5 hl rye or 13.8 hl oats
5	13.7 hl rye or 22.1 hl oats

Source: AEA, *010*, nos 2019-20; AGR, *I101*, no. 65; Hélin, 'Prix des céréales à Luxembourg', p. 194, p. 265.
Note: One sheep had an average market price of 29 deniers, while this was 288 for cattle and 576 for horses. To express these values in hectolitres of grain, I used the following information. The price for one bichet (old measure in Luxembourg) de Neufchâteau in rye was 141 deniers and the price for one bichet de Neufchâteau in oats was 87 deniers. One bichet de Neufchâteau equaled 19.44 litres.

needs by themselves. The families in the second group could buy, on average, almost a quarter of the yearly grain needs (15.84 hl) by means of the yearly income derived from their livestock. The households in the most middle group of society could buy almost half of their yearly grain needs by selling the animals they raised. For the fourth group, this increased to 70 per cent and the richest households in society could sustain themselves completely by buying grain from their earnings in the livestock economy.

VI

The results represented in the current article offer a new perspective on our historical understanding of the role of the commons in establishing levels of (in)equality. The set of sources surveyed in the previous paragraphs provided a unique opportunity to track the revenue derived from diverse common rights and, therefore, their real importance to the income portfolio of different households. As I already indicated in the introduction to my study, these findings concerning the social distribution of common land rights contribute to two research domains: studies of rural inequality that are primarily focused on private landholding or ownership on the one hand, and the commons on the other. As for the latter, I had the exceptional advantage that I could concretize and put numbers on the inequalities that had thus far only been studied indirectly through regulations and management practices. Importantly, this allowed me to question if and how the distribution of common land rights diminished or strengthened existing inequalities in private land use in the Ardennes in the second half of the eighteenth century. I compared to what extent the households of the Terre de Neufchâteau profited unequally from the common land system, and I differentiated between a wide range of land rights, performed within diverse ecological settings (dense woodland, extended heathland and open arable fields), regulated by different interest groups and serving various economic ends.

In the current literature, historical access rights are generally grouped in three categories: firstly, those communal land systems where access was dependent on land ownership or the payment of taxes, secondly, those societies where access was reserved for official residents of

the village community and in third instance access could also be restricted to special clubs of households or farmsteads.[65] In the Ardennes, the formal rule of 'residence' defined access rights. However, belonging to the community was no assurance of an equal distribution of the benefits of these rights. Looking at use rights instead of access rights, various land rights had a differential impact on levels of inequality. I discovered that a distinction can be made on two analytical levels: on the one hand the private or common statute of ownership titles compared to use rights, and on the other hand the economic value of different land rights, possibly high or low. In general, private ownership titles of high economic value were the most unequally distributed of all land rights, whereas the opposite was true when more was possessed in common and the economic gains at stake were lower.

The evidence presented above shows that the income from land both owned and used completely privately (arable land, meadows and enclosures) was most unequally distributed. Within this category, a different degree of inequality could still be observed depending on the economic value of a given type of land. Arable land, of poor quality and oriented to self-provisioning, remained relatively accessible to the most needy households. By contrast, meadows and especially enclosures that were substantially more valuable strengthened the resources of the middle and wealthy groups, to the detriment of the lowest-income group. The system of common land use, predominant in the rural economy of the Ardennes, is more difficult to categorize. The common use of land tended only to have a strong equalizing effect in the case of firewood rights and rights of *essartage*, which were commons that were permanently performed on land that was owned by the village communities or by the seigneurs. These common rights clearly provided some meagre subsistence to the bottom groups in society. As such, the findings confirm the dominant line in the historiography.

By contrast, this equalizing impact was nullified or even counteracted in the case of grazing rights since the use of these rights was marked by sharp internal inequalities. The poorest section in society, in particular, did not participate in the livestock economy, which, conversely, served to enrich the middle and wealthy groups. This differential societal role of grazing rights can partly be explained by the statute of their ownership titles and their market value. Clearly, the interest of the most wealthy farmers was connected to the high economic gains that could be earned by means of livestock breeding in combination with the ability of these wealthy households to add the largest private possessions to the common pasture. It is not hard to imagine that the large farmers aimed to profit as much as possible from their individual landed properties while preventing small peasants with almost no land of their own from making extensive use of their grazing land. Moreover, a direct link existed between a commoner's capacity to graze animals on the collective summer pastures and his or her individual production of hay to bridge the winter months, particularly a monopoly of the better-off farmers. In general, the differential impact on income inequality of common firewood rights and rights of *essartage* on the one hand and grazing rights on the other supports a distinction

[65] T. de Moor, 'Avoiding tragedies: A Flemish common and its commoners under the pressure of social and economic change during the Eighteenth Century', *EcHR* 62 (2009), p. 5; P. Warde, 'La gestion des terres en usage collectif dans l'Europe du Nord-Ouest', in M.-D. Demélas and N. Vivier (eds), *Les propriétés collectives face aux attaques libérales (1750–1914): Europe occidentale et Amérique latine* (2015), p. 67.

often to be found in literature between 'common land possessions' and 'common use rights performed on private land'. Whereas the former was relatively accessible to broad layers in society, the latter were often monopolized by the richest farmers and landowners.[66]

With an eye on the larger picture, and on the prospect for future research, I hope to have indicated most of all the importance of fully including the commons when analysing pre-industrial rural inequality. The original evidence that I have presented above confirms that commons were not institutions that generally and automatically improved equality among rural societies. Rather substantial differences existed not only between community members and outsiders, but equally so between the commoners themselves. The research case of the Ardennes has laid bare how various common rights could simultaneously provide essential incomes to the poorest households and sustain substantial inequalities with the middle and rich social classes. These internal inequalities should ideally be observed by extending our research scope from formal access rights to the actual use of these rights.

[66] G. Béaur, 'En un débat douteux. Les communaux, quels enjeux dans la France des XVIIIe–XIXe siècles?', *Revue d'histoire moderne and contemporaine* 53 (2006) pp. 106–9.

Masters writing the rules: how peasant farmer MPs in the Swedish Estate Diet understood servants' labour and the labour laws, 1823–1863*

by Carolina Uppenberg

Abstract

Peasant farmers made up one of the four estates in the Swedish parliament, the Diet of the four estates, from late medieval times up until the introduction of the two-chamber parliament in 1867. Affiliation to the estate of the peasant farmers was based on landholding. Landholding also entitled peasant farmers to employ servants. Peasant farmers thus played a double role: as masters of servants and as lawmakers of the Servant Acts that regulated the relationship between masters and servants. In this article, minutes from the peasant farmers' estate are analysed to understand their position on servants and servants' labour, through a study of debates concerning compulsory service, hiring date, treatment of sick servants, and chastisement of servants. The results challenge the dominant interpretation of rural servanthood being part of the life-cycle by showing how peasant farmers identified antagonistic class differences between themselves and their servants.

Lords and peasants have been understood as the main antagonists in rural history, both in feudal society, when peasants were subject to serfdom, and in the early modern period, when free peasants paid taxes and rents to support the upper classes. The struggle between them has been used to understand economic development and modernization.[1] However,

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[1] Barrington Moore, *Social origins of dictatorship: lord and peasant in the making of the modern world* (1966); Francis G. Castles, 'Barrington Moore's thesis and Swedish political development', *Government and Opposition* 8 (1973), pp. 313–31; Matti Alestalo and Stein Kuhnle, 'The Scandinavian route: economic, social, and political developments in Denmark, Finland, Norway, and Sweden', *International J. Sociology* 16 (1986), pp. 1–38; Christer Winberg, 'Another route to modern society. The advancement of the Swedish peasantry', in M. Lundahl and T. Svensson (eds), *Agrarian society in history. Essays in honour of Magnus Mörner* (1990), pp. 48–67; Trevor H. Aston and Charles H. E. Philpin (eds), *The Brenner debate: agrarian class structure and economic development in pre-industrial Europe* (1995); Jan Christensen, *Bönder och herrar. Bondeståndet i 1840–talets liberala representationsdebatt. Exemplen Gustaf Hierta och J P Theorell [Peasants and lords. The peasant farmer estate in 1840s liberal debate of the parliamentary reform]* (Diss. series from the Dept. of Hist., Univ. of Gothenburg, 16, 1997); Michael Albertus, 'Landowners and democracy', *World Politics* 69 (2017), pp. 233–76.

peasant farmers also occupied another position in agrarian society: as masters or employers of servants. Servants were an important part of the rural, pre-industrial workforce: approximately 15–20 per cent of the Swedish rural population were servants and around half of peasant farmer households employed servants during the early decades of the nineteenth century.[2] Although the dominant perspective for analysing the rural servant institution is still the concept of the life-cycle servant, the importance of legislation is now receiving increasing interest. This article aims to supplement previous research with a focus on the conflict of interests between servants and their masters, through a study of the restrictive labour laws that shaped service. A desire to force the young, landless population into service was commonly found across Europe, although compulsion was abandoned at various times. The Nordic countries kept compulsory service well into the mid-nineteenth century. In the Swedish case, this meant that people without access to land could be forced into service, up until the last Servant Act issued in 1833, which allowed other 'honest occupations'.[3]

In this article, I analyse debates concerning the position of servants and servant laws in the peasant farmer estate, one of the four estates represented in the Swedish Diet (parliament). Because peasant farmers had had political representation in their separate estate in the Diet since medieval times, the Swedish case proves a unique opportunity to analyse the institution of agrarian service and compulsory service from the perspective of the masters. Seen from this perspective, the view of farmers as 'the people' in opposition to lords or people of rank hides another dimension of power. It was power derived from landholding that peasant farmers exercised both as employers and as makers of the laws that obliged landless people to enter into their service. Since the category of employers was broader than the group of landed peasant farmers represented in the Diet, but all masters were subject to the same legal framework and shared a common interest as masters, a study of the arguments that MPs used concerning servants' labour and labour laws makes it possible to reveal a new picture of the diverse social structure of the peasantry, and gain an understanding of the forces that shaped pre-industrial conceptions of labour.

[2] Nils Wohlin, *Emigrationsutredningen. Bil. 9. Den jordbruksidkande befolkningen i Sverige 1751–1900 [The investigation of emigration. Suppl. 9. The farming population of Sweden 1751–1900]* (Stockholm, 1909), pp. 48–9; Börje Harnesk, *Legofolk: drängar, pigor och bönder i 1700- och 1800-talens Sverige [Farm servants and peasants in 18th and 19th century Sweden]* (Umeå Studies in the Humanities, 96, 1990), p. 217; Christer Lundh, 'Life-cycle servants in nineteenth-century Sweden: norms and practice', in A. Fauve-Chamoux (ed.), *Domestic service and the formation of European identity. Understanding the globalization of domestic work, 16th–21st centuries* (2004), pp. 71–85; Jonas Lindström, *Distribution and differences: stratification and the system of reproduction in a Swedish peasant community, 1620–1820* (Studia Historica Upsaliensia 235, 2008), pp. 53, 108.

[3] Hanne Østhus, *Contested authority. Master and servant in Copenhagen and Christiania, 1750–1850* (European Univ. Institute, 2013); Vilhelm Vilhelmsson, Sjálfstætt fólk. *Vistarband og Íslenskt samfélag á 19. öld. [Independent people: labour bondage and Icelandic society in the 19th century]* (Reykjavík, 2017); Jane Whittle, 'Introduction. Servants in the economy and society of rural Europe', in J. Whittle (ed.), *Servants in rural Europe 1400–1900* (2017), pp. 1–18; Carolina Uppenberg, 'The servant institution during the Swedish agrarian revolution: the political economy of subservience', in Whittle (ed.), *Servants in rural Europe*, pp. 167–82.

I

The main objective for studying peasant farmers as political actors in the light of their relation to servants, is that this role has been veiled in the historiography of the rural servant. I trace this historiography to two strands of research: an analysis of peasant farmers as 'the people' in opposition to lords; and the dominant perspective of the life-cycle servant in family history.

Even in Marxist historiography, otherwise so concerned with the position of employed workers, the employment relationship between rural servants and their peasant farmer employers is often overlooked in the broader analysis of peasants locked in a struggle over the surplus against large landowners and other lords. The theoretical standpoint that peasants and lords are opposing social classes makes any analysis of class differences within the peasant class difficult.[4] Peasant farmers have also been studied in their role as the lowest estate, struggling against the powers of the other estates and the Crown.[5] Some scholars have connected Swedish peasant farmers' early political representation to the development of Swedish equality during the twentieth century, although these far-reaching effects have been denied by others.[6] In this article, I study peasant farmers from a new perspective in agrarian historiography, by focusing on their power over the landless and the laws that regulated them, which leads to a more diversified and partly antagonistic view of the rural population.

In family history, the employer-employee relation between peasant farmers and servants is disguised due to the dominant concept of the *life-cycle servant*, coined by Peter Laslett in the 1960s.[7] As part of the European marriage pattern, the life-cycle servant took up the position of servant in adolescence and remained so until marriage and the formation of a new household based on a nuclear family in his or her late 20s or early 30s. This pattern served several objectives: the servant eased the burden of provision in the family of origin and contributed to the workforce of a neighbouring nuclear household, while he or she also got the chance

[4] Aston and Philpin, *Brenner debate*. For a critique, see Jane Whittle, *The development of agrarian capitalism: land and labour in Norfolk, 1440–1580* (2000), p. 25.

[5] Kalle Bäck, *Bondeopposition och bondeinflytande under frihetstiden: centralmakten och östgötabönder-nas reaktioner i näringspolitiska frågor [Peasant opposition and the influence of peasants during the 'age of freedom': the central authorities and the reactions of the peasants of the peasants of Östergötland in questions pertaining to economic policy]* (Stockholm, 1984); Christensen, *Peasants and lords*; Joakim Scherp, *De ofrälse och makten: en institutionell studie av riksdagen och de ofrälse ståndens politik i maktdelningsfrågor 1660–1682 [Commoner estates and power. An institutional study of the Riksdag and the commoner estates' policy regarding power-sharing 1660–1682]* (Stockholm Studies in Hist., 96, 2013); Martin Almbjär, *The voice of the people? Supplications submitted to the Swedish Diet in the Age of liberty, 1719–1772* (Historical Studies: Reports from Umeå Univ., 13, 2016).

[6] Eva Österberg, 'Compromise instead of conflict? Patterns of contact between local peasant communities and the early modern state: Sweden in the sixteenth to eigtheenth centuries', in Lundahl and Svensson (eds), *Agrarian society in history*; Bo Stråth, 'The cultural construction of equality in Norden', in S. K. N. Bendixsen, M. B. Bringslid, and H. Vike (eds), *Egalitarianism in Scandinavia: historical and contemporary approaches* (2018), pp. 47–64. For a critique, see Börje Harnesk, 'Den svenska modellens tidigmoderna rötter? [Early modern roots of the Swedish model?]', *Historisk tidskrift* 122 (2002), pp. 78–90; Erik Bengtsson, 'The Swedish sonderweg in question: democratization and inequality in comparative perspective, c. 1750–1920', *Past and Present* 244 (2019).

[7] Peter Laslett, *The world we have lost* (1965).

to acquire skills, broaden his or her network, and earn a little.[8] The life-cycle perspective is a valuable tool for understanding the demographic pattern of servants. However, it has also coloured analyses of the relation between masters and servants, by focusing on the reciprocity of the relation and regarding masters and servants as part of the same class.[9] One aspect that has received less attention is the role of labour laws and the Servant Acts in shaping the position of the servant.

In order to understand the social groups in agrarian society, one of the most obvious links between them needs further analysis – that masters paid servants to work in their households. Although this does not question the life-cycle perspective as a demographic pattern, it has implications for interpretations focusing on reciprocity. The aim of this study is to understand peasant farmers in a new perspective by studying their role as lawmakers and masters of servants, and analysing their attitudes to labour and objectives for compulsion in the labour laws.

II

The proposals, minutes, and discussions from the Diet of the four estates are consistently well kept and organized, and have recently been digitized.[10] Since landless groups were not represented in the Diet, this source is seldom used to study them. But as argued above, peasant farmers were both employers and lawmakers, which makes their arguments especially interesting when studying their relation to and understanding of the unrepresented groups.

This study covers the debates before and after the last Servant Act was issued in 1833, up until the beating of adult servants was prohibited in 1858. Thus the debates will reveal peasant farmers' positions during a period in which the freedom of labour was gaining ground. The Diet held their meetings irregularly and for up to three years in succession. The Diet gatherings studied here were held in 1823, 1828–30, 1834–35, 1840–41, 1844–45, 1847–48, 1850–51, 1853–54, 1856–58, 1859–60, and 1862–63.

The peasant farmer MPs were elected by and from among the farmers in each hundred (administrative region), which meant that more than 300 representatives could be elected, but since the local communities had to pay the MPs' expenses, most of the parliamentarians represented more than one hundred.[11] The estate was careful to distinguish itself – to maintain its purity – from both the lower ranks of society and from people of rank, such as people from higher estates who owned and leased farms, or state officials. Although the estate did include both freeholders and Crown tenants, as well as manorial tenants after 1834, in practice the MPs were almost exclusively freeholders. Moreover, they were significantly wealthier than their electorate, and this became especially pronounced after the introduction of the

[8] John Hajnal, 'European marriage patterns in perspective', in D. V. Glass and D. E. C. Eversley (eds), *Population in history: essays in historical demography* (1965), pp. 101–43.

[9] Martin Dribe and Christer Lundh, 'People on the move: determinants of servant migration in nineteenth-century Sweden', *Continuity and Change* 20 (2005), pp. 55–56; Carl-Johan Gadd and Hans Christian Johansen, 'Scandinavia, 1750–2000', in E. Vanhaute, I. Devos, and T. Lambrecht (eds), *Making a living: family, income and labour (*2011), p. 307.

[10] Available at: riksdagstryck.kb.se/.

[11] Christensen, *Lords and peasants*, pp. 106–12.

two-chamber parliament in 1867.[12] Crofters were not included in the peasant farmer estate, but as a semi-landless group subject to day labour obligations, they had a need for additional labour and did employ servants. As will be shown, this created a tension in the peasant farmer MPs' handling of the Servant Acts.

The relationship between the King and the Diet varied over time. The period between 1809, when a new constitution was implemented and the Diet gained more power, until the Diet of the four estates was replaced by a two-chamber parliament in 1867, has been described as 'the great age of the peasants', thanks to the increased opportunities for peasant farmers to buy land, and changes in political representation which meant that the political power of the peasant farmer estate in the Diet was brought closer to that of the other estates.[13] This essentially meant an increase in both the relative number and political power of freeholders, at the expense of tenants, crofters and the landless. It was also a period in which the peasant farmer estate took a stand on an increasing number of political issues, and when liberal ideas started to create new conflicts, not only between but also within the estates.[14]

The number of people not represented in any estate increased tremendously from the mid-eighteenth century to the mid-nineteenth century. While the number of peasant farmers' households only increased from 187,000 in 1751 to 207,000 in 1850, crofters, cottagers, lodgers, and married servants (*statare)* increased from 48,000 households to 203,000 during this period.[15] This proletarianization process and increased class division from the mid-eighteenth century to the mid-nineteenth century changed the future prospects of children of peasant farmers as well as servants and the poorer strata of the rural population.

I have analysed all material emanating from the peasant farmer estate concerning: servant; servant act; master; beating of servants; compulsory service; vagrants and vagrancy.[16] The debates analysed here, i.e. compulsory service, hiring date, treatment of sick servants, and beating of servants, were the most widely debated issues during the period, although the debates sometimes touched on a few more practical issues. My main interest in this analysis is what the MPs' arguments reveal about their position and understanding of their relation to servants and servants' labour, while less attention is given to the political games of possible coalitions and the political acumen of individual MPs.

Proposals were discussed in each of the estates separately, and thereafter by elected representatives from each of the estates in the relevant committee. The committee agreed on a report, which was then referred back to the estates for a voting procedure. Most often, questions were resolved by acclamation, but if not, a simple majority was enough to get the proposal through each estate. The number of votes was only occasionally reported, and no lists of how individual

[12] Jan Christensen, 'Radikalism som strategi. Bondepolitik vid 1800-talets mitt [Radicalism as strategy. Peasant politics in the middle of the nineteenth century]', *Historisk tidskrift* 126 (2006), pp. 727–47; Erik Bengtsson and Mats Olsson, 'Peasant aristocrats? Wealth, social status and the politics of Swedish farmer parliamentarians 1769–1895', *Scand. J. Hist.* (2020).

[13] Winberg, 'Another route', p. 52.

[14] Christensen, *Peasants and lords,* pp. 3–4.

[15] Janken Myrdal and Mats Morell (eds), *The agrarian history of Sweden: from 4000 BC to 2000 AD* (Lund, 2011), pp. 285–86.

[16] For *laga försvar,* vagrants and vagrancy, only proposals and debates directly referring to servants have been included. Terms in Swedish: tjenstehjon, legostadga, husbonde, husaga, laga försvar, försvarslöse, lösdrifveri.

MPs voted exist in the material. In order to get a proposal through the Diet, approval was needed from three of the four estates. Even if all four estates agreed, the King in Council had the final say and did not always follow the Diet, although the King increasingly did so during the period studied here.[17]

III

The analysis is based on debates regarding the Servant Acts, and the four different subjects that these debates centred on all relate to attitudes towards servants and labour in general. The most fundamental is the debate about the first paragraph of the Acts concerning compulsory service, since it deals explicitly with the question of freedom of labour. The following three debates deal with more detailed regulations, but still reveal attitudes towards labour.

The free use of labour

The development of free wage labour has been scrutinized in studies concerning 'free/unfree labour', which show empirically the many possible combinations of free and unfree labour, and the theoretical caution needed when telling the history of free labour.[18] Robert J. Steinfeld goes to lengths to show how pre-modern society drew the line between the legitimate rules of free labour and the illegitimate constraints of unfree labour in a different way than is done today, and he centres his discussion on the legal framework. The main historical change behind this was, according to Steinfeld, between seeing labour as 'a resource of the community' and 'a particular legal construction of the idea that individuals owned themselves and were free to dispose of their energies in the marketplace'.[19] The struggle between those views is clearly visible in the debates in the peasant farmer estate in the Diet.

The Servant Acts regulated the labour market through the principle of *laga försvar* (literally 'legal/orderly protection', hereafter referred to as 'legal protection'), which meant compulsory year-long service for landless people who were not soldiers nor held positions as artisans. The idea behind this regulation was that casual work should be discouraged and that everyone should belong to a household. The households that could offer legal protection – those that were eligible to employ servants – should have a landholding or some kind of business and be in need of the servant's labour. An important dividing line was thus drawn between those who had access to land and the landless, and the latter were obliged to be employed by the former. The fact that crofters acted as employers but were not represented in parliament, opens up for a more divergent social structure than simply 'lords and peasants'.

It was not until the last Servant Act was passed in 1833 that it became acceptable to provide for oneself through casual labour. From then on, as long as one could show an honest occupation, one was free to choose between a year-long contract of service under the Servant Act and a

[17] Christensen, *Peasants and lords,* pp. 103–6.

[18] Robert J. Steinfeld, *The invention of free labor: the employment relation in English and American law and culture, 1350–1870* (1991); Tom Brass, *Towards a comparative political economy of unfree labour. Case studies and debates* (1999); Tom Brass and Marcel van der Linden (eds), *Free and unfree labour. The debate continues* (1997); Robert J. Steinfeld, *Coercion, contract, and free labor in the nineteenth century* (2001); Ulbe Bosma, 'Slavery and labour contracts: rethinking their nexus', *International Rev. Social Hist.* 63 (2018), pp. 503–20.

[19] Steinfeld, *Invention of free labor,* p. 5.

contract regulating labour for shorter periods of time.[20] During the mid-nineteenth century, opportunities for alternative occupations also increased due to a more diversified economic structure and legal changes, such as the replacement of the guild system with freedom of trade in 1846 and 1864.[21] But the law still stated that every person needed legal protection, and this was not changed until 1885 when vagrancy became more of a social and moral category rather than merely the flipside of the labour laws. During the 1830s and 1840s, vagrancy laws continually strove to distinguish people who were unable to find employment through no fault of their own from vagrants and criminals.[22]

The proposals and discussions in the Diet in 1823 and 1828–30 may serve as examples of conflicting views regarding for whose sake employment and work should be done. Proposals from the estates included a suggestion from peasant farmer MP Nils Håkansson, of Kristianstad, who wanted to impose restrictions on crofters' rights to employ servants, as well as proposals from representatives from all four estates that advocated harsher control on the mobility of landless groups.[23] Nils Håkansson's proposal specified that crofters with less than a certain amount of arable land should not be allowed to employ servants. He argued that although it was already forbidden to employ servants if their work was not fully needed, he wanted this reinforced in the Servant Act. Simply stated: he wanted the pool of available servants to be reserved for the landed farmers that he represented. This proposal was turned down by the committee, which argued that the problem was already covered by the Act.[24] This decision was also accepted by the peasant farmers without a debate.[25] The committee continued to argue against proposals suggesting harsher terms on mobility by saying that it was 'a firm right to seek one's livelihood by work and industriousness' and that anyone should have the freedom to decide 'the way and the terms for using one's power and capacity for work'.[26] The members of parliament thus had different views on the extent to which labour was a community resource that certain groups had rights to, or the property of the individual worker – but as will become clear when studying the later gatherings of the Diet, the peasant farmers usually leaned towards a position where servants were seen as a community resource.

Nils Håkansson, Kristianstad, made another attempt in 1828, stating that everyone knew about the abuse:

[20] Servant Acts 1664 §1–2; 1686 §1–2; 1723 §1–2; 1739 art. 1 §1–2; 1805 art. 1 §1, art. 2 §1; 1833 art. 1 §1, art. 2 §3. Title and date for Swedish laws: *Kongl. Maj:ts stadga och påbudh, om tienstefolck och legohjon. 30 Aug. 1664; Kongl. Maj:ts stadga och förordning, angående tienstefolck och legohjon […]. 23 Nov. 1686; Kongl. Maj:ts förnyade stadga och förordning angående tienstefolck och legohjon. 6 Aug. 1723; Kongl. Maj:ts förnyade stadga och förordning angående tienstefolck och legohjon. 21 Aug. 1739; Kongl. Maj:ts nådiga legostadga för husbönder och tjenstehjon. 15 May 1805; Kongl. Maj:ts förnyade nådiga lego-stadga för husbönder och tjenstehjon. 23 Nov. 1833.*

[21] Lars Magnusson, *An economic history of Sweden* (2000), pp. 52–56, 71–72.

[22] For a comprehensive study of vagrancy in Sweden, see Theresa Johnsson, *Vårt fredliga samhälle: 'lösdriveri' och försvarslöshet i Sverige under 1830-talet [Our peaceful society: 'vagrancy' in Sweden during the 1830s]* (Studia Historica Upsaliensia, 254, 2016).

[23] 1823 Bd [Bd is the abbreviation used for *bondeståndet*, the peasant farmer estate] proposal 2:175, Committee proposal 7:83.

[24] 1823 Committee proposal 8:63.

[25] 1823 Bd minutes 3:315.

[26] 'en orubbad rättighet att genom arbete och industri söka sin bärgning' 1823 Committee proposal 7:83; 'sättet och villkoren för användande af deras krafter och arbetsförmåga' 1823 Committee proposal 8:34.

> Crofters, and even cottagers, think that they have the right (as they call it) to offer legal protection to a farmhand, who is a lodger somewhere else and only out of necessity, for an excessive wage, might take the trouble to do some work. The result is obvious! The landed farmer in real need of a servant will have to pay a double wage or … be unable to work his land.[27]

Another peasant farmer MP, Eric Paulsson, of Älvsborg, also stressed how important it was to compel the sons and daughters of crofters, soldiers, and cottagers to leave their parental home and join the pool of available servants.[28] The Servant Acts had always gone to lengths to define all possible groups that were eligible for compulsory service, in order to avoid loopholes. But the Acts had never distinguished between the sons and daughters of freeholders and those of agrarian semi-landless groups such as crofters. In the debate, the peasant farmer MPs were careful not to include their own sons and daughters among those who would be subject to such harsher terms, but expressed a clear view of differing interests between different parts of the peasantry: freeholders, crofters, and servants.

Other opinions were expressed as well. Nils Månsson, of Malmöhus, said in a hearty tone that he could not understand why anyone wanted to impose stricter rules on anyone else: 'I wanted everything to be as free as possible in this world', he said in conclusion to his speech. Månsson opposed the committee proposal, as it harmed 'the natural rights of the serving class'. Månsson's view was however not embraced by the majority of MPs in the peasant farmer estate, and only Månsson and one other MP, Lars Andersson of Skaraborg, registered their reservations in the minutes.[29]

The idea of freedom of work gained more support in the other estates. Since the estate of the burghers and the estate of the nobility had turned the committee proposal down, the matter was resubmitted, even though the peasant farmers and the clergy had accepted it. The burghers on the committee were especially worried over any suggestions that would include apprentices and journeymen in the Servant Act, since they thought that would lead 'better men' to avoiding sending their sons into such positions. However, the committee majority stated that they would not budge an inch: each man should be used in a way that served society at large, and too much freedom of work would only create more vagrants and overcrowded workhouses.[30] In the end, the Servant Act of 1833 did legitimize the right for anyone to support themselves as long as it was honest work, but freedom of work was not commonly accepted and continued to be questioned from the masters' perspective of shaping the labour force.[31]

The question of freedom of work concerning servants continued to be discussed in the Diet even after the last Servant Act was issued in 1833, but less intensively and more related to the matter of how to decrease vagrancy. It is clear that the peasant farmers were not convinced that

[27] 'Torpare, till och med Backstugusittare tilltro sig äga rätt (som de kalla) att förswara en dräng, hwilken inhyses hos någon annan och allenast i nödtwång för en öfwerdrifwen hög dagspenning, kan beqwämas utgöra ett dagswerke. Följden är gifwen! – den af tjenstehjon werkeligen behöfwande Hemmansbrukaren måste antingen betala en dubbel årslön, eller […] wara urståndsatt genom odling förkofra sin jord.' 1828 Bd minutes 3:64.

[28] 1828 Bd minutes 2:411.

[29] 1828 Bd minutes 8:62.

[30] 1828 Committee proposal 7:2 no 71; Servant Act 1833 art. 1 §1.

[31] 1828–30 common reports from the estates no 353.

it was for the common good that potential servants could choose the contract they would work under. In the Diet in 1840–41, peasant farmer MP Peter Gabrielsson, of Kronoberg, wanted harsher punishment for the above-mentioned false registration of servants, because this was used by 'healthy and able-bodied persons, who under the law lack legal protection, but who find it much more convenient, even under scarcity and extreme poverty, to be their own masters, and who live a kind of vagrant life rather than earning their living as proper servants'.[32] The committee stated that this false registration of servants was already prohibited, but they did not want to see harsher rulings since this would 'circumscribe the ways and means for the working class to honestly support themselves, whereas this should rather be facilitated than obstructed.'[33]

During 1847–48, vagrancy laws were discussed in the Diet, and peasant farmer MP Nils Strindlund, of Västernorrland, criticized 'the false liberalism of our time' and wanted any person who lacked legal protection to be allocated to farmers in need of labour.[34] This was massively supported by the estate, but not by the Diet at large.[35] Had this been approved, the compulsory part of the Servant Act would have been more far-reaching than it had ever been, since it would have deprived servants of the right to choose their employer freely. Again in 1859–60 and 1862–63, many of the MPs in the peasant farmer estate showed that they had not embraced the idea of freedom of work.[36]

Peasant farmer MPs were in general not very interested in expanding the freedom of work. One could assume that wealthy farmers would have benefited from using market mechanisms to provide their workforce, rather than legal means to force people into their service. While there were farmers who argued in favour of masters' right to create the workforce they needed, i.e. to employ workers on any kind of contract, the will to order the landless population and ensure masters of their mastery was stronger. Arguing for crofters' decreased power over themselves and their children was clearly a means of distinguishing themselves as employers, in a relationship where they did not see servants as part of their own group, but rather as working hands who should be used as effectively as possible – and to the advantage of the class of landed farmers that they belonged to and represented.

The management of work and the hiring date

The hiring date was the issue related to the Servant Acts that was by far the most debated in the peasant farmer estate during the period concerned. A prominent feature of the servant institution was the year-long service contract, which had one possible hiring date – any servant leaving his or her position before that date could be considered a vagrant. The hiring date was also followed by a few days of freedom, which were intended to be used for the actual process of moving, but since it was the only free week during the year for many young people, it was also a time for feasts and fairs. As such, the hiring date and the following holiday were a subject

[32] 'Friska och arbetsföre personer, som enligt författningarne icke ega eget laga förswar, men som finna det wida beqwämligare att, äfwen under brist och yttersta armod, wara sina egne Herrar, och föra ett slags lösdrifwarelif heldre än att såsom lagstadde Tjenstehjon förtjena sitt bröd' 1840–41 Bd minutes 1:234.

[33] 'inskränka utvägarne för den arbetande classen att kunna sig ärligen försörja, de der snarare böra underlättas än försvåras' 1840–41 committee proposal 7:2 no. 57.

[34] 1847–48 Bd minutes 2:173.

[35] 1847–48 Bd minutes 6:329.

[36] 1859–60 Bd minutes 5:386; 1862–63 Committee proposal 7:2 no. 2, Bd minutes 3:176.

for concern about the threat of disorder. The law concerning the hiring date is easily described: up until 1819, the hiring date was traditionally Michaelmas Day, 29 September, and thereafter it was changed to 24 October.[37]

The debates were intense and engaged many MPs. No other question concerning servants drew such a long list of speakers or such detailed examples of the horrors associated with the wrong hiring date. The most common suggestion was to change the hiring date to Midsummer, close to 20 June, while others wanted it to change back to 29 September, or to March. A few MPs suggested different hiring dates for different regions, two hiring dates every year or – on one occasion – that servants should be allowed to change employer anytime during the year.[38] Proposals to change the hiring date to Midsummer were repeatedly submitted to the Diet, in 1834–35, 1840–41, 1847–48, 1850–51, 1853–54, and 1859–60.[39] However, this did not stop J. G. Dahlgren, of Kalmar, from proposing Midsummer yet again in 1862–63, nor did it stop 27 MPs from taking active part in the discussion.[40] The debates were quite monotonous over the decades, as was acknowledged by some MPs.[41]

An important conclusion from the intensity and longevity of this debate is that the use of a fixed hiring date and a few days off for servants were a lived experience for the peasant farmer MPs. This means that the Servant Act was actively in use, so the hiring date affected the work and lives of masters and servants, in contrast to what some previous research has stated, i.e. that the Servant Act was too detailed and rigid to be followed.[42] Even more significant is that the MPs saw themselves and their voters as employers of servants, not as representatives of servants. This will be more obvious when analysing the arguments used in these debates, in which the MPs' most urgent concern was how to extract as much labour as possible out of the servant class.

The most common argument for having the hiring date around Midsummer was strictly a question of work management. When a new servant arrived in September or October, most of the harvest work had already been done by the former servant, while the new servant had the duty to feed the livestock during winter. This meant that the new servant could not, through his or her hard work, increase the harvest yield, and the former servant had no incentive to work hard during harvest since someone else would take over the results of this work. A similar

[37] Servant Acts 1664 §3; 1686 §3; 1723 §4, 1739 art. 6 §1; 1805 art. 7 §1; 1833 art. 8 §44; *Kongl. Maj:ts nådiga kungörelse angående flyttningstiden för tjenstehjon. 22 Apr. 1819* [Royal decree concerning hiring date for servants]. See also Carolina Uppenberg, *I husbondens bröd och arbete. Kön, makt och kontrakt i det svenska tjänstefolkssystemet 1730–1860 [Servants and masters. Gender, contract, and power relations in the servant institution in Sweden, 1730–1860]* (Gothenburg Studies in Economic Hist., 20, 2018), p. 98, in English p. 276.

[38] Different dates for different regions were suggested by, for example, Carl Johan Leonard Lönnberg, Östergötland (1862–63 Bd minutes 1:195); Paul Hedström, Västernorrland and Pehr Nilsson, Kristianstad (1862–63 Bd minutes 3:176). Two hiring dates every year were suggested by, for example, Anders Andersson, Östergötland (1828–30 Bd minutes 1:172). A free hiring date was suggested by Jöns Rundbäck, Göteborg och Bohus (1862–63 Bd minutes 3:176).

[39] 1834–35 committee proposal 7:2 no 6; 1840–41 committee proposal 7:2 no 11 (this time not proposed by the peasant farmers, but by the nobility and the burghers); 1847–48 Bd minutes 2:515; 1850–51 Bd minutes 1:75, 103; 1853–54 Bd minutes 1:125, 208; 1859–60 Bd minutes 2:508.

[40] 1862–63 Bd minutes 1:195, 156 no 84.

[41] For example Lars Larsson, Älvsborg (1847–48 Bd minutes 2:515); Ingemund Odin, Gotland (1850–51 Bd minutes 1:103); J M Lundahl, Skaraborg (1859–60 Bd minutes 3:89).

[42] Harnesk, *Farm servants and peasants*, pp. 37–38.

argument was that if one servant started the foddering period, he or she would be wasteful with the fodder to the detriment of the new servant who had to make ends meet with what was left. The premise for these arguments was that servants were supposed to have a personal interest in well-fed animals – a premise that was widely shared among the peasant farmer MPs.[43] In fact, no one questioned this premise, but those who spoke against this argument claimed instead that this incentive was insufficient and that servants needed close supervision anyway, both during harvest and during foddering.[44]

Another topic of the debate about Midsummer or September/October as hiring date was the days off associated with changing employer. Since these days were given to servants to complete the moving process, employers could not legitimately argue against it, but as employers, they wanted to keep this time to a minimum. Those in favour of Midsummer as the hiring date argued that since summer time gave more hours of daylight, servants needed fewer days off in order to undertake their move. An additional argument was that travelling the roads was easier and quicker during summer than during the rainy and muddy season of October.[45] Those who preferred October as hiring date said that it was reckless to give servants days off during summer, since it was the season with the longest work days. If a farmer needed to hire casual workers during the servants' days off, they would have to pay them more.[46] Some also said that they preferred Midsummer as the hiring date since the mild and gentle climate would mean servants were in a merrier mood and thus worked harder, while opponents saw the good weather and long days as a risk that servants would be lured into casual work.[47]

The most common argument against having the hiring date around Midsummer was also connected to labour force management. Nils Månsson, of Malmöhus, stated that if servants were released during summer, they 'would not give a thought to winter but rather than go into year-long service, try to get casual work with high wages during summer, creating rising costs and great damage to the farmer'.[48] It was perceived as easier to contract and keep

[43] This argument was openly supported or mentioned 1828–30 by: Anders Andersson, Skaraborg (Bd minutes 1:171), Jan Eric Jansson, Värmland (Bd minutes 1:167), Anders Andersson, Östergötland (Bd minutes 1:172), Eric Paulsson, Älvsborg (Bd minutes 1:173), Olof Nilsson, Värmland, and Anders Pehrsson, Östergötland (Bd minutes 1:179), Andreas Hansson, Älvsborg (Bd minutes 1:180); 1850–51 by: Carl Olsson, Södermanland, and Anders Andersson, Skaraborg (Bd minutes 1:103); 1853–54 by: deputy speaker Swartling (Bd minutes 1:125); 1859–60 by: Nils Fredrik Andersson, Östergötland (Bd minutes 2:508); 1862–63 by: J. G. Dahlgren, Kalmar (Bd minutes no 84). See also Uppenberg, *Servants and masters,* pp. 218–23.

[44] 1828–30 by: deputy speaker Jon Jonsson (Bd minutes 1:176), Olof Pehrsson, Stockholm (Bd minutes 1:177), Eric Andersson, Västmanland (Bd minutes 1:177), 1847–48 by: Lars Larsson, Älvsborg (Bd minutes 2:515).

[45] 1828–30: Eric Paulsson, Älvsborg (Bd minutes 1:173-6), deputy speaker Jon Jonsson (Bd minutes 1:180), 1850–51 Bd minutes 1:103 (Carl Olsson, Södermanland).

[46] 1828–30 by Johan Andersson, Uppsala (Bd minutes 1:528-31), Nils Håkansson, Kronoberg (Bd minutes 1:532-4), 1847–48 by: former Speaker Anders Eriksson, deputy speaker Nils Persson and others (Bd minutes 2:515), 1853–54 by: Johan Lekberg, Örebro, Matts Pehrsson, Stockholm, Ola Svensson, Malmöhus, Mauritz Sahlén, Västernorrland (Bd minutes 1:151), 1859–60 by: Nils Fredrik Andersson, Östergötland (Bd minutes 2:508), 1862–63 by: Erik Ersson, Gävleborg (Bd minutes 1:195).

[47] 1828–30 by: Anders Hansson, Älvsborg (Bd minutes 1:513-4), 1847–48 by: Anders Andersson, Skaraborg (Bd minutes 2:515).

[48] 'tjenstehjonen då skulle icke tänka på wintern, samt heldre än att taga årstjenst, under sommaren låta lega sig till dagswerken för dryg betalning, till både ökad utgift och stor skada för landtbrukaren' 1828–30 Bd minutes 1:177. Those who openly expressed consent with Månsson and Jon Jonsson were: Eric Pehrsson Gävleborg, Pehr Pehrsson Örebro, Olof Olsson Värmland,

servants in their year-long contracts in October, when winter was at hand, the climate was unpleasant, and the wages were low for casual work, which made it a less attractive alternative for servants.[49]

If one group owns land and the means of production, and needs people to work on the land, it is in their interest to make these people work as hard and for as long as possible. It is clear from the debates concerning hiring date that this was the interest that the peasant farmer MPs represented. Previous research has sometimes understood the peasant farmers as non-ideological and penny-pinching, as they wanted public expenditure to be kept as low as possible since they were the main contributors.[50] But in my analysis, peasant farmers are seen as an interest group in relationship to the lower strata of the rural society, which makes their penny-pinching behaviour ideological in another way: that the peasant farmers in the Diet understood themselves as employers.

Payment for sick servants

The Servant Acts stipulated masters' responsibility for their servants round the clock, including supervising their behaviour, feeding and lodging them properly, and caring for them in case of sickness. Previous research emphasizing reciprocity in the master-servant relation has pointed to this responsibility for care as a defining element.[51] However, there is a lack of studies that have analysed the extent to which servants who were ill were actually cared for by their masters.[52] In this section, I explore how peasant farmer MPs understood this responsibility.

In the Acts, this responsibility shifted back and forth. The Act of 1739 stated the responsibility rather straightforwardly: masters had to care for a servant if he or she fell ill, but could, if preferred, deduct the cost of a doctor and medication used in treatment from the servant's wages.[53] In the Act issued in 1805 the same wording was used, but it was clarified that if a servant fell ill or was injured during his or her work and in a way that was not caused by the servant him/herself, the master should not deduct the cost of a doctor and medication from wages.[54] In the last Servant Act, issued in 1833, this was changed once again, back to the wording of the 1739 Act, i.e. nothing was mentioned about how the injury had happened.[55] The word describing the duty of the master to care for a sick servant was

Note 48 *continued*
Lars Ericsson Gävleborg, Börje Börjesson Halland, Andreas Håkansson Älvsborg, Jan Andersson Uppsala, Samuel Jönsson and Pehr Jönsson Öland, Olof Månsson Blekinge, Bengt Nilsson Örebro, PehrBurge Gotland, Johannes Svensson Jönköping, Anders Nilsson Tottarp and Anders Nilsson i Isii Malmöhus, Anders Andersson Västmanland (Bd minutes 1:178), as well as in 1853–54 by Johan Lekberg, Örebro (Bd minutes 1:151).

[49] 1828–30 by deputy speaker Jon Jonsson (Bd minutes 1:180), 1850–51 by Pehr Hansson, Värmland, Johan Lekberg, Örebro (Bd minutes 1:103), 1853–54 by: Pehr Erik Andersson, Västmanland, Petter Jönsson, Jönköping, Georg Nyqvist, Värmland (Bd minutes 1:151), 1862–63 by many speakers (Bd minutes 1:195).

[50] Bäck, *Peasant opposition*; Christensen, *Peasants and lords*.

[51] Christer Lundh, *Spelets regler. Institutioner och lönebildning på den svenska arbetsmarknaden 1850–2010* [*The rules of the game. Institutions and wage setting in the Swedish labour market 1850–2010*] (Stockholm, 2010), p. 53.

[52] For examples of masters not treating sick servants, see Cristina Prytz, 'Life-cycle servants and servant for life: work and prospects in rural Sweden c.1670–1730', in Whittle (ed.), *Servants in rural Europe,* pp. 95–111; Uppenberg, *Servants and masters,* pp. 197–202.

[53] Servant Act 1739 art. 7 §11.

[54] Servant Act 1805 art. 2 §4.

[55] Servant Act 1833 art. 2 §6.

not 'must' (Sw. *skall*), but 'ought to' (Sw. *bör*) but the reason for giving this duty a separate paragraph in the Acts ever since 1723 was of course that it must be followed, and this was how the peasant farmer MPs understood the paragraph.

As one can imagine, this responsibility could potentially be rather expensive. The only way for masters to get compensation, even for a lengthy loss of labour, was the right to reduce the servant's wages by the amount spent on a doctor and medication. However, if this cost exceeded wages, the servant would effectively be indebted to the master. The Act did not address this, as it did not distinguish between the cost of treatment and the value of labour lost due to sickness. In 1834, one peasant farmer MP, Johan Eriksson, of Stora Kopparberg, put forward a proposal to the Diet to clarify this issue and address the loss of labour.[56] Another peasant farmer MP, Olof Olsson, of Östergötland, thought that the Act was clear: wages could only be reduced if money had been spent on the treatment of the servant, not for loss of his or her working time. And since the Act issued in 1833 had been more restrictive of servants' rights because it did not guarantee that servants would be treated at the master's expense even if injury had happened in his or her work, as in the Act issued in 1805, it was fair to allow a deduction only if the duration of their infirmity had exceeded one and a half months. Olof Olsson thus proposed what he saw as a compromise: if a servant had been sick and unable to work for more than a month, then masters could reduce their wage.[57]

The committee accepted the proposal of Johan Eriksson, and suggested a new wording as follows. Masters should be allowed to deduct wages both for doctors and medication, and for the period when a servant was unable to work. However, this sum must not exceed the wage for the period of sickness. In this way the committee tried to balance the need to show kindness to servants who were thought to be impecunious, and to show understanding of the master's position, which actually could be even worse than the servant's, concerning their financial solvency.[58] This proposal was accepted by the estate of the peasant farmers, but rejected by the three other estates. The other estates had two reasons for their rejection: the vulnerable position of the servant, and the vulnerable position of the master. It was only the latter concern that the committee incorporated in its new report. The new suggested wording was thus that the master could deduct wages for expenses for doctors and medication as well as for the time period that the servant had been unable to work.[59] When this new report reached the peasant farmer estate, the division in the estate was made clear.

The question of who would pay when a servant is injured or sick reveals a clear conflict, and the incentives for the different parties were discussed openly in the estate of the peasant farmers as well as in the committee that handled the proposals. It is important to bear in mind that the cash wage constituted a very small part of the remuneration that servants were eligible for, the lion's share of the cost of employing a servant was food, lodging and clothing. This means that the cost of a doctor and medication could easily exceed what the servant should have earned as a cash wage during his or her period of sickness. If this was the case, the master would suffer a financial loss by paying for the treatment of his non-working servant. Some contributors to the debate feared that this would lead masters to neglect the treatment

[56] 1834–35 Bd proposal 2:282.
[57] 1834–35 Bd minutes 3:627.
[58] 1834–35 committee report 7:2 no 6.
[59] 1834–35 committee report 7:2 no 35.

of servants. On the other hand, if the full costs of a doctor, medication, and the cash wage were deducted from the servant's small wage, the servant could then be indebted to his or her master for having fallen sick during his or her period of service. This was not acceptable according to some others. The matter provoked quite a debate, and the estate of the peasant farmers was divided. The decision centred on whether the estate should stick with the former, more servant-friendly report (no. 6), or vote for the new, more master-friendly report (no. 35), which allowed masters to deduct wages and all costs.

Nils Månsson, of Malmöhus, the same MP who argued for freedom of work in the Diet in 1828–30, spoke in favour of the servant-friendly report and clarified what was at stake: in this report, the deduction could not exceed the wage set for the time period when the servant was injured or sick; but in the master-friendly report, the committee has loosened this restriction and allowed wages to be deducted for the whole working year, which would mean 'unreasonable distress for the poor servant'. However, six of Månsson's fellow MPs raised their voices to speak against his arguments, while others tried to show their mildness by referring to crofters and other poor farmers in need of servants. They also pointed to the risk that masters would neglect to care for their sick servants if the wording in the former report gained ground, because it concerned 'as one says, his own skin'. The estate of the peasant farmers accepted the new, harsher report (no. 35) with acclamation.[60]

After other estates had turned down the proposal, the decision had to be settled by voting in the peasant farmer estate, which turned out very even: 40 votes for the more master-friendly report (rejected by the three other estates) and 39 votes for the more servant-friendly report. Nils Månsson registered his dissent by saying that this opened up a possibility of ruining a servant completely and that a harsh master could make his servant a slave for ten years. Others registered their dissent as well, but some of them did so because they thought this question could be resolved by master and servant between themselves without the interference of the law.[61] In the end, no suggestion to change the paragraph was made from the Diet, since the estates could not agree.[62]

The declining acceptability of beating servants

While surprisingly little is known about how servants were actually treated when they were sick, the legislation has been understood as part of a reciprocal relation. With the cost posed mainly as a problem for poorer masters, such as crofters, the majority of peasant farmer MPs used the divisions in the peasantry to promote their own economic interest. From the arguments that took place in the peasant farmer estate it is quite clear that the farmers perceived servants as a labour force that came with a cost – a cost that needed to be kept as low as possible. The way that the peasant farmer MPs understood the responsibility for treatment in case of sickness is thus in conflict with the reciprocal relationship.

[60] 'ett obilligt lidande för arma tjenaren' 1834–35 Bd minutes 9:170. Speakers against Nils Månsson, Malmöhus were: Johan Eriksson, Stora Kopparberg, deputy speaker Jon Jonsson, Lars Larsson, Älvsborg, Johannes Svensson, Stockholm, Petter Jönsson, Jönköping, and Nils Strindlund, Västernorrland, from which the quotation is taken ('då det, som man säger, gäller hans eget skinn').

[61] 1834–35 Bd minutes 10:78.

[62] 1834–35 committee report 7:2 no 57, Bd minutes 11:87.

The right – and the duty – to chastise misbehaving servants was an integral part of the relation between masters and servants and was regulated in the Servant Acts. In the minds of the lawmakers, masters needed this ultimate deterrent in order to manage their servants. Since it was very difficult to dismiss servants in advance, and they could be accused of vagrancy if they were out of work in the middle of the working year, misbehaving servants needed to be managed rather than dismissed. This meant that when the beating of adult servants was abolished, it also needed a change in the labour contract that made it easier to end the contract. As such it was an important example of the new kind of labour contract: non-pecuniary – violent – means of compulsion were replaced by pecuniary methods of compelling labour.[63]

The discussion about the right to chastise servants was intense in the Diet for ten years, from 1848 until the decision to prohibit beating of male servants older than 18 years and female servants older than 16 years was issued in 1858.[64] There were proposals concerning chastisement earlier than 1848 as well, especially in discussions about apprentices, but the question did not arouse much debate before the Diet held in 1847–48.[65] These debates have been studied previously, but the outcome has generally been seen as an unavoidable effect of time.[66]

In this section, I study the peasant farmer MPs' argument in an effort to explain their change of mind as a reflection of their understanding of servants' position and labour. To the Diet held in 1847–48, peasant farmer MP Gustaf Glad, of Västerbotten, wrote a proposal suggesting that chastisement should be prohibited. He mentioned how corporal punishment of soldiers had been abolished and saw this as a step towards a time more characterized as 'loving of humanity'. He had no argument in principle against the beating of servants, but instead objected to its abuse. If all masters were good, Glad wrote, then it would not matter if beating was accepted in law or not, but as some masters used beating excessively, he wanted it abolished altogether.[67] The famous publicist Lars Hjerta from the estate of the nobility presented another proposal to this Diet to abolish chastisement, in which he understood the relationship between master and servant as one between equals, and as such, physical violence could not be accepted. The committee rejected the proposals.[68] This provoked no debate in the peasant farmer estate, but was accepted.[69]

On the next occasion, in the Diet of 1850–51, MPs from the estate of the nobility and the estate of the burghers had proposed prohibiting the beating of servants, which again was turned down by the committee. The committee argued that although the servant contract was drawn up between free parties, a peculiarity of the servant contract was that the servant was part of the family in which he or she served. Therefore, they argued, the right to chastise did

[63] Servant Act 1664 §5; 1686 §5; 1723 §6; 1739 art. 7 §1; 1805 art. 2 §3; 1833 art. 2 §5. Cf. Steinfeld, *Invention of free labor*, pp. 152–53.

[64] Servant Act 1833 art. 2 §5, *Kongl. Maj:ts nådiga kungörelse, angående […] ändring af 5, 9 och 10 §§ i legostadgan 1833. 1 Oct. 1858 [Royal decree concerning changes in §§5, 9 and 10 of the Servant Act 1833].*

[65] For example 1823 7 no 253; 1828–30 7:2 no 54.

[66] Hilding Pleijel, *Hustavlans värld: kyrkligt folkliv i äldre tiders Sverige [The world of the Lutheran household codes]* (Stockholm, 1970), pp. 66–83; Christensen, *Peasants and lords,* pp. 283–288.

[67] 1847–48 Bd minutes 2:409.

[68] 1847–48 Ad committee proposal 7:2 no. 2.

[69] 1847–48 Bd minutes 4:452.

not emanate from the contract, but from the parental power. As such, beating was not used to humiliate the servant, as was the case when corporal punishment was used against criminals.[70] One can of course wonder if servants agreed that being beaten was not humiliating.

The first time this committee proposal reached the peasant farmer estate, the estate accepted that chastisement should not be abolished without a debate, but four MPs registered their dissent.[71] However, since the burghers did not accept the rejection by the committee, the matter was resubmitted for consideration by all the estates. This time, peasant farmer MP Pehr Sahlström, of Stockholm, challenged the argument used by the committee, that servants were part of the family and therefore were not humiliated by chastisement. Sahlström presented a somewhat peculiar argument, saying that he did not accept the view that servants were part of the family, but, he said, this had been the case in the past and luckily still was the case in the peasantry. He defined this relationship as servants and masters sharing 'table, dwelling, and labour'. But as this was not the case in the other classes, and since those would not use chastisement against 'their families' real members', he wanted the beating of servants to be prohibited. Sahlström's arguments were supported by seven peasant farmer MPs together with unnamed others.[72]

What Sahlström did in his argument is interesting and points to the standing that would later lead the peasant farmer estate to advocate the abolishment of beating of servants. He shifted the problematic areas of relations between masters and servants to other classes or estates, and in doing so presented the peasant farmer as a better master. He also relocated the view of the servant as part of the family to the past, and at the same time to the peasantry – making the peasant farmer a more appropriate and more natural master of servants, without associating the peasant farmer class with the servant class.

In the Diet of 1853–54, the arguments relating the abuse of beating to other groups was also used by peasant farmer MP Johan Johansson, of Örebro. He proposed the abolition of chastisement with an argument that had the advantage of shifting the blame for cruelty and inappropriate behaviour to masters who were outside the peasant farmer group, i.e. that inspectors and foremen were the main abusers of the right to chastise servants. The rightful use of chastisement was thought to be the controlled, reformative beating that was not administered in the heat of the moment. Johansson admitted that: 'since we are all poor men, we happen often to use our rights as masters to beat in anger; but to let ignorant and stuck-up foremen, using patriarchal authority, cruelly batter co-servants must arouse indignation enough to be willing to curb this abuse'.[73] Although the peasant farmer MPs could not agree concerning chastisement as such, they definitely could agree on the manners of such foremen.[74]

[70] 1850–51 committee proposal 7:2 no 31.

[71] 1850–51 Bd minutes 6:283. The four MPs registering their dissent were Pehr Östman, David Andersson, Bengt Gudmundsson and Falk, all four from Skaraborg.

[72] 1850–51 Bd minutes 6:285. Quotations in Swedish: 'bord, boning och möda'; 'familjens verkliga medlemmar'. Support was given by Svartling and Anders Gustafsson, Östergötland, Peter Mårtensson and Peter Petersson, Jönköping, Berg and Falk, Skaraborg, Pehr Hansson, Värmland and others.

[73] 'Svaga äro vi alla och kunna ofta med husbonderätt aga i vredesmod; men att tillåta okunniga och uppblåsta tillsyningsmän, med paternell myndighet, grymt misshandla medtjenare måste väcka en ovilja, tillräcklig för att hämma dessa missbruk.' 1853–54 Bd minutes 1:99.

[74] 1853–54 Bd minutes 1:183.

The MPs thus transferred the cruelty of beating not to their equals, who they assumed were most often sensible heads of households, but to foremen – assumed to belong to another class, to the class of servants, and therefore they were coarse and without the necessary authority. This was also a conflict over power derived from access to land, which real masters had, and power derived from simply doing one's job, as foremen.

In the last Diet discussing this question, 1856–58, MP Johan Johansson, of Örebro, once again proposed the prohibition of beating. Johansson admitted that the servant contract in some ways appeared similar to a familial relationship, but if so, beating of adult servants should not be allowed, since fathers and mothers did not beat their grown-up children.[75] That children needed some level of corporal punishment in order to grow up into well-behaved men and women was not questioned by anyone in the debate.

It was the aforementioned Hjerta who suggested that beating should be allowed only for male servants under the age of 18 years and female servants under the age of 16 years. However, the committee still thought that due to the patriarchal relation between master and servant, the household head should have the right to use the same means as against his other dependants: children and wife. Furthermore, the committee pointed to the problem of the demand for year-long service: if the master did not have the right to dismiss a misbehaving servant, he needed the power of chastisement if no other means had helped. The proposals were turned down, but many members registered their dissent, among them four peasant farmer MPs.[76]

When the decision from the committee was debated in the peasant farmer estate, the tone was totally different compared to earlier discussions. This time, the majority of the members of the estate spoke against the beating of servants.[77] Many speakers expressed their astonishment that not every member of parliament strongly opposed the beating of servants, and their relief over being part of the progressive estate that clearly dissociated itself from such practices. Many speakers also expressed their absolute conviction that chastisement of servants did not take place in the peasantry; it could only be possible in the higher ranks of society. It has even been assumed that chastisement was unusual in the peasantry because of the arguments used by the peasant farmer MPs in the 1856–1858 Diet, however this seems to be a rash conclusion in the light of the preceding gatherings of the Diet.[78]

Nils Olsson, of Malmöhus, also declared how he perceived his role as lawmaker in relation to servants: 'It must be our duty as lawmakers to give the unrepresented working class its civil rights; then this class would be more willing to fulfil its moral obligations, i.e., faithfully fulfil its undertakings'.[79] This quotation summarizes the standpoint of the peasant farmers in the estate: they perceived themselves and their voters as masters, not as fathers of servants, nor as foremen or book-keepers. They associated cruelty and abuse with the higher estates and with foremen, which made the masters of the peasant farmer estate the better masters. But

[75] 1856–58 Bd minutes 2:314.
[76] 1856–58 committee proposal 7:2 no 42.
[77] 1856–58 Bd minutes 2:416.
[78] Harnesk, *Farm servants and peasants*, pp. 35, 39.
[79] 'Det måste vara vår skyldighet som lagstiftare att gifva den orepresenterade arbetsklassen medborgerliga rättigheter; då fullgör den så mycket hellre sina moraliska skyldigheter, det vill säga, fullgör troget hvad den åtagit sig.' 1856–58 Bd minutes 9:12.

the goal of this law was to make servants work better and more faithfully – and in no way to make them their equals and give them representation in the peasant farmer estate.

With three out of the four estates in favour of abolishing the right to beat adult servants, the committee proposed a revision of the law which was issued in 1858. This decision also included an extended right for masters to dismiss servants who behaved badly, which was seen as a trade-off in order to keep the masters' position unthreatened.[80] Before 1858, masters had the duty to use chastisement to correct servants, and only after doing so could they turn to authorities for the right to end a contract. When beating was not allowed, the master could end the contract directly if he found the situation impossible.[81]

This means that the right to chastise servants was part of the labour contract between employee and employer. The removal of the right to chastise servants was an important step towards the development of a freer labour contract, not because it superseded the family-like relations of the olden days with modern contracts, but rather because it introduced the possibility to end a contract which one of the parties disliked. I argue that the declining legitimacy of beating servants is best understood as part of the development towards a freer labour contract in which pecuniary means of keeping people in work gradually replaced non-pecuniary means, such as compulsory service and chastisement of servants.

IV

Peasant farmers have been characterized as 'the people', struggling against the higher ranks of society, and as masters who employed neighbourhood adolescents for their mutual interest. But this employment was strictly regulated in law, in the Servant Acts which were established in the Diet, where the peasant farmers – but not the servants – had political representation. While the debates in the Diet cannot be used to understand how servants themselves perceived their position, this source reveals a great deal about how the landed peasants understood their own position, the position of servants, and labour in general. What has been lacking from the dominant life-cycle perspective on rural servants, and in studies of the struggle between lords and peasants, is the perspective of peasant farmers as employers, and their role in development towards a freer labour market.

It was their position as landholders that made farmers eligible to become members of the peasant farmer estate, and thus gave them power over labour legislation and allowed them to employ servants. Although the group of employers was broader than the peasant farmer estate, legislation created fundamental divisions based on landholding in three ways. Firstly, the Servant Acts stipulated that the landed were eligible to employ servants and that landless people had to enter service in order to receive legal protection. Secondly, the landed position made peasant farmers eligible to vote for and be elected as MPs, which gave them power over the legislation that created the above-mentioned divide between landed employers and landless employees. Thirdly, the landed position was used in debates to legitimize the behaviour of

[80] 1856–58 committee proposal 7:2 no 52; common report from the estates no 258.
[81] Servant Act 1833 article 2 §5; Royal decree 1858.

masters and the rights assigned to them, and through this kind of argument, they dissociated themselves from the servants.

To understand economic development and modernization, the employment contract between servants and masters needs to be analysed. The main finding of this study is that in the double position of the peasant farmer MPs, as masters of servants and as lawmakers making decisions on the Servant Acts, the MPs clearly understood themselves as masters, promoting an employer interest. Furthermore, they dissociated themselves from the servant class, in no way acknowledging that servants were sons and daughters of landed farmers as well as landless people. While the result that the peasant farmer MPs pursued their own economic interests might seem unsurprising, there has been a lack of empirical studies that have analysed their position. And it is by no means self-evident that the life-cycle perspective was so invisible to MPs, i.e. that they did not think of servants as their future landed peers or themselves as representatives of a larger peasantry. This points to a social structure with antagonistic interests that are much more finely grained than the notion of 'lords and peasants'.

The other aim of this study was to analyse peasant farmers' understanding of labour as such, in relation to the development of freer labour contracts. During the period 1823–1863, peasant farmers were part of a development trend in which non-pecuniary means of forcing people to work were gradually replaced by the pressure of the capitalist labour market. From the analysis of the debate on the use of legal protection, it can be concluded that peasant farmers were rather reluctant to give up the non-pecuniary methods of compulsion they had at their disposal through the Servant Acts, and that the majority of members of the estate did not hesitate to propose harsher terms on the landless population in their desire to increase the pool of available labour.

In the debates analysed here, there was also another feature that makes peasant farmer MPs appear as representatives of masters and as active masters themselves, namely their intense debates about work management. This was most clearly seen in the long and frequent debates about the hiring date, but also when they discussed the question of payment for sick servants. While there were some MPs who pitied servants who fell ill during their time in service, the arguments used reveal that the aim was to make servants work more efficiently. Peasant farmer MPs tried to shape an effective mix of pecuniary and non-pecuniary means to enforce hard work. The peasant farmer MPs strove for an optimized use of the labour force, and for laws that created a pool of available labour as large as possible and preferably reserved for the groups of landed farmers that they represented and from which they were recruited.

Frustrations in economic botany: the efforts to manage the coconut scale insect in German Micronesia (1899–1914)*

by Dirk H. R. Spennemann

Abstract

Wide-spread and largely unregulated introduction of plants and animals for private or public gain under the guise of economic botany can pose substantial risk to a local economy. Inadvertent introductions of plant pests can devastate subsistence or production crops. Such is the case with the introduction of the coconut scale insect to Micronesia during the final years of the Spanish administration (pre-1899). The agents responsible for its introduction and spread were a combination of traditional trading practices and communications networks. To combat the infestations, the incoming German colonial administration (1899–1914) moved to both contain its spread through regulations and land management practices and through the introduction of coccinellid beetles from a range of sources. This paper discusses the various approaches taken by an increasingly frustrated German administration which was worried that the scale insect might cause the collapse of the copra industry and thus threaten the economic viability of the Micronesian colonies. The German actions are the first recorded incidence of biological control of plant pests in the Pacific Islands outside of Hawai'i.

The colonial enterprise of the nineteenth century was driven by two major factors: access to resources, both mineral and agricultural, to fuel the economies of the home state; and a strategic consideration to provide ports-of-call for supplies and a safe haven, usually at locations that would connect the economically viable colonies and could potentially be used as naval bases to deny rival powers access to their colonial possessions. A rare factor is imperial vanity, i.e. controlling a space to convey the projection of power, implied or real, to a domestic or foreign audience.[1]

* I am indebted to the Konrad Englberger (formerly SPC, Pohnpei) and the late Lois Englberger (Pohnpei) for encouraging me in the pursuit of the historical introduction of the coconut scale insect to Micronesia.

[1] The data analysed in this paper have been primarily extracted from original sources, such as annual reports published by the Imperial German Colonial Office ('Reichskolonialamt'), articles written by the administrators of the respective districts and published in the German colonial journals and magazines; and a consultation of correspondence in the files maintained by the German Colonial Office (and now held by the German Archives in Berlin) as well as the files of the Governor for German New Guinea and Micronesia in Rabaul (now held by the Australian Archives in Canberra). The local-level files of the district administrations on Jaluit, Pohnpei, Saipan and Yap, and the files held at the stations on Chuuk and Palau, have been lost since the Japanese annexation of Micronesia in the early days of World War I in October 1914. The files were handed

Imperial Germany had acquired the atolls of the Marshall Islands from Spain in 1885 to safeguard its copra interests there. Spain, which also controlled the Philippines, retained the rest of Micronesia, comprised the Caroline, Palau and Mariana Islands, but apart from Guam did not engage in any major development projects. During the late 1880s, German traders systematically expanded their reach in Micronesia, always focusing on purchasing copra produced by the various island communities. German trading interests based in the Marshalls, namely Adolph Capelle, not only developed copra plantations on Likiep in the Marshalls as well as Agrigan and Pagan in the Marianas, but also purchased local copra when and where it could be had.[2]

When the future of Spanish Micronesia came into doubt following Spain's defeat in the Spanish-American war in 1898 and its associated loss of the Philippines and Guam, Imperial Germany stepped in and purchased the islands (except for Guam) from Spain in 1899. German traders argued that only the atolls were of economic value, and that the high islands, such as Pohnpei (the 'Ponape'), Chuuk (then 'Truk') and Yap, were not only unproductive but also settled by troublesome 'natives'.[3] The imperial government disregarded the advice and went ahead with the purchase. This was a purchase motivated by imperial vanity, as henceforth any map showing the colonial world would show that Germany owned a large chunk of the globe, not only in Africa (today's Tanzania, Namibia, Togo and Cameroon), but also in the Pacific (New Guinea, Samoa, and especially Micronesia). No one really needed to know that over 99.5 per cent of that possession was water, and the productivity of colonial goods on the large islands was low. The line on the map sufficed.

That of course did not apply to the rational decision-making among the echelons of the Imperial Colonial Office in Berlin. They, in fact, were very parsimonious. As the new colony was expected to be loss-making, at least in the mid-term future, Berlin only budgeted for a skeleton staff, comprising, in the first instance, a district administrator and a small number of Indonesian mercenary soldiers (from Macassar, Celebes) to provide protection and policing. For ease and continuity of administration, Germany maintained the district structure the Spanish had imposed,[4] and consequently established its district administrations in the same locations: Pohnpei, Yap and Saipan.[5] The German administrators were faced with the challenge to establish colonial rule, to maintain peace and order—and develop the local economies to eventually make the districts pay for themselves. All administrators were engaged in agricultural

Note 1 *continued*
intact to the incoming Japanese occupation force as the administrators fully expected to return after war's end. It appears that the files were taken back to Tokyo, where they were reputedly destroyed by air raids during World War II. The state of the Japanese files of the same period is unclear: they too are reputedly lost. It is these files that would have contained detailed relevant correspondence, of high granularity, whereas only high-level administrative correspondence has survived. Private business archives have not survived. For printed resources see inter alia: Dirk H. R. Spennemann, *An annotated bibliography of German language sources on the Mariana Islands*. Saipan, (2004); id., *An annotated compendium of German language sources on the German protectorate of the Marshall Islands*, I, *Bibliography* (1999).

[2] Dirk H. R. Spennemann, *Edge of empire. The German period in the Mariana Islands 1899–1914* (2007).

[3] Ibid., p. 9.

[4] The only boundary correction occurred in the case of the Marshallese atolls of Enewetak and Ujelang, which during the 1885 acquisition of the Marshall Islands had ended up on the 'wrong' side of boundary.

[5] Spennemann, *Edge of empire*.



FIGURE 1. Arno Senfft in 1900

Source: Anonymous, 'Nachruf! Herr Regierungsrat Arno Senfft', *Amtsblatt für das Schutzgebiet Deutsch Neuguinea* 1 (6, Suppl. 2) (1909), p. 46.

development to further the quality of the local food supply, to develop export industries and to produce crops that had strategic importance to the German empire. Economic botany was writ large. Cash crop production, economically primarily benefiting the colonial power, was introduced or increased. To aid agricultural development, a large number of plant and animal species were introduced and trialled, with individual administrators driving this based on their own personal interests and experience.[6]

At the same time, the administrators had to contend with the local conditions, some of which were unexpected, such as the frequency with which devastating typhoons would lay waste to plantations, in particular in the Marianas, but also in the western Carolines (centred on Yap).[7] When Arno Senfft (Figure 1) commenced his tenure in Yap in November 1899, he faced a different problem: a tiny translucent insect that, while feeding on the sap of the leaves of coconut palms, dramatically reduced a palm's capacity to produce sizeable coconuts. While a trained and skilled and skilful administrator, Senfft was wholly unprepared to deal with an issue that threatened to undermine his every effort at economic development.

[6] Dirk H. R. Spennemann, 'Trial and Error: the introduction of plants and animals to German Micronesia 1885–1914', *J. Pac. Hist.*, 54 (2019), pp. 507–28.

[7] Spennemann, *Edge of empire*, p. 300; id., *Typhoons in Micronesia. A history of tropical cyclones and their effects until 1914* (2004).

This article is an examination of how the German administration tried to combat this tiny enemy. It will show that it was the agency of individuals at the colonial periphery that mattered, individuals who tried to address the situation without effective guidance from their superiors. Berlin was far away, not only in terms of geography and communications delays, but also on a level of conceptual understanding. The Imperial Colonial Office had other, economically and politically more significant matters to address than combatting a tiny insect at the periphery of its vision. This paper shows an administrator trying every trick in his book to get on top of the issue: attempts at mechanical, biological, and chemical control, backed up by ever-more intrusive government regulations and associated law enforcement. It shows his attempts at marshalling support from national and international authorities in colonial agriculture and plant pests. Nothing worked. By losing the battle against the tiny coconut scale insect, the administration was at risk of losing the respect of the local population and thus, ultimately, its moral authority.

I

Before delving into the detail of the problem and range of actions taken, it is apposite to briefly examine the administrative structures within which the actions occurred and to look at the individuals that gave effect to them. The German administrators in Micronesia were afforded much discretionary authority, at least during the first five years of administration. In the beginning, mail to or from Berlin was unreliable and could take between 60 and 150 days. Matters improved once a dedicated shipping line had been established in late 1904, but the mail still took 45–60 days.[8] The reality faced by the German administrators was that they could not expect to receive a response to a request for guidance until three to four months had passed—even if it was acted upon swiftly by the German colonial office and sent by return mail. The German Governor in New Guinea, nominally the line manager of all Micronesian districts (bar Jaluit), was postally even further away. Until the dedicated shipping line was established, direct communication was haphazard and unreliable. Consequently, until 1905 the Micronesian district administrators communicated directly with Berlin, who then sent copies of their responses to the administration in New Guinea.

These communications constraints, exacerbated by the fact that the parsimonious Imperial Colonial Office ran the Micronesian colonies with a skeleton staff, meant that specialist skills were often lacking. In consequence, the individuals played a greater role than normal, and their personalities, abilities and cultural attitudes attained much greater significance. This warrants a brief look at the chief protagonists.

All three administrators that took up their positions in Micronesia were obviously versed in public administration. Georg Hahl (Pohnpei and later Rabaul),[9] and Arno Senfft (Yap)

[8] Spennemann, *Edge of empire*, p. 67f.

[9] Hahl's tenure on Pohnpei was short lived as he took over the Governorship of German Guinea June 1901 (acting, confirmed 1902. On Pohnpei he was replaced by Victor Berg, an administrator with experience in colonial Africa. After having been severely censured by the colonial head office in Berlin for his initial strong distaste for the Pohnpeians, Berg embarked on an exemplary career in colonial administration, following the official line to the letter both in spirit and in actions, yet developing some sympathy for those he ruled. When the position in Pohnpei became vacant after Berg's death,

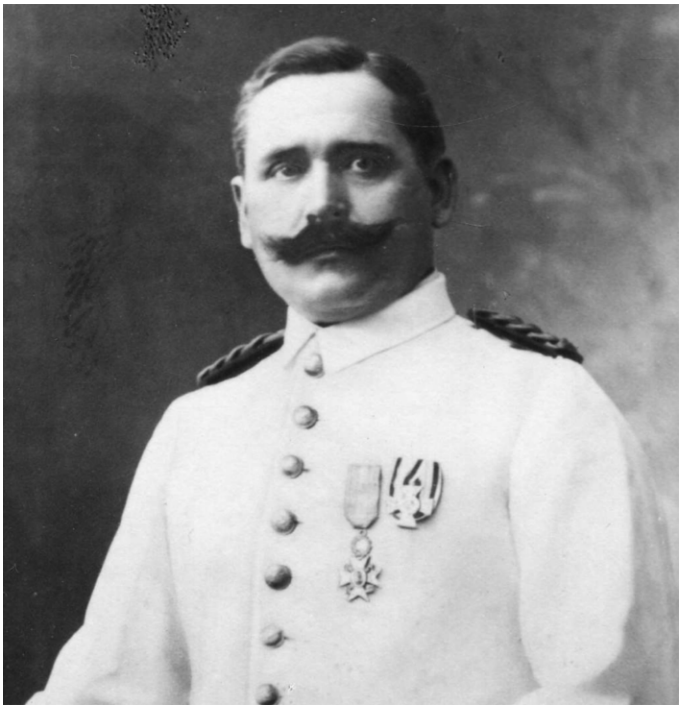


FIGURE 2. Georg Fritz in 1901

Source: Anonymous, 'Botanisches Museum. Personalangelegenheiten. Nachruf Georg Volkens', *Notizblatt des Königlichen Botanischen Gartens und Museums zu Berlin* 7 (64) (1917), pp. 117–18.

had backgrounds as judiciary clerks or lawyers, who, while competent administrators, were relatively clueless when it came to the improvement of tropical agriculture. Only Georg Fritz (Saipan) stands out, as he had a background in financial administration and forestry (Figure 2.) Although nominally equal in their positions, the German Colonial Office had different priorities. Of the three districts, Yap was the most well known, at least economically, and thus was afforded the highest level of significance which is borne out by the fact is the only district which was afforded an assessment of its agronomic potential. Both Pohnpei and Saipan were seen as stepping-stones of lesser importance. While both Hahl and Senfft had held positions in the German possession in the Pacific, Georg Fritz was chosen for Saipan as he spoke fluent Spanish, which was an essential requirement in a territory that had been a Spanish possession for over 300 years.

Arno Senfft had commenced his public service career working in the judiciary of Thuringia and then earned his stripes as an administrator in German New Guinea from 1891.[10] While working in the Marshall Islands as deputy and later as acting administrator he had become immersed in Micronesian social structures and the complexities of multiple levels of land

Note 9 *continued*
Senfft was supposed to take up that position, possibly because it was a poisoned chalice given the fractiousness of the population. In the event Fritz was moved to Pohnpei. Spennemann, *Edge of empire*; Francis X. Hezel, *The first taint of civilization: a history of the Caroline and Marshall Islands in pre-colonial days, 1521–1885* (1994).

[10] Arno Senfft (*28 March 1864 Weimar, Thuringia, † 14 February 1909 Hong Kong). For obituary see: Anonymous, 'Nachruf! Herr Regierungsrat Arno Senfft', *Amtsblatt für das Schutzgebiet Deutsch Neuguinea* 1(6 Suppl 2) (1909), p. 46.

and resource rights. Unlike his arrogant and supremacist successor Eugen Brandeis, Senfft managed the affairs in Jaluit with a high level of cultural sensitivity and thus was eminently qualified to navigate the shoals of Yapese politics.[11] Senfft was asked to take over the vacant administration of Pohnpei in 1907 but preferred to continue his work in Yap. Both he and Fritz steered the recovery of the Eastern Carolines following the devastation by the typhoon of Good Friday 1907.[12] After his death from an undisclosed illness *en route* back to Germany in 1909, Georg Fritz was appointed administrator of the combined Caroline and Mariana Islands district.

Georg Fritz had not come through the echelons of the German colonial service but had a background in the German civil service as a financial administrator in Hesse as well as in agricultural research in South America. Fritz had a patronizing but very benevolent attitude towards the Micronesians and he attempted, where possible, to effect cultural change in a fashion where decisions were mutually agreed upon by the local leaders and the German government, even if this process was a tedious and drawn out one. In this he was very much in line with the consensus-based approach to decision making that was prevalent in the power relations of traditional Micronesia.[13]

When this little band of brother administrators left German New Guinea in September 1899 in company of Governor Rudolf von Bennigsen who was to officiate over the various transfer ceremonies, they were accompanied by Georg Volkens, adjunct professor of botany at the University of Berlin and staff of the Central Botanical Office for the Colonies of the Botanic Museum of Berlin.[14] His task was to accompany Arno Senfft to Yap where Volkens was to systematically assess the agricultural potential of the island on behalf of the 'South Seas Studies Syndicate' (a loose association of commercial German trading interests) and the German government. Von Bennigsen first visited Jaluit and Kosrae, followed by Pohnpei, where he took possession and dropped off Albert Hahl, then Chuuk, Palau and Yap. There he dropped off Senfft and Volkens, before he left for Saipan, concluding the final transfer ceremony dropping off Georg Fritz.[15] While Volkens visited a number of islands other than Yap, albeit only for very short period of time, usually 1–2 days, there seems to have been no survey or sampling.

[11] Dirk H. R. Spennemann, *An officer, yes; but a gentleman? A biographical sketch of Eugen Brandeis, Military adviser, imperial judge and administrator in the German Colonial Service in the South Pacific* (Pacific Island Studies Monographs 21, 1998); Hezel, *First taint of civilization*.

[12] Dirk H. R. Spennemann, *Melimel. The Good Friday Typhoon of 1907 and its aftermath in the Mortlocks, Caroline Islands* (2007); id., *Typhoons in Micronesia*; id., *Edge of empire*.

[13] For background on Georg Fritz (*24 November 1865, † November 1944 both Alzey, Germany), his activities in the Marianas and his work in Yap and Pohnpei see Spennemann, *Edge of Empire* and Spennemann, *Melimel*.

[14] Georg Ludwig August Volkens (*13 July 1855, † 10 January 1917, both Berlin) researched and taught pre-dominantly plant physiography and 'colonial botany'; initial research in North and East Africa; Professor of Botany, University of Berlin from 1895. Fieldwork in German New Guinea, the Marianas, Carolines and Java. For obituary see: Anonymous, 'Botanisches Museum. Personalangelegenheiten. Nachruf Georg Volkens', *Notizblatt des Königlichen Botanischen Gartens und Museums zu Berlin* 7(64) (1917), pp. 117–18.

[15] Dirk H. R. Spennemann, 'Introduction', in Dirk H. R. Spennemann (ed.), *Rudolf von Bennigsen (1859–1912) The German take-over of the Caroline, Palau and Mariana Islands* (Division of Historic Preservation Occasional Historical Papers, Saipan, 2003), pp. iii–xxxiii; id., 'A micronesian multiple first day cover. The postcard that chronicles the German take-over of Micronesia', *Collectors Club Philatelist* 85 (2006), pp. 163–73.

All of Volkens' work is focused on Yap.[16] Volkens stayed on Yap until June 1900. During his surveys he focused on the presence of plant pests and diseases. One of these was the coconut scale insect.[17]

II

Coconut oil was an extremely versatile product, its uses ranging from human consumption in the form of the oil itself and of coconut fat as the basis for margarine, to a lubricant for machinery during the early nineteenth century. When the early European traders in the South Pacific began to acquire locally pressed coconut oil, the quality of the product was mixed. Moreover, that oil was subject to further spoilage during the long voyage to Europe, often leading to rancid oil being landed. In Samoa in the 1850s, Theodor Weber, resident trader of the Hamburg-based Johann Cesar Godeffroy and Co., developed a technique to air-dry the coconut meat, thereby concentrating the oils in the flesh, reducing the overall weight, and, most importantly, preventing spoilage. That new half-product, copra, was to revolutionize the Pacific trade.[18]

Not surprisingly, the German traders were keen to expand the industry both through trade with the local communities and through the establishment of company-owned coconut plantations. While the majority of plantations owned by Godeffroy & Co., and by its successor company, the Deutsche Handels- und Plantagengesellschaft, were based on Samoa, German traders opened up large areas of the Pacific for the copra trade through a dense network of traders who were working as agents for the company, rather than as independent traders.[19]

As coconut palms (*Cocos nucifera* L) are, biologically, colonizing wave-dispersed shoreline plants, they thrived on the low-lying sandy islets of the atolls in the Central and Eastern Pacific, which hitherto had been of low economic interest to traders and especially colonial powers (apart from short-lived resource extraction, i.e. bêche-de-mer and pearls/pearl shell).

During the nineteenth century, copra production in Micronesia was closely entangled with rights to land. The concept of personal or of government land ownership did not exist, with the exception of the Marianas with their long history of legal and social change exacted by the Spanish. Rather, rights to land were vested in various levels of local rulers. Rights to produce were held by their subjects with rulers owning a share. At the risk of oversimplifying the

[16] Given that the new possessions in German Micronesia comprised a number of large islands other than Yap, all likewise with volcanic-derived soils (Kosrae, Pohnpei, Chuuk, Palau, Saipan, Tinian) one has to wonder why the sole agronomic assessment focused on Yap. The reason may well rest in the fact that Yap was best known as the base of the Irish-American trader David O'Keefe, who had developed a trading empire since the mid 1870s. Hezel, *First taint of civilization*.

[17] Georg Volkens, 'Über die Schildlauskrankheit der Kokospalmen in Togo und auf der Karolinen Insel Yap', *Notizbl. Kön. Bot. Gart. Mus. Berl.* 3 (1901), pp. 86–90.

[18] Paul Preuß, 'Wirtschaftliche Werte in den Deutschen Südseekolonien', *Tropenpfl.* 19 (1916), pp. 539–61.

[19] Handley B. Sterndale, *Papers relating to the South Sea Islands: their natural products, trade resources, etc. Part III. Memoranda by Mr. Sterndale on some of the South Sea Islands. Appendix to the Journals of the House of Representatives of New Zealand* (1874), vol. A-3B. See also contemporary sentiment reviewed in Dirk H. R. Spennemann, '"Vell, I don't call dot very shentlemanly gonduck." The Portrayal of Germans as ungentlemanly South Seas traders in Louis Becke's short stories', *Pacific Asia Inquiry* 5 (2014), pp. 107–29.

matter, different individuals, of different social status, could hold rights over a given section of land, with different individuals holding rights to its produce and raw materials. Some of them might be held by individuals living on different islands, only to be exercised in times of food shortages, for example following typhoons.[20]

Traditionally, coconut palms were a subsistence crop that supplemented food supply and provided raw materials for houses and objects. During the second half of the nineteenth century, Micronesia was in a period of transition from a purely a subsistence economy to an economy where the production of some crops could be intensified to produce tradeable commodities.[21] Resident as well as ship-based traders could only acquire as much copra as the local community was prepared to produce to satisfy its need for income to purchase goods. Company-owned plantations, which would produce predictable amounts of copra, were not feasible unless land could be leased or acquired by way of marriage.[22] To boost production, the German colonial administration levied a head tax, which could be paid in the form of copra or labour. This was only marginally successful, except in the Marshall Islands where the highest-ranking chiefs had been given a cut of the taxes in return for their role as tax collectors.[23]

In the eyes of the German colonial office copra was king and all South Sea islands were presumed to be suitable for copra production along the lines of Samoa or the productive atolls of the Marshall Islands. Environmental conditions soon showed otherwise. On Pohnpei, where 8,400 acres had been cleared and planted with palms, it soon became clear that the climate there was too humid to properly dry copra without using artificial heating.[24] In the neighbouring district of the Marianas its administrator Georg Fritz enthusiastically pushed the development of the copra industry. Unlike elsewhere in Micronesia, much of the land on Saipan was in government ownership (courtesy of the Spanish government's actions in the early 1700s) and thus could be deeded to the local community (as wedding gifts) or leased to German or local entrepreneurs.[25] Despite high expectations and early indications that the Marianas might become an economic powerhouse courtesy of the large-scale planting of coconut palms, the devastation caused by several typhoons in short succession put paid to that. While the plantations recovered, the Marianas never gained economic prominence.[26]

All land on Yap, the focus of our discussion, was owned by family lineages, which could make sections of this land or its produce and resources and production units (e.g. taro pits) available to other families (e.g. through marriage).[27] The complex network of rights and

[20] William A. McGrath and W. Scott Wilson, 'Marshall, Caroline and Mariana Islands. Too many foreign precedents', in, Ron Crocombe (ed.), *Land tenure in the Pacific Suva* (1987), pp. 190–210.

[21] Kurt Hassert, 'Kolonialer Nutzwert der neuen deutschen Erwerbugen in der Südsee', in, Willy Scheel (ed.), *Deutsche Kolonien. Koloniales Lesebuch zur Einführung in die Kenntnis von Deutschlands Kolonien und ihrer Bedeutung für das Mutterland* (1907), pp. 176–95.

[22] As in the case of the de Brum and Capelle acquisition of Likiep Atoll.

[23] Hezel, *First taint of civilization*; Spennemann, *An officer*, p. 21.

[24] Spennemann, *Edge of empire*, p. 78.

[25] Ibid., pp. 116 ff.

[26] That changed dramatically under the Japanese occupation, when sugar cane was successfully trialled.

[27] Francis Mahoney, 'Land tenure patterns on Yap', in, John Edward DeYoung (ed.), *Land Tenure Patterns: Trust Territory of the Pacific Islands Agana* (1958); McGrath and Wilson, 'Marshall, Caroline and Mariana Islands'.

obligations meant that large, European-owned, or -leased plantations could not be established on Yap itself. Copra was produced, but the Yapese community maintained its reliance on agricultural production, which allowed for a strong subsistence economy.[28] A further complication was that Yapese society was caste-based and that higher-ranking members could and would extract surplus from lower-ranking members, making it pointless for the latter to produce more copra than absolutely necessary.[29] While the German administration tried to break this custom as it clearly affected the profitability of the colony, it was a slow process.

III

The history of plant introductions to Micronesia, however, also shows that government officials as well as private individuals had introduced many plants without much concern for the accidental introduction of plant pests and other 'hitch hikers'.[30] Waterhouse and Norris have reviewed the history and presence of plant pests in the Pacific and analysed the efficacy of various plant control measures. A perusal of this study shows that the majority of the biological controls date from the 1930s onwards, with a few dating to the 1920s.[31]

The history of plant introductions to Micronesia shows that there were no controls placed on imports during the pre-German period, and only a few controls during the time of the German administration.[32] The absence of disease controls implies that that traders as well as government officials could have inadvertently introduced all sorts of plant pests for which there were no local enemies or parasites.

Uncontrolled imports of plant matter by private individuals seem to have occurred, but are impossible to quantify because the nineteenth- and early twentieth-century business records of planters in the Pacific were not kept or have not survived, a few exceptions notwithstanding.[33] It is very tempting to assume that the spread of the major plant pests, such as the coconut scale insect and, later, the rhinoceros beetle (*Oryctes rhinoceros*) are due to uncontrolled movement of infested plant matter by traders but that oversimplifies the matter as local inter-island exchange has to also be considered as well.

The planters not only introduced plants, they also took matters into their own hands and trialled methods of biological pest control. In many cases these introductions did not cause much damage—at least not during the early periods of infestation. In such cases we can assume that most of them would have gone unreported, if not wholly unrecognized. Documentation exists only for cases that reached prominence, mainly because of their economic impact or because they are mentioned in autobiographies or reminiscences.

[28] Georg Fritz, 'Eine Reise nach Palau, Sonsol, und Tobi', *Dtsch. Kolonialbl.* 18 (1907), pp. 659–68.

[29] Hassert, 'Kolonialer Nutzwert'.

[30] Spennemann, 'Trial and Error'.

[31] D. F. Waterhouse and K. R. Norris, 'Chapter 8: *Aspidiotus destructor* Signoret', in D. F. Waterhouse and K. R. Norris (eds), *Biological control Pacific prospects* (1987), pp. 62–71.

[32] Spennemann, 'Trial and Error'.

[33] Dirk H. R. Spennemann, 'The deBrum Library on Likiep Atoll as an example of Private Library Development in Micronesia at the turn of the Nineteenth Century', *J. Pac. Stud.*, 28 (2005), pp. 310–27; Jon O'Neill and Dirk H. R. Spennemann, *Conservation Assessment of the Joachim De Brum House. Likiep Atoll, Republic of the Marshall Islands* (Johnstone Centre of Parks, Recreation and Heritage Report, 151, 2000).

From Samoa we have examples where planters introduced viruses and bacterial cultures to destroy what they considered to be vermin. A good example is the introduction of avian cholera, which devastated the flying fox populations between 1893 and 1896.[34] The indiscriminate use, of course, had side effects, killing domestic fowl populations as well as native fruit doves. Little is known about the period of virulence and its long-term effect, but the disease seems to have run its course

Of all the German colonies in the Pacific, Yap was the first to suffer from introduced plant diseases, and to suffer from them for the longest time. Using the case of coconut scale insects, the remainder of this paper draws on published and unpublished government reports, and newspaper articles as well as items in contemporary professional publications, to provide the first detailed examination of pest control in German Micronesia, and the first account of the beginnings of biological pest control in the Pacific outside Australia and New Zealand. It is a story of individual agency and international connections, how an ever-more desperate colonial administration struggled to control the outbreak with its actions ever-more intrusive on the life of the Yapese.

IV

The coconut scale insect (*Aspidiotus destructor* Signoret [1869]), also known as 'transparent scale', is very small, measuring 1.5 to 2mm in diameter (Figure 3).[35] It infests a range of host species and damages them by sucking out plant sap, leading to a yellowing of the leaves (colloquially often called 'fronds'), resulting in reduced photosynthesis and thus reduced productivity of the plant. In severe cases the infestation can be so extensive as to lead to the death of the plant. The sheltered underside of leaves is preferred, but the adult females have been observed on the upper side of leaves, the rachis and even on young drupes.[36] Juvenile insects ('crawlers') are dispersed by flying insects, birds, flying foxes, and, to a lesser extent, extreme winds (e.g. storms and cyclones/typhoons). Dispersal can also occur on the clothing of plantation workers.[37] Given the size of the insect, especially that of single juveniles, an infestation by coconut scale insect may not be recognized in its early stages, in particular when the infested palms are old and thus tall. It can then only be noted once the infestation has become so severe that the palms exhibit extensive yellowing.[38]

[34] Dirk H. R. Spennemann and Gary J. Wiles, 'A historical attempt to control flying foxes in Samoa with an introduced disease', *Aust. Mammal.* 23 (2002), pp. 177–9.

[35] Victor Signoret, 'Essai sur les cochenilles (Homoptères-Coccides), 4ème partie', *Ann. Soc. Entomol. Fr.* 9 (1869), pp. 109–38.

[36] Waterhouse and Norris, '*Aspidiotus destructor*', p. 63; M. Ramsden, J. McDonald, and F. Ross Wylie, *Forest pests in the South Pacific region: A review of the major causal agents of tree disorders. ACIAR Project FST/2001/045: Development of Forest Health Surveillance Systems for South Pacific Countries and Australia 2002*); Sad N. Lal, 'Coconut Stick Insect *Aspidotus destructor* Signoret (Hempitera: Dispididae)', Pest Advisory Leaftlet (Secretariat of the Pacific Community, Plant Protection Service) 38 (2004); T. H. C. Taylor, 'The campaign against *Aspidiotus destructor* Sign., in Fiji', *Bull. Entomol. Res.* 26 (1935), pp. 1–102 ; Paul Preuß, 'Über Schädlinge der Kokos-Palme', *Tropenpfl.* 15 (1911), pp. 60–91.

[37] Waterhouse and Norris, '*Aspidiotus destructor*', p. 63; R. W Paine, 'Economic importance of *A. destructor* in Fiji prior to 1928', *Bull. Entomol. Res.*, 26 (1935), pp. 8–11.

[38] While the coconut scale insect has reached infamy as a major pest on coconut palms (*Cocos nucifera)*, the

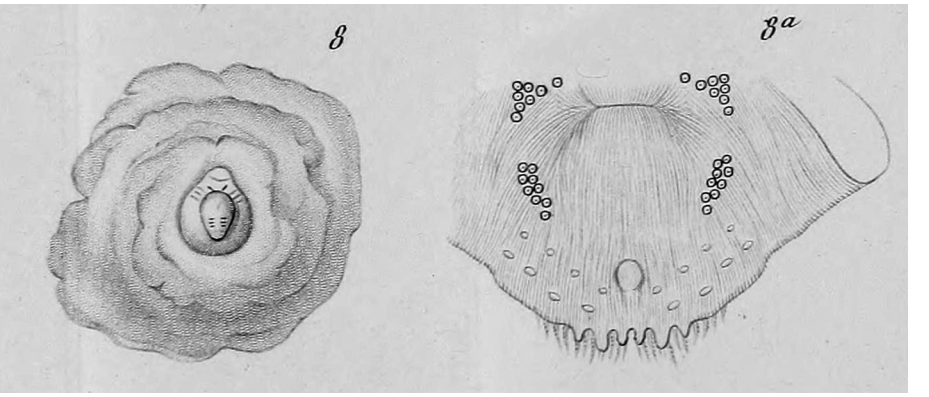


FIGURE 3. The coconut scale insect (*Aspidiotus destructor*).

Source: V. Signoret, 'Essai sur les cochenilles (Homoptères-Coccides)', 4ème partie, *Annales de la Societe Entomologique de France* 9 (1869), pp. 109–38, plate III illustrations 8 and 8a.

The presence of the coconut scale insect was recognized during the first inspection of the newly acquired colony of Yap in late 1899 by the German botanist Georg Volkens (Figure 4).[39] While the cause of the problem was easily observable, the German administration struggled to identify the underlying conditions. Georg Volkens, reportedly stated that 'this disease, like all other diseases that do not affect the roots, will eventually die down'.[40] That was an overly optimistic assessment and was not borne out by Volkens' own assessment in 1901.[41] As will become clear later, the spread of the infestation might well have been stopped or at least slowed if concerted efforts had been made as soon as Volkens noted it. It is likely that his initial assessment set in train a sense of complacency, especially as other matters would have occupied Senfft's mind.

As it was noted that ants were actively spreading aphids, it was assumed that ants had to be regarded as one of the main vectors.[42] This was a complete misunderstanding of

Note 38 *continued*
insect thrives on a wide range of host species. In the Micronesian setting it encompasses a range of traditional and semi-traditional food plants, as well as numerous introduced species. It also attacks forest trees such as *Barringtonia* and *Calophyllum*, as well as ornamental plants such as roses: Waterhouse and Norris, '*Aspidiotus destructor*', p. 63; Paine, 'Aspidiotus destructor in Fiji'; Mohammad Tabibullah and Bernardo F. Gabriel, 'Biological study of *Aspidiotus destructor* Signoret in different coconut varieties and other host plants', *Philippine Entomologist*, 2 (1973), pp. 409–26; Ramsden, McDonald, and Wylie, *Forest pests*.; Waterhouse and Norris, 'Aspidiotus destructor', p. 63.

[39] The vast majority of sources dawn for this analysis use the German contemporary colloquial terminology. In the German colonial reports the coconut scale insect is referred to as the '*Schildlaus*' ('scale insect') and infestation with scale insects as '*Schildlauskrankheit*' ('scale insect disease'). As some of the scale insects are quite indistinguishable to the untrained eye (even though the actual coconut scale insect tends to be quite translucent) there may be some inaccuracies in the actual species attributions. This is borne out in the case of Nauru.

[40] Reichskolonialamt, 'Denkschrift über die Entwicklung des Schutzgebietes von Deutsch Neu Guinea, einschliesslich des Inselgebietes der Karolinen, Palau, und Marianen im Jahre 1899/1900', *Stenographische Berichte über Verhandlungen des Reichstages*, X. Legislaturperiode, 1. Session, 1898/1900. 1. Anlageband (1900), pp. 1002–10.

[41] Volkens, 'Schildlauskrankheit'.

[42] Reichskolonialamt, 'Jahresbericht 1898/1900', p. 1002.



FIGURE 4. George Volkens in 1900.

Source: Anonymous, 'Georg Volkens', *Deutsche Kolonialzeitung* 17(44) (1900), p. 504.

the causalities. Ants were not spreading the scale insects but were removing predators of the coconut scale insect, thereby aiding in their establishment.[43] Ten years after taking possession of Yap, the German administration had to acknowledge that they were no closer to understanding the causalities. The annual report notes an apparent correlation between the level of infestation and the age of the plants, as well as the quality of the soils. Older palms and palms on poorer soils seemed to be most affected. The report concluded that the soil needed to be manured and tended.[44] The fact that the Eastern Caroline Islands did have a high infestation with scale insects, but seemed to experience only limited reduction in copra production, was attributed to the fact that, compared to Yap, Pohnpei did not suffer from drought and thus that the impact of the scale insect on sap flow was limited. In addition, it was falsely assumed that the heavy rainfall would wash many insects off the leaves.[45] Similarly, in Yap it was observed that the high rainfall period seemingly reduced the level of infestation.[46] While scale insects are unlikely to be dislodged by rainfall, especially as they tend to infest the underside of leaves, heavy rainfall may affect juvenile crawlers. Modern analyses of the infestations with coconut scale insects have indeed shown that infestations increase during dry periods and during periods of drought, while wet periods tend to reduce the level of activity and infestation.[47]

According to a report by Arno Senfft, the 'coconut palm disease', the infestation with coconut scale insects, had been on record on Yap since about 1892, when it was introduced

[43] Lal, 'Coconut Stick Insect'.

[44] Reichskolonialamt, Denkschrift über die Entwickelung der Schutzgebiete in Afrika und der Südsee 1909/10 (Berlin, 1910).

[45] Reichskolonialamt, *Jahresbericht 1909/10.*

[46] Kolonialamt, 'Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1902/1903', *Stenographische Berichte über Verhandlungen des Reichstages XI. Legislaturperiode, 1. Session, 1. Sessionsabschnitt, 1903/1904.* I. *Anlageband* (1903), pp. 131–4.

[47] Waterhouse and Norris, '*Aspidiotus destructor*', p. 65.

from the Philippines, possibly on infested kava roots, or, more likely, on infested coconut leaves woven into carry baskets.[48]

The infestation gained a firm hold and was spreading. In late November 1899 and early 1900 Volkens carried out an in-depth examination of the agricultural potential of Yap and noted an extensive mortality of host palms.[49] In his desktop review of the annual report for 1900/01 the geographer Hans Singer stressed the observation that in the southern and south-western districts of the island up to 45 per cent of the palms had died due to infestation.[50] The annual report notes that not just palms, but also other plants, especially fruit trees, were affected. In some areas all fruit trees were destroyed.[51] The annual report for FY1904/05 noted that the infestation had progressed unabated, mainly attacking older palms.[52] Two years later the coconut scale insect was found across the entire island of Yap.

Yap was the traditional power centre in the Western Carolines, with extensive networks of tribute and mutual obligations (*sawei)* reaching deep into the Central Caroline atolls, as well as Palau, and even the Philippines.[53] Not surprisingly, Yap became the prime dispersal node as many goods were transported in baskets woven from coconut leaves. The insect readily spread from Yap to several outlying atolls: in 1901 it was reported from Elato, Oleai, Satawal and Lamotrek (Map 1).[54]

The coconut scale insect was reputedly accidentally introduced to Palau in the mid- to late 1890s.[55] Esaki, according to oral information obtained in the 1920s, claimed that a chief from Peleliu brought betel nut from Yap in 1899.[56] Internal Palauan communications and exchange of goods and foods ensured that by 1904 the pest had spread northwards and severely affected

[48] Kolonialamt, 'Teil FII. Deutsch Neu-Guinea, Inselgebiet. Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1900/1901', *Stenographische Berichte über Verhandlungen des Reichstages X. Legislaturperiode, 2. Session, 1900/1902. V. Anlageband* (1901), pp. 2948–53; Kolonialamt, 'Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1901/1902', *Stenographische Berichte über Verhandlungen des Reichstages X. Legislaturperiode, 2. Session, 1900/1903. VIII. Anlageband* (1902), pp. 5301–11.

[49] Volkens, 'Schildlauskrankheit'.

[50] Reichskolonialamt, 'Jahresbericht 1898/1900', p. 1002; Hans Singer, 'Die deutschen Schutzgebiete in der Südsee im Jahre 1900', *Globus*, 76 (1901), pp. 343–45; Hassert, 'Kolonialer Nutzwert'.

[51] Reichskolonialamt, 'Jahresbericht 1898/1900', p. 1002.

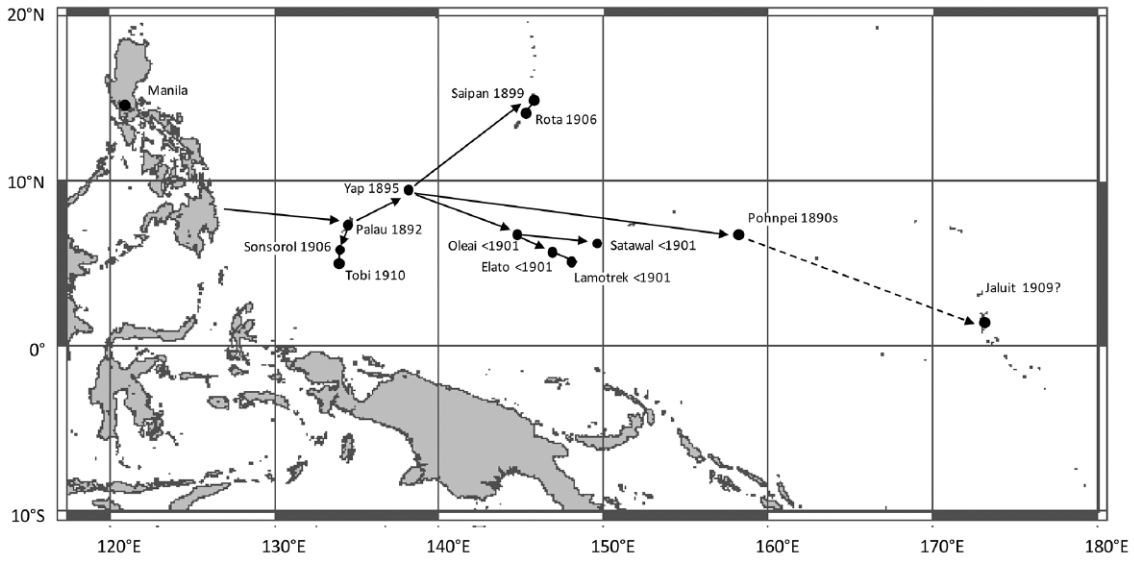
[52] Kolonialamt, 'Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1904/1905', Stenographische Berichte über Verhandlungen des Reichstages XI. Legislaturperiode, 2. Session, 1. Sessionsabschnitt, 1905/1906, IV. Anlageband (1905), pp. 2641–747.

[53] Central Carolines: Mark L. Berg, 'Yapese politics, Yapese money and the Sawei tribute network before world war I', *J. Pac. Hist.*, 27 (1992), pp. 150–64; R. L. Hunter-Anderson and Y. Zan, 'Demystifying the Sawei, A Traditional Interisland Exchange System', *ISLA: J. Micronesian Stud.* 4 (1996), pp. 1–45; Palau: Scott M. Fitzpatrick, 'Maritime interregional interaction in Micronesia: Deciphering multi-group contacts and exchange systems through time', *J. Anthropological Arch.* 27 (2008), pp. 131–47; Philippines: C. Descantes, H. Neff, and M. D. Glascock, 'Yapese prestige goods: the INAA evidence for an Asian dragon jar', in M. D. Glascock (ed.), *Geochemical evidence for long-distance exchange* (2002), pp. 229–56.

[54] Kolonialamt, 'Jahresbericht 1901/02'.

[55] Kolonialamt, 'Jahresbericht 1900/01'; Kolonialamt, 'Jahresbericht 1901/02'; Richard Deeken, *Die Karolinen. Nach eigenen Reisebeobachtungen, älteren Monographien und den neuesten amtlichen Berichten*, 24, (1912), p. 84.

[56] Teiso Esaki, 'Notes and records of some important pests of Micronesia mostly introduced during the period under Japanese mandate', in Teiso Esaki (ed.), *Proc. Ninth Int. Congress of Entomology, Amsterdam, Netherlands, August 17–24, 1951 Hague, Netherlands* (1952), pp. 813–18.



MAP 1. Spread of the coconut scale insect in Micronesia, 1892–1914

Koror.[57] The following year the infestation seems to have approached substantial proportions,[58] but does not seem to have reached the catastrophic impact it had on Yap.[59] The insect was so damaging, however, that it was given its own Palauan name: *togpog* or *topkapk*.[60] A possibly separate introduction to Babeldoab occurred prior to 1908, when a steamer operated by the West-Karolinen Gesellschaft imported betel nut from Yap to Palau.[61]

Given the traditional obligations of tribute and exchange and the resultant inter-island travel, it was only a question of time until the infestation also spread to the outlying atolls of Palau. While the southern atolls of Sonsorol and Tobi were free from infestation in 1902, the coconut scale insect was found on Sonsorol by 1906, and on Tobi by 1910.[62]

An independent introduction of the insect occurred in the Mariana Islands. It is likely it was introduced on Saipan in May 1899 when Filipino garrison troops were moved there from Manila

[57] Arno Senfft, 'Bericht über eine Reise nach den Palau Inseln vom 18.Juli bis 22. August 1904', *Dtsch. Kolonialbl.*, 16 (1905), pp. 49–52; Kolonialamt, 'Jahresbericht 1904/05'.

[58] Reichskolonialamt, 'Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1905/1906', *Stenographische Berichte über Verhandlungen des Reichstages XII. Legislaturperiode, 1. Session*, 239 (1906), pp. 23–89.

[59] Fritz, 'Reise'.

[60] *Togpog*: Fritz, 'Reise'; *topkapk*: Augustin Krämer, *Palau. Ergebnisse der Südsee-Expedition 1908–10. Abteilung VII: Geschichten und Gesänge. Abteilung VIII: Botanischer, Zoologischer und Palauwörter-Index* (5 vols, 1929), IV, p. 337.

[61] Esaki, 'Pests of Micronesia'.

[62] Arno Senfft, 'Ein Besuch auf der Insel Tobi', *Völkerschau: illustrierte Monatsschrift*, 2 (1902), pp. 321–23; Sonsorol: Reichskolonialamt, 'Deutsch Neu-Guinea, Inselgebiet. Denkschrift über die Entwicklung der Schutzgebiete in Afrika und der Südsee im Jahre 1906/07', *Stenographische Berichte über Verhandlungen des Reichstages XII. Legislatur-Periode I. Session. Anlagen zu den Stenographischen Berichten*, 245 (1907), pp. 4117–58; Tobi: Fritz, 'Reise'; Alwin Buse, 'Bericht des Kaiserlichen Regierungsarztes Dr Buse in Jap über eine Reise nac den südlich von Palau gelegenen Inseln', *Amtsbl. Schutzgeb. Dtsch-Neuguinea* 3 (1911), pp. 79–80.

after Spain's defeat during the Spanish American War.[63] An infestation was first formally noted in late August 1903.[64] As only young palms had been infested, and the infestation was still very limited, there was hope that it might be contained, but by 1906 the infestation was also noted on Rota.[65] A second introduction to Saipan seems to have occurred in 1907 or 1908 when following the devastation wrought by the Good Friday typhoon of 1907 large numbers of people from Yap were temporarily moved to Saipan.[66] Indeed, the local Chamorro term is 'gaga Yap' (Yap insects) making the toponymic connection.[67] It would appear that the infestation went unnoticed and unchecked until the outbreak of World War I and the loss of the German colonies to Japan in October 1914. Infestation became pronounced on Saipan in 1915–16 and on Rota in 1920.[68] The insect was introduced to the southernmost of the Mariana Islands, the American territory of Guam, in 1911 but did not cause major issues.[69] Its origin is not clear. It may have come from Rota via inter-islands communication, or directly from Yap. The coconut scale insect was again introduced in *c.*1920, with a first major outbreak in 1924–25.[70]

Further to the east, coconut scale insects were observed frequently on Pohnpei (formerly 'Ponape') in the Eastern Carolines, on coconuts, other fruit trees and on ornamental plants.[71] While they affected coconut plantations in large numbers, they did not cause major damage to copra production.[72] The extent of infestation reported in 1902 suggests an introduction, well pre-dating the German period. As Pohnpei is outside the range of Yapese trading contacts and exchange networks, we have to assume that this infestation occurred during the Spanish period, subsequent to the establishment of the Spanish military garrison in 1886 with its ongoing contacts with the Philippines as well as with Yap.[73]

The commencement of a reliable mail steamer service from 1905 onwards, using the copra steamer *Germania*, facilitated inter-island communication beyond the reach of the Yapese system.[74] By 1908, the insect had spread to Nauru, severely impacting the coconut production there.[75] As there are no traditional connections between Yap/Palau and Nauru, we have to

[63] Spennemann, *Edge of empire*, 13ff; Esaki, 'Pests of Micronesia', claims this occurred in 1911, but mixes this in with 1907 and 1908.

[64] Arno Senfft, 'Reise des Bezirksamtmannes Senfft in Yap nach den Westkarolinen', *Dtsch. Kolonialbl.*, 15 (1904), pp. 12–14; Stanislaus von Prowazek, *Die Deutschen Marianen. Ihre Natur und Geschichte* (1913), 93.

[65] Reichskolonialamt, 'Jahresbericht 1906/07'.

[66] Spennemann, *Melimel*; Spennemann, *Edge of empire*, pp. 197 ff.

[67] Esaki, 'Pests of Micronesia'.

[68] Ibid.

[69] S. R Vandenberg, 'Report of the Entomologist', *Guam Agricultural Experiment Station Report*, 1925 (1926), pp. 17–20 [not seen]; not mentioned in W. H. Weston, 'Report on the plant disease situation in Guam', *Guam Agricultural Experiment Station Report 1917* (1917), pp. 45–62.

[70] Esaki, 'Pests of Micronesia'; A. B. Clifford, 'The coconut scale', *Guam Recorder* 11 (1934), p. 80; C. W. Edwards, 'Method of controlling the coconut scale (aspidiotus destructor)', *Guam Recorder* 1 (1924), p. 4.

[71] Kolonialamt, 'Jahresbericht 1901/02'.

[72] Viktor Berg, Jahresbericht über die Entwicklung des Inselgebietes der Ost-Karolinen in der Zeit vom 1. April 1901 bis zum 31. März 1902, 1902, Record Series G1, file 126, German Colonial Archives Rabaul. Jahresberichte Ponape 1900–1907, National Archives of Australia.

[73] Hezel, *First taint of civilization*.

[74] Dirk H. R. Spennemann, 'Time table and brief history of service of the Jaluit Gesellschaft Mail Steamer Germania 1904–1914: A contribution to the communications history of Micronesia', *Micron. J. Human. Soc. Sci.* 4 (2005), pp. 158–75.

[75] A. Müller, 'VI. Karolinen und Marshall-Inseln. C. Marshall-Inseln. 2 Nauru', *Medizinal-Berichte über die Deutschen Schutzgebiete für das Jahr 1908/09* (1910), pp. 452–54.

assume that the insect was inadvertently spread by workers from Palau and the Carolines who had been recruited to work in the developing phosphate mines on Nauru.[76]

The government itself also may have inadvertently aided in the dispersal, since as early as 1900 Senfft sent samples of diseased leaves to both Fritz in Saipan and Hahl in Pohnpei to warn them about the plant pest.[77] In 1901 additional samples of diseased palm leaves were sent from Yap to the German administration at Herbertshöhe (Kokopo, near Rabaul, New Guinea) and from there on to the German consul in Batavia (Jakarta), with the request to have the disease identified by the Botanic Gardens in Buitenzorg, then in the Dutch East Indies (now Bogor, Indonesia).[78] Given that the coconut scale insect is also spread on the clothing of workers, one wonders about the quarantine issues that this may have entailed. We are uninformed as to how the samples were packaged. Given the lack of traditional contacts with Yap or the Philippines, the first record of infestation with coconut scale insect in German New Guinea may be an indication of this. In 1908 it was reported from the Duke of York Group, from Nanuk and from Matupit, all near Rabaul on New Britain, for 1908.[79] Subsequently, Preuß mentioned that he observed palms in the Bismarck Archipelago being affected, but that the insect seemed to cause far less damage than it did on Yap.[80]

V

In his assessment of the agronomic potential of the island in 1899 and 1900, Volkens rightfully considered the coconut scale insect a threat to the copra industry.[81] Even though the German administrator of the district, Arno Senfft, undertook steps to minimize the impact (discussed below), the infestation continued to engulf the island. By 1904/05 the coconut scale insect was found across the entire island of Yap and it led to a collapse of the once-thriving copra production on Yap, with a concomitant reduction in trading profits.[82] If it were to spread to the outer atolls or gain hold on Palau, the insect threatened to severely affect the productivity of palms throughout the entire Western Carolines district[83]

Thus, when the deputy administrator of Yap, Georg von Heynitz, counselled in November 1904 that Yap did not provide much opportunity for German entrepreneurs to invest in

[76] A. Müller, 'Eine epidemisch auftretende Erkrankung des Nervensystems auf Nauru', *Arch. Schiffs. Tropenhyg.* 14 (1910), pp. 535–43.

[77] Kolonialamt, 'Jahresbericht 1900/01'.

[78] Rudolf von Bennigsen, Imperial Governor von Bennigsen to German Consul in Batavia, dated Herbertshöhe 18 August 1901, Aug 18 1901, Record Series G1, file 7, German Colonial Archives Rabaul, 'Allgemeine Verwaltung Yap'. National Archives of Australia.

[79] Karl Rudolph, 'Obergärtner Rudolph berichtet über eine Dienstreise nach den Inseln Nanuk und Palakuvur (23.–27.Februar 1909)', *Amtsbl. Schutzgeb. Dtsch-Neuguinea*, 1 (1909), pp. 87–88; Carl Brick, 'XIV. Bericht über die Tätigkeit der Abteilung Pflanzenschutz für die Zeit vom 1. Juli 1911 bis 30. Juni 1912. Planzenschädigungen aus außerdeutschen Länder und aus deutschen Kolonien', *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten*, 39 (1912), pp. 248–52.

[80] Preuß, 'Über Schädlinge der Kokos-Palme', p. 86.

[81] Volkens, 'Schildlauskrankheit'.

[82] Georg Eberhard von Heynitz, 'Nachrichten aus dem Kameradenkreise. Briefe von Kameraden. Karolinen 5 November 1904', *Dstch. Kulturpionier* 5 (1904), pp. 46–47.

[83] Reichskolonialamt, 'Jahresbericht 1906/07'; Anon., 'Aussenhandel der West-Karolinen, Palau und Marianen im Kalenderjahre 1907 im Vergleich mit dem Handel im Kalenderjahre 1906', *Dtsch. Kolonialbl.* 19 (1908), pp. 806–09.

tropical agriculture as the coconut scale insect severely limited production prospects,[84] he mainly referred to the outer islands.

The annual report for 1906/1907 expressed the concern that the entire coconut production could come to an end within one or two years.[85] In the beginning, even when the coconut scale insect severely limited production, the resulting loss of cash income did not severely affect the Yapese community as their reliance on agricultural production still allowed for a strong subsistence economy.[86] The combined effects of coconut scale insect and the typhoon of March 1907, however, impacted coconut production to such a degree that the district administration on Yap had to prohibit all export of copra to prevent starvation.[87] Suddenly, the sole source of cash for the Yapese community had dried up. The annual report for 1907 expressed the concern that the entire coconut production could come to an end within one or two years.[88] Nothing had changed by the end of 1908, with the government conceding that all attempts at containment had failed.[89]

Any loss of productivity undermined the overall economic viability of the colony, especially from the viewpoint of the colonial power. There was the risk that the wider public might then question the wisdom of acquiring such colonies. It may also have damaged the reputation of the German administration in the eyes of the Yapese, showing the administration to be fallible.

VI

If the coconut scale insect had been introduced to Yap in 1892, we have to ask why the Spanish administration, which was in charge until late 1899, had not taken action? On the one hand we need to consider the time lag between infestation and the point when it literally becomes a visible problem. On the other hand, the Spanish administrative presence on Yap was limited and primarily concerned with 'flying the flag' and keeping competitors, such as the Germans, out.[90]

The German administration had come to stay, and to make the colony pay. Thus, given the economic impact wrought by the coconut scale insect, it is no wonder that concerted efforts were made to control its spread and reduce its impact. To control the spread of the plant pest, a range of methods were used, from the destruction of the infested matter to fumigation, to the application of insecticides and the introduction of biological predators. In addition to the practical methods, an attempt was made to control and contain the spread of the coconut scale insect through government regulation, enforcement and penalties.

[84] Von Heynitz, 'Nachrichten aus dem Kameradenkreise'.

[85] Reichskolonialamt, 'Jahresbericht 1906/07'.

[86] Fritz, 'Reise'.

[87] Reichsmarineamt, *Forschungsreise S.M.S. Planet 1906/07*, I, Reisebeschreibung (1909); id., *Typhoons in Micronesia*; id., *Melimel*.

[88] Reichskolonialamt, 'Jahresbericht 1906/07'.

[89] Reichskolonialamt, 'Deutsch Neu-Guinea, Inselgebiet. Denkschrift über die Entwickelung der Schutzgebiete in Afrika und der Südsee im Jahre 1908/09', *Stenographische Berichte über Verhandlungen des Reichstages XII. Legislatur-Periode, 2 Session. Anlagen zu den Stenographischen Berichten* 271 (1909), pp. 4117–58.

[90] Francis X. Hezel, *Strangers in their own land. A century of colonial rule in the Caroline and Marshall Islands* (1995).

The first technical advice was furnished by the German botanist Georg Volkens who examined the infestation on Yap in late 1899 and early 1900.[91] He recommended that the infested plants be sprayed with a Bordeaux mixture.[92] Volkens' recommendation was a proverbial stab in the dark, akin to selling 'snake oil'.[93] Bordeaux mixture had been found to be effective at preventing mildew on vines and fruit trees and was peddled as a generic go-to approach, particularly as it had no obvious unwanted side-effects. It was never trialled in Yap, however, because the required ingredients could not be procured due to infrequent shipping connections. Volkens also questioned whether his own suggestions might actually be practical given the height of the palms, some of which were 20m tall.[94] One wonders whether Volkens felt compelled to be seen in control and to recommend something – where anything would do.

Even though administratively the districts of Pohnpei, Saipan and Yap were subordinate to the Governor of German New Guinea, the realities of inter-island shipping meant that they had considerable latitude in decision-making. Consequently, there was no concerted, orchestrated effort to contain the spread of coconut scale insect. Essentially, Senfft, whose district was the main one affected, had to fight his own battles.

Faced with the impact of the coconut scale insect on the copra production of Yap and thus the economic viability of the colony, Senfft had to take – and be seen to take – decisive action. Senfft had been provided by Volkens with suggestions that were not practical, but also with a potentially dangerous belief that the infestation would eventually run its course.[95] In the absence of any real technical guidance, Senfft chose a multi-pronged approach: limiting the spread of the infestation in practical as well as administrative ways, and trying to eradicate an infestation primarily by chemical means and soliciting external expert advice.

In the absence of any scientific understanding of the life cycle and ecology of the coconut scale insect, any measure short of a total removal and destruction of all affected palms was a mere stab in the dark. Consequently Senfft tried everything in the traditional playbook.

A major concern, of course, was that the coconut scale insect might spread from Yap and Palau to islands that had hitherto not been affected. Thus as a first measure, Senfft passed a government ordinance at the end of June 1900 that tried to prevent the spread of coconut scale insect ('Verordnung zur Verhütung des Weiterverbreitens der Schildlauskrankheit') (Table 1). This stipulated that palm materials could not be exported from Palau and Yap.[96] At that time, the other districts of Micronesia were not concerned, nor was German New Guinea itself.[97]

[91] Volkens, 'Schildlauskrankheit'.

[92] Bordeaux mixture is a mixture of copper(II) sulphate ($CuSO_4$) and slaked lime ($Ca(OH)_2$) used as a fungicide which is sprayed on the plants primarily as a preventative against mildew on vines and fruit trees. It is also widely used to control potato blight, peach leaf curl and apple scab. It has no efficacy as an insecticide.

[93] I am indebted to an anonymous reviewer for this analogy.

[94] Volkens, 'Schildlauskrankheit'.

[95] Ibid.

[96] The ordinance was repealed in July 1908 and substituted by a new regulation which extended the reach to all plant matter.

[97] There the first formal regulation prohibiting the trade in coconuts was purely directed at controlling and regulating the copra trade for economic reasons: Rudolf von Bennigsen, 'Verordnung des Gouverneurs von Deutsch-Neu-Guinea, betreffend den Handel mit Kokosüssen im Schutzgebiete Deutsch-Neu-Guinea mit Ausschluß des Inselgebietes der Karolinen, Palau und Marianen', in Rudolf von Bennigsen (ed.), *Die deutsche*

TABLE 1. Chronology of directives and ordinances regarding the control of coconut pests in the districts of German Micronesia and New Guinea

Date		*Title*	*Yap*	*Palau*	*Marianas*	*Chuuk*	*Pohnpei*	*Marshalls*	*New Guinea*
1900, 29 Jun	government ordinance	Verordnung zur Verhütung des Weiterverbreitens der Schildlauskrankheit*	✓						
1904, 4 Aug	verbal directive	Anweisung des Kaiserlichen Bezirksamtmanns in Jap betreffend Bekämpfung der Schildlauskrankheit		✓					
1905, 8 Nov	verbal directive	Anweisung des Stationsleiters von Palau betreffend Bekämpfung der Schildlauskrankheit		✓					
1907, 7 Oct	police order	Polizeiverfügung des Stationsleiters von Palau, betreffend Bekämpfung der Schildlauskrankheit		✓					
1908, 1 Jul	government ordinance	Verordnung des Kaiserlichen Bezirksamtmanns in Jap, betreffend Verhütung der Weiterverbreitung der Schildlauskrankheit	✓	✓					
1908, Oct 30	government directive	Erlass des Gouverneurs von Deutsch Neuguinea betreffend Bekämpfung der Schildlauskrankheit							✓
1908, 29 Dec	government ordinance	(Polizei-)Verordnung des Bezirksamts zu Jap, betreffend Bekämpfung der Schildlauskrankheit		✓					
1909, 27 May	government ordinance	Polizei-Verordnung des Bezirksamtmanns von Jaluit betreffend Bekämpfung der Schildlauskrankheit						✓	
1911, 14 Jun	government regulations	Vorschriften für die Ernte von Kokosnüssen für den Bezirk der Westkarolinen, Marianen und Palau Inseln	✓	✓	✓				

* not formally published

Sources: Senfft, 'Verordnung des Bezirksamts von Yap, betreffend Bekämpfung der Schildlauskrankheit vom 29. December 1908'; Anon., 'Vorschriften für die Ernte von Kokosnüssen für den Bezirk der Westkarolinen, Marianen und Palau Inseln', *Deutsches Handels-Archiv. Zeitschrift für Handel und Gewerbe* (1911), p. 1675; Albert Hahl, 'Verordnung des Gouverneurs von Deutsch-Neuguinea betreffend Kokosnüsse, vom 14. Juni 1911', *Dtsch. Kolonialbl.* 22 (1911), p. 739; Johannes Gerstmeyer and Otto Köbner, *Die deutsche Kolonialgesetzgebung. Sammlung der auf die deutschen Schutzgebiete bezüglichen Gesetze, Verordnungen, Erlasse, und internationale Vereinbarungen mit Anmerkungen und Sachregister*, vol. 14. Berlin, (1910), p. 269; Gerstmeyer and Köbner, *Die deutsche Kolonialgesetzgebung. Sammlung der auf die deutschen Schutzgebiete bezüglichen Gesetze, Verordnungen, Erlasse, und internationale Vereinbarungen mit Anmerkungen und Sachregister*, pp. 12, 235, 560; Arno Senfft, 'Polizei–Verordnung [betreffend Bekämpfung der Schildlauskrankheit vom 29. December 1908]', *Amtsbl. Schutzgeb. Dtsch-Neuguinea*, 1 (1909), p. 7; Wilhelm Stuckhart, 'Polizeiverordnung [betreffend Bekämpfung der Schildlauskrankheit] vom 27. Mai 1909', *Amtsbl. Schutzgeb. Dtsch-Neuguinea* 1 (1909), pp. 117–18; Anonymous, 'Koloniale Gesetze und Verordnungen in Jahre 1908', *Zeitschrift für Kolonialpolitik, Kolonialrecht und Kolonialwirtschaft* 11 (1908), pp. 349–69; Arno Senfft, 'Verordnung des Kaiserlichen Bezirksamtmanns in Jap, betreffend Verhütung der Weiterverbreitung der Schildlauskrankheit vom 1. Juli 1908', *Dtsch. Kolonialbl.* 19 (1908), p. 996.

Also in 1900 Senfft had the entire island of Yap fumigated 'from one end to the other'.[98] That process, which was repeated in January 1901,[99] essentially assumed that smoke would either kill the insects or drive them away (but where they might go was not discussed). There are no details on the techniques used. The fumigation ('abräuchern') may well have been limited to normal smoke generation using wet plant matter rather than using 'proper' insecticides. It would appear that the method was not successful.[100] Even though the success of the measure was not clear, Senfft ordered that the whole island again be treated in this way the following year.[101] Senfft noted that this is 'the only toilsome job that is only possible with the aid of the natives themselves'. To combat the coconut scale insect, Senfft operated with military precision: 'Every village has to mark out lines from the coast to the non-infected interior and an east to west direction, with inflammables, which are simultaneously lit at a smoke and horn signal given from the mountains. Various chiefs certify that improvements can be observed; meanwhile it is advisable to reserve judgement, for the disease wanders a good deal, it leaves plants, but also often returns'.[102]

Senfft also solicited technical advice from fellow administrators and professionals. As early as 1900 he had sent samples of diseased leaves to his fellow administrators, Georg Fritz in Saipan and Albert Hahl in Pohnpei (later Herbertshöhe, New Britain) to warn them about the plant pest.[103] In 1901 Senfft, following official channels, requested that the Imperial Foreign Office make formal enquiries at the Botanic Gardens in Buitenzorg, to investigate whether the Dutch had developed techniques to combat the disease. As mentioned above, samples of diseased palm leaves were sent to Herbertshöhe and from there on to the German consul in Batavia (Jakarta), with the request to have the disease identified.[104]

In 1902, Senfft needing further technical advice directly contacted Leo Zehntner, an entomologist in Salatiga (Java, Indonesia) who had authored a series of descriptive articles on scale insects affecting sugar cane.[105] Like the advice Senfft had earlier received from Albrecht Zimmermann, the director of the Kaiserlich Biologisch-Landwirtschaftlichen Institutes in Amani in German

Note 97 *continued*
Kolonialgesetzgebung. Sammlung der auf die deutschen Schutzgebiete bezüglichen Gesetze, Verordnungen, Erlasse, und internationale Vereinbarungen mit Anmerkungen und Sachregister. Sechster Teil 1901 bis 1902 (1903), p. 221.

[98] Volkens, 'Schildlauskrankheit'.

[99] Arno Senfft, Letter to Imperial Governor von Bennigsen in Herbertshöhe, dated Yap 3 January 1901, Jan 3 1901, Record Series G1, file 7, German Colonial Archives Rabaul, Allgemeine Verwaltung Yap, National Archives of Australia; Kolonialamt, 'Jahresbericht 1901/02'.

[100] As predicted by Volkens, 'Schildlauskrankheit'.

[101] Kolonialamt, 'Jahresbericht 1900/01'.

[102] Ibid.

[103] Ibid.

[104] Bennigsen, Imperial Governor von Bennigsen to German Consul in Batavia, dated Herbertshöhe 18 August 1901.

[105] Leo Zehntner, 'De plantenluizen van het Suikerriet op Java. xi–xii', *Archief voor Java-Suikerindustrie* 9 (1901), pp. 577–94; Leo Zehntner, 'De plantenluizen van het Suikerriet op Java. xiii–xv', *Archief voor Java-Suikerindustrie* 9 (1901), pp. 673–94; Leo Zehntner, 'Overzicht van de Ziekten van het Suikerriet op Java', *Archief voor Java-Suikerindustrie* 5 (1897), pp. 525–75; Leo Zehntner, 'De plantenluizen van het Suikerriet op Java. IV. Aspidiotus sacchari caulis n. sp.', *Meded. Proefstat. Oost-Java* 39 (1897), pp. 1–10; Leo Zehntner, 'De plantenluizen van het Suikerriet op Java. II. Chionaspis sacchari-folii n. sp. III. Chionaspis depressa n. sp.', *Meded. Proefstat. Oost-Java*, 36 (1897), pp. 1–26; Leo Zehntner, 'De plantenluizen van het Suikerriet op Java. [V. VI. and VII.] '*Archief voor Java-Suikerindustrie* 6 (1898), pp. 1085–98; Leo Zehntner, 'De plantenluizen van het suikerriet op Java', *Mededeelingen van het Proefstations voor Suikerriet in West-Java te Tagok-Tegal* 37 (1898), pp. 1–14.

East Africa, it was recommended to cut off all diseased leaves except for the heart of the palm, and burn them at the base of the palm.[106] This equates to the removal and destruction of all infested leaf matter while using the resulting smoke for (ineffectual) fumigation. This recommendation was trialled in 1902/03 but the success was deemed to be very low.[107] The success rate was possibly affected by the pool of coconut scale insects on other hosts, such as fruit trees, and by the fact that mainly older, and thus much taller trees had been affected. The procedure was continued in subsequent financial years but seems to have been just as ineffective.[108]

Senfft used his visits to the outer islands to exhort the chiefs of the various atolls to exercise vigilance regarding coconut scale infestations and employ the same treatment.[109] If acted upon quickly and decisively, an infestation could be mitigated and the coconut scale insect eradicated. An example of this is the atoll of Satawal in the Central Carolines, from where an infestation was reported in 1901, but found to eradicated in 1905 with no new infestation a year later.[110] Similarly, it was reported from Lamotrek in 1901 and observed there by Senfft in September 1903 despite the trader O'Keefe's attestations to the contrary.[111] Directives on containment seem to have worked, as in 1905 only four palms were found to be affected, which Senfft directed to be cleansed with the infested leaves to be burned.[112]

The other treatments suggested by Zimmermann, such as the application of soap to every leaf, or the spraying of the trees with gasoline (petroleum) were impractical given the extent of the infestation and the height of the palms. It appears that some plantation owners were also privately planning to trial an unspecified remedy discovered in South America, presumably Frutolin.[113]

Following the successful introduction of a coccinellid species to combat cushy cotton scale (*Icerya purchasi*) in California, there was a great deal of enthusiasm during the late nineteenth century in using ladybird beetles for all manner of biological plant pest control, in particular scale insects.[114] This was a time that Lounsbury called the 'ladybird fantasy period'.[115] The professional press as well as newspapers were full of references on how to tackle the San Jose scale (*Quadraspidiotus perniciosus*) with ladybird beetles one of the advocated solutions.[116] Not

[106] See Max Hollrung, 'Krankheiten der tropischen Nutzgewächse', Jahresbericht über die Neuerungen und Leistungen auf dem Gebiete der Pflanzenkrankheiten 1901, 4 (1903), pp. 215–40.

[107] Kolonialamt, 'Jahresbericht 1902/03'.

[108] Kolonialamt, 'Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1903/1904', *Stenographische Berichte über Verhandlungen des Reichstages XI. Legislaturperiode, 1. Session, 1903/1905. 5. Anlageband* (1904), pp. 2992–9; Kolonialamt, 'Jahresbericht 1904/05'.

[109] For example on Ulithi and Lamotrek: Arno Senfft, 'Deutsch Neu-Guinea. Bericht des Kaiserlichen Bezirksamtmanns Senfft über seine Rundreise durch die Westkarolinen und Palau-Inseln', *Dtsch. Kolonialbl.*, 17 (1906), pp. 281–86.

[110] Kolonialamt, 'Jahresbericht 1901/02'; Fritz, 'Reise'; Senfft, 'Rundreise', p. 284.

[111] Senfft, 'Reise nach den Westkarolinen'.

[112] Kolonialamt, 'Jahresbericht 1901/02'; Senfft, 'Rundreise', p. 283.

[113] Kolonialamt, 'Jahresbericht 1902/03'.

[114] Cushy cotton scale: L. E. Caltagirone and R. L. Doutt, 'The history of the vedalia beetle importation to California and its impact on the development of biological control', *Annu. Rev. Entomol.* 34 (1989), pp. 1–16.

[115] Waterhouse and Norris, '*Aspidiotus destructor*', p. 19; Charles Pugsley Lounsbury, 'The pioneer period of economic entomology in South Africa', *J. Entomol. Soc. South. Afr.* 3 (1940), pp. 9–29.

[116] L. O. Howard and C. L. Marlatt, *The San Jose Scale: Its occurrences in the United States with a full account of its life history and the remedies to be used against it* (1896); A. L. Quaintance, *The San Jose scale and its control* (1915).

surprisingly then, based on his first-hand experience of the problem on Yap, Georg Volkens recommended the introduction of coccinellid beetles to be sourced from the Philippines as the place of the origin of the pest, or ideally from German New Guinea, presumably as matters were then kept in-house.[117]

It is ironic that one of the chief protagonists of the successful introduction of coccinellid control in California, Albert Koebele, worked in Hawai'i. While geographically almost next door, it was just as far away as Berlin as far as the mail service was concerned and we do not know to what extent he was consulted directly by Senfft or via Volkens, if at all. Volkens was not an entomologist, but must have obtained his information from colleagues in the field. At any rate, he recommended the introduction of coccinellid beetles, but did not specify which species. Volkens' recommendations were acted upon, and the first import of coccinellid beetles from German New Guinea occurred in 1901. As the beetles were shipped by administrative staff, rather than trained entomologists, the import largely failed due to high beetle mortality on the voyage. As the direct shipping service was terminated in early 1902, the importation could not be repeated the following year.[118]

Senfft seems to have been determined to obtain help from wherever he could. On occasion of his visit to Saipan in August 1903, he noted coccinellid beetles on infested fronds encountered at the Saipan government experimental farm.[119] Senfft collected a number of these and requested that additional specimens be collected and sent from Saipan to Yap at every possible opportunity. This occurred during the following financial year. Upon receipt of the beetles, Senfft spread the insects on different parts of Yap.[120] The fate of these ladybird beetles is not recorded, suggesting that the translocation was not a success.

Eventually, beetle importations could resume with the commencement of a regular mail steamer service in 1904, which connected German Micronesia with Sydney and Hong Kong.[121] In subsequent years additional specimens were obtained from German New Guinea, Australia, the Philippines and the German possessions in China.[122] Their success was very limited, as, unbeknown to the German authorities, many species of ladybird beetles had distinct food preferences.

Concurrent with biological plant control, manual measures were continued and expanded to Palau. There the German administration aimed at indirect control and enlisted the help of the traditional Palauan leaders, the *rupaks* (chiefs). Following a meeting with all *rupaks* in August 1904 the extent of the coconut scale infestation on Palau had become clear, but it still seemed possible to control it. At the meeting, Senfft appears to have specified the removal of all affected fronds and burning them at the base of the tree.[123] That directive does not seem have been followed, for on November 1905 Senfft dispatched his chief of police, Wilhelm Winkler to bring the *rupaks* into line. On 8 November 1905 Winkler formally directed that all infested palm fronds were to be cut down and burnt. For that work he estimated that one hour per

[117] Volkens, 'Schildlauskrankheit'.
[118] Kolonialamt, 'Jahresbericht 1901/02'.
[119] Senfft, 'Reise nach den Westkarolinen'.
[120] Kolonialamt, 'Jahresbericht 1903/04'.
[121] Spennemann, 'Time table and brief history'.
[122] reviewed in Dirk H. R. Spennemann, 'Introduction of coccinellid beetles to control the coconut scale insect *Aspidiotus destructor* Signoret 1869 in Micronesia 1901–1914', *Orient. Insects* (2019)
[123] Reichskolonialamt, 'Jahresbericht 1905/06'; Senfft, 'Reise nach den Westkarolinen'

week would suffice.[124] Thus assumption was deemed quite unrealistic.[125] Indeed, it appears that Winkler's directive was studiously ignored. This is not surprising, however. After all, while copra was a cash crop that provided income, it did not have the same level of importance in the Palauan economy as it had for the German traders and administrators.

In September 1906 the visiting German district administrator Georg Fritz directed the *rupaks* of Palau to ensure that the coconut scale insect was eradicated on Palau to the greatest extent possible.[126] After yet another meeting with *rupaks*, Fritz authorized the station administrator Winkler to police the matter. To that end Winkler issued on 7 October 1907 a police directive to reduce the impact of the coconut scale insect. On 29 December 1908 this directive was replaced by a formally promulgated government regulation which stipulated that all land users, regardless of the nature and extent of actual ownership, were required to destroy infected palms and vegetation, by cutting off the affected parts and burning them immediately.[127] Any contravention of the regulation was subject to a fine of up to RMk 150 (or jail in cases when the fine could not be paid) unless other and stricter laws were found to be applicable. To put the enormity of the fine into context, it needs to be appreciated that the official daily wage for manual labour as offered by the German administration was RMk 1.[128] The practical implementation of that regulation stipulated that all residents had to remain at home for three days every full moon to look after their coconut palms and to destroy all infested fronds. This was enforced by local police who inspected the plantations and who reported any infringement. The owners of infested palms were fined. While Volkens and Augustin Krämer (in Palau in 1909) attested that the system was effective, it was also open to abuse by the police.[129]

On Yap, however, nothing had changed by the end of 1908, with the government conceding that all attempts at containment had failed.[130] In view of the relative success on Palau, the same strategy was deemed to hold the greatest long-term promise for Yap since all other approaches had failed.[131] Consequently, a renewed program of manual control was implemented and maintained for several years, effectively a rearguard holding action.[132] In the absence of strong community buy-in and self-interest by individuals in the program, however, it could only be implemented through formal regulation.

Politically, the utter ineffectiveness of the German administration at combatting the tiny coconut scale insect could have turned out disastrously for the German presence: the

[124] Senfft, 'Rundreise'; Augustin Krämer, *Palau. Ergebnisse der Südsee-Expedition 1908–10. Abteilung III: Siedelungen, Bezirke, Dörfer, Verfassung. Abteilung IV: Demographie, Anthropologie, Sprache* (Hamburg, 1919), p. 43; id., *Palau. Ergebnisse der Südsee-Expedition 1908–10. Abteilung V: Stoffliches. Abteilung VI: Geistige Kultur* (Hamburg, 1926), iii, p. 43.

[125] Krämer, *Palau vol.2*, 2, 43; Krämer, *Palau vol. 3*, 3, 43.

[126] Fritz, 'Reise'

[127] Arno Senfft, 'Verordnung des Bezirksamts von Yap, betreffend Bekämpfung der Schildlauskrankheit vom 29. December 1908', *Dtsch. Kolonialbl.*, 20 (1909), p. 303.

[128] Spennemann, *Edge of empire*, 106.

[129] Effective: Georg Volkens, 'Maßnahmen zur Bekämpfung der Schildlaus', *Amtsbl. Schutzgeb. Dtsch-Neuguinea*, 1 (1909), p. 122.—abuse: Krämer, *Palau vol.2*, 2, 43.

[130] Reichskolonialamt, *Jahresbericht 1908/09.*

[131] Reichskolonialamt, *Jahresbericht 1909/10.*

[132] Reichskolonialamt, *Denkschrift über die Entwickelung der Schutzgebiete in Afrika und der Südsee 1910/11* (1911); Reichskolonialamt, *Denkschrift über die Entwickelung der Schutzgebiete in Afrika und der Südsee 1911/12* (1912), p. 161.

administration was at risk of losing the respect of the local population and thus, ultimately its perceived moral authority. The Good Friday typhoon of 1907, with its widespread destruction and long-lasting economic toll, provided a welcome circuit-breaker.[133] Other issues were at the forefront, and any loss of productivity could be attributed to that event.

Concurrent with these administrative developments, scientific solutions were still being sought. Most of the treatments, however, proved ineffective. For example, an outbreak of the coconut scale insect in the German colony of Togo in 1900 had been combated, without much effect, with a petroleum-based soap as well as with natural, plant-based insecticides.[134]

In 1905 the German colonial administration finally established a regional botanical garden and experimental farm at Rabaul (then Simpsonhafen, German New Guinea) which eventually acted as a clearing house of introduced plants and technical advice.[135] Even though Volkens had drawn attention to the matter as early as 1901,[136] it took until 1908 for the German colonial head office to take the matter seriously. In late 1908, the Imperial Research Office for Agriculture issued a review report on the effectiveness of biological control methods to combat the coconut scale insect, which was published in a leading journal for tropical agriculture. Drawing on less well-understood concepts of population dynamics, the review argued that the introduction of coccinellid beetles was at best useless, and at worst would be detrimental, as adult beetles might carry juvenile scale insects to new hosts. While admitting that the author did not possess any first-hand experience with the specific insect, the review urged that if – despite their advice to the contrary – further attempts were to be made to introduce coccinellid beetles from New Guinea or Saipan to the Carolines or Palau, this should be trialled on a small island to evaluate their effectiveness. Instead of biological control, the report strongly advocated the trial and use of insecticides, either a commercial product (Markasol),[137] a nicotine-based mixture, or an insecticidal soap (potassium hydroxide, tree resin and whale oil).[138] The recently developed

[133] Spennemann, *Typhoons in Micronesia*; id., *Melimel*.

[134] Volkens, 'Schildlauskrankheit'.

[135] Jahresbericht Simpsonhafen, 'Jahresbericht des Botanischen Versuchsgartens zu Simpsonhafen. Denkschrift über die Entwicklung der deutschen Schutzgebiete in Afrika und in der Südsee 1905/1906', *Stenographische Berichte über Verhandlungen des Reichstages XII. Legislaturperiode, 1. Session*, 239 (1907), pp. 334–35; Rudolph, 'Obergärtner Rudolph berichtet über eine Dienstreise nach den Inseln Nanuk und Palakuvur (23.–27.Februar 1909)'.

[136] Volkens, 'Schildlauskrankheit'.

[137] Markasol was an insecticide manufactured by Bayer & Co, Elberfeld. It had proved effective against coconut scale insects in German East Africa, where it could be applied to young, and thus accessible palms. We are uninformed whether it was ever trialled in Micronesia or German New Guinea. J. Voßeler, 'Dritter Jahresbericht des Kaiserlich Biologisch-Landwirtschaftlichen Institutes in Amani für das jahr 104/05. Bericht des Zoologen', *Berichte über Land- und Forstwirtschaft vom Kaiserlichen Gouvernment von Deutsch-Ostafrika in Dar-es-Salam*, 2 (1905), pp. 409–43. The insecticide is not to be confused with the Bismuth borophenate application 'Markasol' which was sold as an 'antiseptic recommended as a substitute for iodoform, as a non-irritating dry dressing for wounds, ulcers, excoriations, burns, etc'. Druggists Circular, *The modern materia medica. The source, chemical and physical properties, therapeutic action, dosage, antidotes and incompatibles of all additions to the newer materia medica that are likely to be called for on prescriptions* (3rd edn, New York, 1912), p. 172; Virgil Coblentz, *The Newer Remedies including their synonyms, sources, methods of preparation, tests, solubilities, incompatibles, medicinal properties, and doses as far as known, together with sections on organo-therapeutic agents and indifferent compounds of iron. A reference manual for physicians, pharmacists, and students* (3rd edn, Philadelphia, 1899), p. 30.

[138] Kaiserlich Biologische Anstalt für Land und Forstwirtschaft, 'Über die Frage der Schildlausbekämpfung', *Amtsblatt für des Schutzgebiet Deutsch-Neuguinea* 1 (1909), pp. 9–11.

chemical insecticide *Frutolin* was advocated as being effective against scale insects in the German-language press of the USA and Australia.[139] The insecticide was eventually trialled in Yap in 1909/10, apparently with some success.[140]

As a graduate in colonial agriculture at the Imperial horticultural training school, Karl Rudolph, the government agriculturalist at Rabaul, followed the directions of the Imperial Research Office for Agriculture and approached the problem scientifically by systematically trialling a number of treatments on the small island of Nanuk in the Duke of York Group in 1909.[141] He treated two rows of coconut palms each with a nicotine-based soap; with Avenarius-Carbolineum[142] solution of 2 per cent concentration; with a Bordeaux mixture; and with a mixture of tobacco lye ('Tabaklauge') and Calcium hydroxide in solution. As control, some rows of palms were sprayed with seawater. In addition, Rudolph trialled a 10 per cent solution of Fichtenin[143] on heavily infested palms.[144] The treatment had no detectable success and it was not repeated.[145]

In furnishing their advice, the Imperial Research Office for Agriculture seems to have primarily drawn on agricultural publications from the USA.[146] An abridged version of the advice was published in the official government publication, the *Amtsblatt für das Schutzgebiet Deutsch-Neuguinea*.[147] Since the *Amtsblatt* was not only distributed to all district administrations but was also subscribed to by the major plantation owners, it potentially had a major

[139] Frutolin was developed by the was developed (and patented) by Franz Fielitz and Georg Eisler, both working at the German consulate in Montevideo (Uruguay). Anon., 'Frutolin', *Australische Zeitung (Adelaide)* 55 (1903), p. 5 col. b; Anon., 'Frutolin', *Der Deutsche Correspondent (Baltimore)* 63 (1903), p. 2 col. b. Tests in Montevideo had shown Frutolin to be reputedly not only effective against scale insect, but also against beetles affecting palms and olives. The original article had appeared in the Export-Fachblatt 'Das Echo' (Berlin). Frutolin also found mention in published official U.S. consular reports Albert W. Swalm, 'Destruction of Fruit Scale in Uruguay', *Monthly Consular Reports* 72 (1903), pp. 476–7.

[140] Reichskolonialamt, *Jahresbericht 1908/09*.

[141] Rudolph was class of 1899: Theodor Echtermeyer, 'Verzeichnis der Hörer und Hospitanten nach Jahrgängen geordnet 1824–1913', in Theodor Echtermeyer (ed.), *Die Königliche Gärtnerlehranstalt Dahlem. Denkschrift zur Erinnerung an das zehnjährige Bestehen der Anstalt in Dahlem* (1913), pp. 177–283.

[142] Carbolineum Avenarius, was a tar-oil based antiseptic preparation for impregnating and coating wood. It was manufactured by Gebrüder Avenarius, Gau-Algesheim, Germany, and had been on the market since the mid 1870s Muecke & Co, 'Carbolineum Avenarius' (Pacific Rural Press 44, 1892), p. 77 (patented as 'Avenarius Carbolineum', Deutsches Reichspatent 46021/1888).

[143] Fichtenin was an insecticide trademarked in January 1907 by E. Fichtenau, of 421 Franz-Josef Strasse, Friedek, Silesia (Austria) Anonymous, 'Trademarks applied for', The chemist and druggist, 70 (1907), p. 254; Anon., 'Trademarks published February 12, 1907', *Official Gazette of the United States Patent Office* 126 (1907), p. 2576. From the limited data available, it seems to have been a fir extract which was applied as spray, supposedly acting as pheromone-based repellent. Reference to efficacy testing are limited, e.g. against woolly Apple aphids (ineffective) Martin Schwartz, 'Über einige neue und alte Mittel zur Bekämpfung schädlicher Insekten', *Kaiserlich Biologischen Anstalt für Land-und Forstwirtschaft*, 6 (1908), pp. 491–8.

[144] Rudolph, 'Obergärtner Rudolph berichtet über eine Dienstreise nach den Inseln Nanuk und Palakuvur (23.–27.Februar 1909)'.

[145] Karl Rudolph, 'Bericht über de zweite Dienstreise nach Nanuk und Palakuwur (7.–11.September 1909)', *Amtsbl. Schutzgeb. Dtsch-Neuguinea*, 1 (1909), p. 151.

[146] e.g. Frank H. Hall, 'Spraying and Fumigating for San José Scale', *New York Agricultural Experiment Station Bulletin (Popular Edition)* 202 (1901), pp. 1–6; Victor H. Lowe and Percival J. Parrott, 'San José Scale Investigations III', *N.Y. Agric. Exp. Stat. Bull.*, 202 (1901), pp. 1–45.

[147] Kaiserlich Biologische Anstalt für Land und Forstwirtschaft, 'Schildlausbekämpfung'.

exposure.[148] Reading the report of the Imperial Research Office for Agriculture, one wonders whether its author actually considered the practicality of administering a herbicide in the crowns of palms that were some 15 to 20 m above the ground. While it remains unclear, however, to what extent the advice proffered by the Imperial Research Office for Agriculture was actually followed, it was certainly contested. Volkens took issue with Schwartz and in a short note in the *Amtsblatt,* he commented on the fact that manual control and coccinellid beetles had proven to be effective, but that spraying had not.[149] Likewise, German planter Paul Preuß took issue with Schwartz's approach and noted that coccinellid beetles were effective.[150] While coccinellid beetles might not eradicate coconut scale insects altogether, they sufficiently depressed their numbers to make copra production viable.[151]

In recognition that coconut scale insect also infested plants other than coconuts, and thus could be spread by these means, Senfft moved to further control the spread of coconut scale insect in July 1908. To prevent coconut scale insect being carried to other islands, he prohibited the export of *all* plants and plant materials from Yap and Palau ('Verordnung des Kaiserlichen Bezirksamtmanns in Jap, betreffend Verhütung der Weiterverbreitung der Schildlauskrankheit'). While (clean) copra was specifically excepted, the regulation prohibited that baskets and bags made from plant materials were taken on board of any vessel.[152] The masters of the vessels were held personally responsible for the enforcement of the regulation, with government officials given the powers to inspect vessels at any time and to confiscate contravening plant matter, regardless of ownership. This power was backed up with a threat of severe fines (RMk 2,000 or two month jail). While one wonders to what extent this could be enforced for traditional inter-island canoes, such draconian measures, born out of desperation, would not have sat well with the islanders. Unfortunately, we do not have any indigenous voices in this whole affair. Any local objections or dissent would have been recorded in local correspondence and file notes, which would have been kept in the local station and district files that have been lost since World War II.

After Senfft left Yap for Germany (and died en route at Hong Kong), the administration of Yap (and the Marianas) passed to Georg Fritz who was moved there from Pohnpei, and who had been acting in Senfft's position when the latter was on furlough in early 1907. Fritz seems to have had a different attitude and been less interventionist. Nonetheless, he pursued the same course as Senfft on Palau, where a further modification to the regulations was ordered in December 1908. We can assume that the Palau regulation was based on examples set by Senfft in Yap, even though they do not seem to have been formally gazetted for that island (possibly because the infestation had progressed too far). On occasion of an inspection visit to Yap the Governor of German New Guinea, Albert Hahl, moved to restrict the movement of coconuts altogether. A widely publicized regulation of 14 June 1911, applicable to all of

[148] Dirk H.R. Spennemann, 'Government Publishing in the German Pacific 1885–1914', *J. Pac. Hist.* 52 (2017), pp. 68–95.

[149] Volkens, 'Schildlaus'.

[150] Paul Preuß, *Die Kokospalme und ihre Kultur* (1911).

[151] See also Friedrich Zacher, 'Die Schädlinge der Kokospalmen auf den Südseeinseln', *Arbeiten aus der Kaiserlich Biologischen Anstalt für Land und Forstwirtschaft* 9 (1913), pp. 75–120.

[152] Johannes Gerstmeyer and Otto Köbner, *Die deutsche Kolonialgesetzgebung. Sammlung der auf die deutschen Schutzgebiete bezüglichen Gesetze, Verordnungen, Erlasse, und internationale Vereinbarungen mit Anmerkungen und Sachregister*, vol. 12 (1908), p. 235.

Western Micronesia, stipulated that coconuts had to be de-husked on the land and could only be moved from one island to another if the husk was left behind. Exempt from this rule were nuts removed for planting purposes and nuts destined for human and animal consumption. The primary aim of this regulation was to cut down on potential harbours for the Rhinoceros beetle (*Oryctes rhinoceros*) and other pests. Any unauthorized movement of coconuts was subject to a fine of up to RMk 150 (or jail) applicable to *both* the seller and buyer. The permissibility of moving nuts for human and animal consumption, however, constituted a loophole for further spread of the beetles as well as to further spread the coconut scale insect.

In May 1909 the district administrator of Jaluit, Wilhelm Stuckhardt, also moved to regulate the destruction of any plant matter found to be infested with the insects. The regulation stipulated that people living on properties must cut off and burn all parts of coconut palms infested with the coconut scale insect regardless of whether they own, rent or otherwise squatted on the property.[153] This was prompted by the discovery of a coconut scale insect infestation on Nauru with the fear that inter-island travel might spread the insect to the Marshalls proper.[154] As the phosphate industry on Nauru was just commencing at the time, the copra industry, which was the sole source of revenue for the Marshall Islands district, had to be protected at almost all costs.

It is worth noting, however, that the administration of the Eastern Caroline district (comprising Pohnpei, Kosrae, Chuuk, and outer atolls), does not appear to have passed any regulations to manage coconut scale insect. While the copra production on the high islands of Pohnpei and Kosrae was limited, as the high humidify hampered air-drying, the outer atolls of the Central Caroline Islands were reliant on copra for cash income.

Clearly, Senfft had a sense of agency and took matters into his own hands. His overarching concern was to find something – anything – that worked. And in the absence of an obvious silver bullet, it was with trialling anything that might have worked in other settings. One never knew – it just might work. At the same time, his activity demonstrated to his superiors, to the expatriate planters and traders, and to the Yapese population that the administration was not complacent in the matter. As time passed without a solution, despite the veritable parade of attempts, the unwanted side effect was that the German administration became seen as ineffective.

VII

When Arno Senfft took up the position of first administrator of the Western Colonies district, he faced a number of challenges, some of which he anticipated – and thus was prepared – and some which were unexpected. He came prepared to impose the political will of colonial Germany on a fractious and potentially adversarial indigenous community. Bringing along the economic botanist Georg Volkens, Senfft was also prepared to unlock the economic potential of

[153] P. Zorn and F. J. Sassen, *Deutsche Kolonialgesetzgebung, Text-Ausgabe mit Anmerkungen und Sachregister* (Guttentagsche Sammlung Deutscher Reichsgesetze 49, sec. edn, 1913), 404; Wilhelm Stuckhart, 'Verordnung des Bezirksamtmanns von Jaluit betreffend Bekämpfung der Schildlauskrankheit vom 27. Mai 1909', *Dtsch. Kolonialbl.*, 20 (1909), p. 1123.

[154] Müller, 'VI. Karolinen und Marshall-Inseln'.

the islands and to eventually open up at least some of the land to German agronomic interests. Unexpected, however, was that the very economic basis of the colony, copra, was threatened by the coconut scale, a small insect infesting the crowns of palms many meters above the ground.

During the early days, official guidance and specialist technical advice was far away, both in space (Berlin) and time, given the unreliability of shipping and the associated long mail delivery times. Consequently, Senfft had to keep his own counsel and develop technical directions based on his own reading and advice obtained from any available source he could communicate with. In the absence of pertinent and well-founded technical advice, let alone a silver bullet, Senfft embraced a shotgun approach, combining government-executed activities with measures to be carried out by the landowners. All these measures were backed up by government directives and ordinances, compelling participation. Senfft directed owners to engage in manual control by destroying infested leaves, while at the same time he had the entire island fumigated, and trialled control with insecticides and the introduction of biological agents. As far as can be ascertained, the introduction of the coccinellid beetles to Yap was the first organized trial of biological plant control in the Pacific.

To Senfft's frustration, none of the measures really worked and the coconut scale insect continued to devastate Yap and spread through Palau. He could chalk up one success, however. His regulatory measures to prevent the spread of coconut scale insect from Yap to the outer atolls seems to have been successful. Where an incipient infestation was noted, such as on Lamotrek, it could be successfully contained and eradicated, thereby safeguarding the copra industry on the outlying atolls.

After 1909 there seems to be a major decrease in interest in the subject matter and the extent of infestation is no longer mentioned. It appears that some of the containment measures seem to have worked in reducing the impact, coupled with what appears to be a cyclical decrease in infestation. The importation and release program of ladybird beetles seems to have come to a slow-down and eventual halt at the end of the first decade of the twentieth century. By that time, the original administrators of the districts had moved on (Fritz, Hahl) or died (Senfft, Berg) leading to a loss of institutional memory.

Finally, and possibly more significantly, the economic basis of colonial revenue in the island territory had shifted from copra and agricultural produce to the lucrative phosphate mines on Nauru (exploited from 1907) and Angaur on Palau (exploited from 1908). The major trading firm in the region, the Jaluit Gesellschaft, had also invested in the phosphate mines and therefore was likewise less reliant on copra.[155] Consequently, the viability of the colony was assured as far as the colonial government was concerned, although the coconut scale insect reduced the cash crop returns for the Indigenous population. The different priorities are well reflected in the later budgets.[156]

[155] Wolfgang Treue, 'Die Jaluit-Gesellschaft', *Zeitschrift für Unternehmensgeschichte* 7 (1962), pp. 108–23; id., 'Der Erwerb und die Verwaltung der Marshall-Inseln. Ein Beirag zur Geschichte der Jaluit-Gesellschaft' (Unpubl. PhD Thesis, Friedrich-Wilhelms Universität, 1940).

[156] Reichskolonialamt, 'Deutscher Reichstag. Entwurf eines Gesetzes betreffed die Feststellung des Haushaltsetats für die Schutzgebiete auf das Rechnungsjahr 1913. Etat für das Schutzgebiet Neu Guinea einschliesslich der Inselbezirke der Südsee auf das Rechnungsjahr 1913' (1912); Reichskolonialamt, 'Deutscher Reichstag. Entwurf eines Gesetzes betreffed die Feststellung des Haushaltsetats für die Schutzgebiete auf das

The outbreak of World War I in August 1914 saw the end of the German colonies in the Pacific. By the end of October 1914 all German possessions in Micronesia had been occupied by Japan, which was to continue to administer the Marshall, Caroline and Mariana Islands as well as Palau until World War II. When the German administrators were relieved of their posts, all non-secret administrative files were passed to the Japanese occupiers. While the Japanese administrators could have consulted them for their own efforts at plant protection, the accumulated institutional memory seems to have been lost at take-over and the Japanese had to develop their own strategies.[157]

Note 156 *continued*
Rechnungsjahr 1914. Etat für das Schutzgebiet Neu Guinea einschliesslich der Inselbezirke der Südsee auf das Rechnungsjahr 1914' (1913).

[157] See Teiso Esaki, 'A preliminary report on the entomological survey of the Micronesian islands under the Japanese Mandate, with special reference to the insects of economic importance', in Teiso Esaki (ed.), *Proceedings of the sixth Pacific Science Congress of the Pacific Science Association University of California, Berkeley, Stanford University, and San Francisco, July 24th to August 12th, 1939* (1940), pp. 407–15; id., 'Pests of Micronesia'.

The long road to stability: egg farmers in Canada and fair farm pricing*

by Jodey Nurse and Bruce Muirhead

Abstract

Supply management has come under enhanced scrutiny in recent years because it operates on principles contrary to the guiding philosophies of neoliberalism that currently inform most industrialized nations' decisions regarding economic development. This article demonstrates why Canada chose to adopt a system of greater regulation, rather than less, in the egg farming industry by examining the events leading to supply management's implementation on a national scale in 1972. It argues that previous efforts to improve egg farmer income and industry stability through subsidies, government-purchasing programs, and increased trade were ineffective and often intensified the fundamental issue of overproduction. It was not until postwar agricultural policy makers and farm advocates in Canada turned to organized marketing, specifically controlled production, that an era of greater stability began. Greater regulation resulted in the continuation of a cross-country egg farming industry that has survived into the twenty-first century.

In recent years, the regulated model of supply management, also referred to as fair farm pricing, has come under enhanced scrutiny, particularly by those who believe in the sanctity of 'the market'. Beginning in the early 1980s, the concept of neoliberalism became the guiding principle on which industrialized nations based their economic development. It consists of a number of tenets – articles of faith for those who subscribe to neoliberalism's infallibility – including deregulation, privatization, free trade, and a reduced government presence in the economy more generally. Canada's supply-managed dairy, egg, and poultry sectors have served as a bulwark against the acceptance of these policies more broadly. Based on three pillars – import management, controlled production, and producer pricing – supply management requires a level of economic regulation that contradicts neoliberal tenets. Indeed, supply management has caused conflict in international trade negotiations Canada has undertaken with others.

To appreciate these contemporary concerns, it is worth considering why the system was created in the first place and why it remains, despite a relatively hostile global climate for such regulation. Focusing on the notoriously volatile egg industry, this article uses government records, industry papers and journals, and the popular press to analyse the circumstances

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that led to efforts to stabilize agricultural industries in the post-war period and why a national marketing system emerged in egg production. In examining the era before supply-managed egg production was implemented on a national scale, it becomes clear that previous attempts to ameliorate the situation through subsidies, government purchasing programs, or increased attempts at boosting exports of affected commodities were ineffective and, in fact, often intensified the fundamental issue of overproduction.

It was not until the use of production quotas, coupled with fair farmer pricing and import control, that an environment was created in which egg production could be stabilized and producer incomes strengthened. These measures required cooperation between various levels of government and industry stakeholders with conflicting interests. Despite these conflicts, however, those involved in the egg industry ultimately recognized and accepted that a system that allowed for a coordinated response to managing the egg market through domestic quotas, limited imports, and fair pricing was needed to ensure stability and profitability.

I

The significant paradigm shift that supply management represented has not received much attention from historians of Canada, nor have the sectors covered by the model. Nor indeed has Canadian agriculture as a field more generally, despite its importance to national well-being. In an earlier age, historians were content to write a part of the farm story, but usually with some purpose like nation-building as the theme, or the importance of the so-called wheat economy.[1] It remains the case that the focus for historians continues to be on the earlier periods of the nation's formation: very little has been written about agriculture in the post-war years.[2] Histories of specific commodities, especially those dealing with supply-managed sectors, have been rare in the Canadian context: an analysis written in 1937 remains one of the most recent to be focused on the dairy industry in Canada, while the egg business has never received any sustained treatment.[3] More recently, it has primarily been political scientists and agricultural economists who have engaged with agriculture as an economic sector in Canada, and those disciplines have been in the forefront of any investigation of supply management in terms of analysing the paradigm's perceived merits and shortcomings.

Political scientist Grace Skogstad, for example, has provided the most robust analysis of the system. In her impressive volume, *The politics of agricultural policy-making in Canada*

[1] See, for example, R. L. Frost, *History of agriculture in Ontario, 1613–1880* (1946); V. Fowke, *Canadian agricultural policy: The historical pattern* (1946); and id., *The national policy and the wheat economy* (1957).

[2] See, for example, P. A. Russell, *How agriculture made Canada: Farming in the nineteenth century* (2012); D. McCalla, *Planting the province: The economic history of Upper Canada, 1784–1870* (1993); G. Friesen, *The Canadian Prairies: A history* (1984); and J. McCallum, *Unequal beginnings: Agriculture and economic development in Québec and Ontario until 1870* (1980).

[3] J. A Ruddick, W. M. Drummond, R. E. English, J. E. Lattimer, ed. H. A. Innis, *The dairy industry in Canada* (1937). More has been written by scholars outside of Canada on the poultry industry, especially on the rise of broiler chickens. See W. Boyd, 'Science, technology, and American poultry production', *Technology and Society* 42 (2001), pp. 631–64. For an assessment of the broiler industry in Britain, see A. Godley and B. Williams, 'Democratizing luxury and the contentious 'invention of the technological chicken' in Britain', *Business Hist. Rev.* 83 (2009), pp. 267–90.

(1987), Skogstad explores the effect of federalism on Canadian agricultural policy, and as part of her analysis, considers supply management in the poultry and dairy sectors. Her purpose is to illustrate how political and economic factors led to the creation of the system, however, rather than to provide any sustained evaluation of the model itself.[4] Skogstad does provide some important historical context for the implementation of national marketing and supply management in the 1970s and 1980s, but less is said about the 'continual struggle to maintain, stabilize, and if possible increase farm incomes' that created the environment for national marketing in the first place.[5] More recently, in 2008, Skogstad considered how the system has made 'market-responsive' adjustments since the negotiation of NAFTA and WTO agreements, but has ultimately been resilient against significant change.[6]

As noted, evaluations of the Canadian system have also come from economists who bemoan the cost of 'protectionist' agricultural policies and advocate for greater trade liberalization in the agricultural sector.[7] These supporters of neoliberal trade policies believe that the Canadian system of supply management is anachronistic in an increasingly globalized economy. More common still are the ideological debates that are central to the polarized responses supply management receives, which play out in the popular press and tend to favour the 'free market' narrative.[8] Yet, although supply management has its opponents, a majority of Canadians support the system because of concerns about food security and sovereignty, fairer producer compensation, and a recognition of the associated benefits supply management has for rural communities.[9]

This case study of the Canadian egg sector is important for what it reveals about the history of supply management and Canadian egg farming more generally. As noted above, political scientists and agricultural economists have paid attention to the legislative decisions that govern the egg sector because of supply management, but more understanding about the nature of egg production and why eggs were particularly problematic is needed. Furthermore, a deeper investigation of historical records can reveal a great deal more about stakeholders' concerns over egg production in the twentieth century and the motivations behind marketing changes. Government records, including letters written by and to ministers of agriculture,

[4] G. Skogstad, *The politics of agricultural policy-making in Canada* (1987). Another useful analysis of supply management written by Skogstad is her article 'Policy under siege: supply management in agricultural marketing', *Canadian Public Administration* 36 (1993), pp. 1–23.

[5] Skogstad, *Politics of agricultural policy-making*, p. 84.

[6] G. Skogstad, *Internationalization and Canadian agriculture: Policy and governing paradigms* (2008).

[7] See, for example, Ryan Cardwell, Chad Lawley, Di Xiang, 'Milked and Feathered: The Regressive welfare effects of Canada's supply management regime', *Canadian Public Policy* 41 (2015), pp. 1–14; V. Geloso and A. Moreau, 'Supply management makes the poor even poorer' (Montreal Economic Institute Regulation Series, 2016); J. Berry, A. Oxley and D. LeRoy, 'Canada can eliminate supply management by following Australia's lead', Fraser Institute, www.fraserinstitute.org/article/canada-can-eliminate-supply-management-by-following-australias-lead (accessed 10 May 2019).

[8] See, for example, the opinion pieces of the *Globe and Mail*'s Barry McKenna and John Ibbitson or the *National Post*'s Andrew Coyne.

[9] Ipsos Poll, 'A strong majority of Canadians agree that the federal government should defend Canada's dairy farmers in NAFTA renegotiation', 3 May 2018, www.ipsos.com/en-ca/news-polls/canadian-feds-should-make-more-effort-dairy-nafta (accessed 21 May 2019). See also M. Doyon and S. Bergeron, 'Economic Impact From Farm Investments in Canada (2015), CIRANO, Montreal, 2018. cirano.qc.ca/files/publications/2018RP-12.pdf (accessed 21 May 2019).

articles and correspondence published in farm journals and industry magazines, and material published in the popular press are all used to provide evidence of the ideas and arguments put forward about agricultural marketing, egg farming, and farming more broadly. Finally, while the story being told in this article is a Canadian one, it is a story that played out in a global context. Canada's supply-managed egg system was modeled on similar schemes of production control taking place elsewhere around the globe by governments who were finding it increasingly difficult to deal with increasing supplies, decreased farm prices, and the overall volatility this created.

II

When assessing the trend towards neoliberal agricultural policies in the twenty-first century, a historical examination of twentieth-century economic policies is revealing. Indeed, neoliberalism looks much like the economic paradigms practised in the 1920s and 1930s, before the Second World War changed the way government viewed the process of economic development especially in terms of a role for itself. In the case of eggs, the interwar years saw periods of 'boom and bust' that created instability in the developing industry by causing fear among producers about the future prospects of egg production. Government representatives and industry officials typically believed that the emerging problems of overproduction which resulted in depressed and unstable producer incomes could be solved in large part by increasing domestic consumption through promotion and strengthening exports. It was difficult to export shell eggs, however, or even processed eggs into the 1960s.[10] Even in the globalized twenty-first century, only about 2.7 per cent of total global egg production is traded internationally.[11]

The causes of overproduction were varied, but generally they reflected changing markets, agricultural innovation and transformation, and industry troubles occurring over the course of the century. Although eggs had been an important food source for millennia, the industry that developed in the twentieth century was a far cry from the simple gathering that went on in times past. For instance, in the nineteenth century, poultry was largely considered a supplementary source of income provided through the labour of a farmer's wife and family rather than a valued and central element of the farming economy.[12] By the mid-nineteenth century, significant markets for eggs and some other poultry products had developed in the United Kingdom and the United States, and by the late-nineteenth century, Canadians living

[10] For example, following WWII, trade reports regularly did not include eggs, despite reporting on a myriad of other agricultural products, because the trade was so small. United Nations, *World Economic Report, 1948* (1949), www.un.org/en/development/desa/policy/wess/wess_archive/searchable_archive/1948_WESS_Full.pdf (accessed 21 May 2019).

[11] See H.-W. Windhorst, 'Changing patterns of global egg trade between 2006 and 2016 – Part 2', Zootechnica International, 5 Nov. 2019, zootecnicainternational.com/featured/changing-patterns-global-egg-trade-2006-2016-part-2/ (accessed 25 June 2020).

[12] This was a common assessment, but the importance of women's poultry work has been shown to be of significant value for farming families, especially those in more marginal farming regions. See Brian Short, '"The art and craft of chicken cramming": Poultry in the Weald of Sussex, 1850–1950', *AgHR* 30 (1982), pp. 17–18; M. Winstanley, 'Industrialization and the small farm: Family and household economy in nineteenth-century Lancashire', *Past and Present* 152 (1996): p. 173; p. 175.

in urban centres were looking to purchase eggs supplied by producers in the rural hinterland. By the First World War, significantly more eggs were being sold, while more specialized poultry associations and government research extension agents were providing leadership and information about improved production methods to aid those interested in expanding their poultry businesses.[13]

Modern egg production began to assume its present shape following the First World War and into the 1920s when flock size and numbers grew and more interest in developing a commercial industry was evidenced by the increase in government research, poultry trade journals, and poultry-related husbandry, feed, and stock businesses. The Chief of the Poultry Division in Ottawa was particularly pleased with the industry's progress between 1920 and 1924, declaring them 'the best years ever experienced by [egg] producers in Canada'.[14] He reported that prices were high, new technologies were being employed to improve the health and productivity of birds, and, interestingly, a back-to-the-land movement stimulated by a desire to eschew urbanization saw a group of new farmers seeking viable livelihoods in the countryside.[15] Beyond improvements in animal husbandry and more interest in egg farming as a livelihood, consumption also increased in Canada over that period by 181 eggs per capita per year to about 313. Canadian egg consumption outpaced that in the United States, where it had gone up by only 182 to about 206.[16]

This surge was attributable in part to egg grading, which became a staple of the Canadian industry earlier than many other producing nations.[17] First introduced in the spring of 1918, it was gradually extended to all eggs offered for sale in the domestic market in the summer of 1923, following a national gathering of egg producers, consumer representatives, retailers, wholesalers, and government officials.[18] Those in attendance believed that grading would benefit everyone, but producer prosperity was deemed especially important. Larger urban centres were a focus, but by the mid-1920s, attention was directed towards smaller cities and towns and underserviced rural areas. Poultry officials believed that if locally sold eggs were also graded, and their quality ensured, local consumption would increase and fewer eggs would flood urban markets, thus 'giving buoyancy to prices prevailing in larger markets and, indirectly, the whole country'.[19] Egg quality was becoming increasingly important; a Department of Agriculture memorandum pointed out that in markets where grading was not the norm, the industry suffered:

[13] For a discussion of these trends in the United Kingdom, see Short, '"Art and craft of chicken cramming"', pp. 25–6.

[14] Chief of Poultry Division to S. F. Tolmie, 16 July 1926, file 28-2 (3), Eggs, Regulations, etc., vol. 2930, RG17, LAC.

[15] Ibid.

[16] 'Per Capita Consumption of Eggs in Canada and U. S.', file 28-2 (3), Eggs, Regulations, etc., vol. 2930, RG17, LAC.

[17] For example, in 1926 in the United Kingdom, it was suggested that eggs have standard grades and packing, but no national standard was adopted until the creation of the British Egg Marketing Board in 1957; see K. Sayer, '"His footmarks on her shoulders": the place of women within poultry keeping in the British countryside, c. 1880 to c. 1980', *AGHR* 61 (2013), p. 302.

[18] 'Per Capita Consumption of Eggs in Canada and U. S.', file 28-2 (3), Eggs, Regulations, etc., vol. 2930, RG17, LAC.

[19] Ibid. Poultry journals also supported the practice and reported on the benefits of grading; 'Egg-grading debated in House of Commons', *Canadian Poultry J.* 7 (1926), p. 214.

> The old-time system of a flat price and barter for eggs actually offered an incentive for producers to market everything they could find in the way of an egg, and the carelessness which such methods encouraged is apparent today on every market in the country where judicious care and supervision has not been given to the product.[20]

Despite the growing awareness that graded eggs attracted premium prices, however, most eggs were still consumed at the farm gate and were farmed as one of a variety of commodities on diversified farms.[21] While the egg industry was commercializing during this period, smaller-scale egg production, the kind typically taken on by farm women in mixed-farm economies, remained widespread.[22]

Initially egg production reportedly could not meet the increasing demand, but after 1924 new investment in the industry, and the subsequent increase in production, led to surplus eggs that triggered low prices, which in turn had devasting effects on farmer incomes. Compounding these chronic periods of surplus domestic egg production in Canada was an increasingly competitive international egg trade. In the early part of the twentieth century Canadian producers increased egg production substantially, but so too had other trading nations. By the mid-1920s, Canadian egg farmers were competing with cheaper American imports that, despite tariffs, were generally still profitable to send across the border, especially when American markets were depressed because of their own surplus egg production.[23] While calls for increased tariffs were made, they did not materialize. Industry representatives were reluctant to restrict trade and generally advocated for more stringent labeling laws that stamped each egg with the country of origin (a practice that had already been applied to Chinese eggs arriving in British Columbia), with the belief that 'purchasers would give preference to a local product'.[24] The government and industry advocates continued to insist that increased efficiency and greater economy were what was needed to make the industry more profitable for egg farmers.[25]

Unfortunately, such measures were ineffective against increasingly frequent and significant cycles of instability in the industry due to overproduction. In an effort to ameliorate the situation, some egg and poultry cooperatives were attempted, but the voluntary nature of these organizations often resulted in limited success. Egg farmers called on the government for more

[20] 'Per Capita Consumption of Eggs in Canada and U. S.', file 28-2 (3), Eggs, Regulations, etc., vol. 2930, RG17, LAC.

[21] Ibid.

[22] This was the case in Canada, Britain, and the United States for example. See J. Nurse, 'The public face of farming: A case study of female egg farmers in Canada' (paper presented at the annual meeting of the Agricultural History Society, Grand Rapids, Michigan, United States of America, 10 June 2017); Sayer, '"His footmarks on her shoulders"'; and J. Adams, 'Modernity and U.S. farm women's poultry operations: Farm women nourish the industrializing cities, 1880–1940' (paper presented to The Chicken: its biological, social, cultural, and industrial history: from Neolithic middens to McNuggets, Yale University Program in Agrarian Studies, 17–19 May 2002), www.dgorton.com/farmsite/chickens_modernity/adams-pg_1.html (accessed 25 June 2020).

[23] T. E. Quisenberry, President of the American Poultry School, 'Eggs sell at ridiculous prices – why?', *Canadian Poultry World* 4 (1924), p. 1.

[24] 'Mark American eggs', *Canadian Poultry World* 9 (1923), p. 4.

[25] E. A. Lloyd, 'Prospects of the poultry industry in B.C.', *Canadian Poultry World* 5 (1924), p. 1, p. 18; W. Tozer, 'The road to improvement', *Canadian Poultry World* 1 (1925), pp. 1–2; and editorial, 'Poultrymen must keep up with the times', *Canadian Poultry World* 2 (1925), p. 6.

intervention. After the First World War, with the success of wartime grain price fixing, the resulting Canadian Wheat Board, and subsequent consolidations in food product industries that reduced the number of buyers for agricultural products, farmers had become more sceptical that the system of supply and demand would provide for their needs. By the time the Great Depression hit, orderly marketing was sought by many farmers as a means to resist declining incomes.[26] The result was the passage of a series of provincial marketing acts and eventually the federal Natural Products Marketing Act of 1934.[27] The act provided agricultural commodity and other natural resource groups with the power to seek government approval for regionally based marketing schemes, and while it was later found unconstitutional in 1937 for infringing on provincial jurisdiction over matters of property, civil rights, and intra-provincial trade, the legislation had created a network of marketing boards across the country, many of which survived under revised legislation.[28]

Still, those powers did not allow marketing boards to effectively control production, which would have required provincial production quotas that limited farmer's holdings and regulated borders. In a sense, the aim of production quotas was to eliminate competition among farmers in order to organize protection that would provide countervailing power in a market with only a few buyers. As early as the 1940s, Fred Beeson, the long-time editor of the *Canadian Poultryman,* had suggested some version of supply management to begin to address this issue with quotas and production controls.[29] At that time, he also noted that 'There is no doubt that the average poultry farm is too small. Attempting to make a living comparable to those in other industries or occupations with a thousand layers just can't be done anymore'.[30] That did not mean that farmers did not try – just that a decent livelihood was impossible. Beeson, like other farm journalists, believed that the egg industry needed to modernize and farm sizes must grow, but he also recognized that an inherent power inequality existed between producers of varying means and was committed to seeing farmers unite to receive a fair income for their labour and investment as a group.[31]

[26] G. F. Perkin, 'The Ontario Marketing Boards', *J. Farm Economics* 33 (1951), p. 968.

[27] Canada, The Natural Products Marketing Act, 1934, 24–25 Geo. V, c. 57.

[28] For a summary of these legislative changes, see Jodey Nurse, 'Milk is milk': Marketing milk in Ontario and the origins of supply management', *J. Canadian Historical Assoc.* 28, 1 (2018), pp. 127–56.

[29] F. Beeson, 'Editorial', under 'Decades: A look back through the last 100 years of Canadian poultry', 5 Mar. 2013, www.canadianpoultrymag.com/100th-anniversary/key-developments/decades-13025 (accessed 10 Sept. 2018).

[30] Ibid. Years later, during an invited trip to the UK to address the British Egg Marketing Board, Beeson echoed this theme: 'I don't know why you should be concerned with how eggs will be marketed in the future, because if you allow your Egg Board to cease its useful operations and are faced, as you are, with one company bent on producing one-quarter of your total market requirements under a system of total integration, very soon, and sooner than you think, there will be three other equally large corporations ready to take up the other three quarters, and then there will further mergers until one corporation succeeds in wresting complete control. AT THAT POINT YOU WILL ACHIEVE UTOPIA, or TOTALITARIANISM, and you, you egg producers who are sitting here, you hatcherymen, you feed manufacturers' personnel, you equipment manufacturers and others, WILL NOT BE IN THE POULTRY BUSINESS ANY LONGER, SO YOU WON'T HAVE TO WORRY.' F. Beeson, 'Beeson addresses meetings in England and Scotland at the invitation of the British Egg Marketing Board', *Canada Poultryman* 1 (1970), pp. 20–1.

[31] F. Beeson, editorial, 'Export egg subsidy – The first goal', *Canada Poultryman* 3 (1941).

III

The inability of industry stakeholders to achieve improved economy among Canadian egg farmers, increase foreign sales, and strengthen domestic egg consumption meant that low prices remained. As farmers became more and more frustrated, ever-more urgent discussions took place about how to stabilize production. While farmer frustration had stimulated protectionist legislation during the 1930s, it was the Second World War that would be an important turning point. During wartime, governments increased their regulatory roles in most agricultural sectors. In Canada, although orderly marketing had begun before the war, the powers of marketing boards were generally limited, and World War II provided the opportunity for the government to intervene in commodity pricing and food policy in dramatic fashion.[32] That post-1945 activist government extended into agriculture in the later part of the decade and into the 1950s. For example, the Agricultural Prices and Support Act (1944) and the Agricultural Products Marketing Act (1947) provided important mechanisms that allowed Ottawa to assist farmers in the post-war period, while the Agricultural Products Board Act (1951) marked a distinct change from past practice. With the latter, for the first time the federal government was empowered 'to buy, sell or import agricultural products; to store, transport and process such products; to sell agricultural products to any country and to make arrangements for their purchase and delivery; or to purchase agricultural products on behalf of any government or agency'.[33] The Act also explicitly recognized that the state had a role to play in support of farm incomes and the prices of commodities produced.[34]

The Agricultural Stabilization Act (1958), which replaced the 1944 legislation, promised to do just as its name implied – stabilize certain agricultural industries by providing support to producers during periods of market depression. This either came in the form of purchasing commodities in excess supply or through deficiency payments so that prices would be supported at 80 per cent of the preceding ten-year average.[35] Eggs were among the nine commodities named under its rubric because of the particularly volatile price fluctuations they suffered. To some extent, the legislation was revolutionary, articulating a perspective that would have been dismissed mere years prior to its passage: 'to assist the industry of agriculture to realize fair returns for its labour and investment, and to maintain a fair relationship between prices received by farmers and the costs of goods and services that they buy, thus to provide farmers with a fair share of the national income'.[36] Clearly, in Canada at least, agriculture was not going to be left to the machinations and violent swings of an unforgiving market and unscrupulous processors and supermarkets.

[32] See, for example, Ian Mosby's very well-researched book, *Food will win the war: The politics, science and culture of food on Canada's home front* (Vancouver: UBC Press, 2014).

[33] Dominion Bureau of Statistics Canada, *The Canada Year Book 1951: The official statistical annual of the resources, history, institutions, and social and economic conditions of Canada* (1951), under 'Canada Year Book 1951', www66.statcan.gc.ca/eng/1985/198503120304_p.%20304.pdf (accessed 30 Apr. 2018).

[34] D. Hedley, 'The evolution of agricultural support policy in Canada', CAES Fellows Paper, 2015-1, 11, caes.usask.ca/meetings/the-evolution-of-agricultural-support-policy-in-canada.pdf (accessed 30 Apr. 2018).

[35] Skogstad, *Politics of agricultural policy-making*, p. 43.

[36] Canada, An Act to Provide for the Stabilization of the Prices of Agricultural Commodities (1958), p. 3.

Still, the federal government remained frustrated with egg producers and their propensity to over-produce. The same recurring issues of overproduction that had created instability in the industry since the 1920s remained, and by the 1960s, further changes to the agricultural landscape only intensified the situation. For example, in early 1960, following a representative period for egg marketing, the Minister of Agriculture, Douglas Harkness, told cabinet of gyrations in supply, noting that 'The only long-term solution to the current problem is a decrease in egg production to the point where there is a more realistic balance between supply and domestic requirements'.[37] Overproduction was a constant reality, despite the fact that the industry had been 'repeatedly warned' of the dangerous territory into which it was venturing.[38] Moreover, there was no evidence that egg farmers had taken any steps to decrease production – indeed, quite the opposite.[39] As a result, the minister believed that the only way to achieve a much-needed adjustment was to let those producers suffer through a period of low prices that would result from the surfeit of supply.[40] However, if production did drop and prices did not recover, then the provisions of the Agricultural Stabilization Act would kick in. In some ways it seemed to be a Catch-22 situation.

Egg farming was also becoming more specialized. In Canada, there was 'a dramatic decline in the number of farms keeping layers in all categories up to 1,000 birds'.[41] The industry was, or so it seemed to federal officials, 'consolidating rapidly'. Similar consolidations occurred in the United States and the United Kingdom during this period.[42] They assumed that this trend would be replicated across Canada and that by 1968, the only category that would show any increase would be found in the more-than-4,972 bird operation. In the 1951 and 1956 counts, there had been no farms of this size in Manitoba, while by 1961 there were 36 and in 1966, 89.[43] A similar situation was occurring in Alberta where farm size had grown on average from about 1,200 layers to almost 1,800 in the five years following 1961.[44] The province's egg production had seen a precipitous drop from 47 million dozen in 1957 to 37 million dozen by 1963, largely due to the abandonment of small laying flocks on many farms. This was caused, as the dry language of a federal report concluded, 'because of the narrow margin between egg prices and production costs [resulting] in egg production being unremunerative to many Alberta farmers who have better labour alternatives'.[45] Economies of scale had now entered the language of egg

[37] D. Harkness, 'Memorandum to Cabinet re: Eggs', 5 Jan. 1960, file 6-3-8, Eggs (General) 1957–1963, B 20S, MG32 B 40 46, LAC. Months earlier, Harkness had weighed in on the same issue – overproduction. Then, he noted that the Agricultural Stabilization Board had purchased more than 354,000 cases up to June 1958, and in excess of 503,000 cases by late April 1959 in order to sop up excess supply and maintain price at 44¢ per dozen for a Grade A Large. Despite this, 'eggs are still being offered in unprecedented volume'. Some other method, he told the House, would have to be tried. 'Statement re Price Support for Eggs by the Hon. Douglas Harkness, 7 May 1959', file 6-3-8, Eggs (General) 1957–1963, B 20S, MG32 B 40 46, LAC.

[38] Harkness, 'Memorandum to Cabinet re: Eggs'.

[39] Statistics Canada, *Production of poultry and eggs* (Catalogue 23-202), 1976; for 1920 to 1969, CANSIM, Matrix No. 1144, www150.statcan.gc.ca/n1/pub/11-516-x/sectionm/4057754-eng.htm#3 (accessed 25 June 2020).

[40] Ibid.

[41] Ibid.

[42] For an interesting discussion of the UK situation with respect to larger farms, see Farmers' Union of Wales, 'New Central Authority for Eggs', 10 June 1969, TNA, MAF 293/288. For the US, see C. Dimitri, A. Effland and N. Conkland, 'The 20th century transformation of US agriculture and farm policy', ERS, USDA (2005).

[43] Harkness, 'Memorandum to Cabinet re: Eggs'.

[44] J. D. F. Kidd, 'Egg marketing in Alberta', Economics Branch, Canada Department of Agriculture, Sept. 1967, File 80-1/305 vol. 2, Agric Poultry Prices and Statistics, Vol. 3786, RG 17, LAC.

[45] Ibid.

farming right across the country. Indeed, changes in the organization of egg production and marketing were occurring so rapidly that department of Agriculture officials worried that any report prepared as a possible path to the future would soon be outdated.

Nevertheless, the department did undertake a number of analyses of egg production in Canada that often focused on reasons as to why this intensification and increase of larger and more specialized units was occurring. These had to do primarily with rising feed and labour costs and smaller profits per laying hen. Feed typically constituted more than 50 per cent of the production cost, while labour costs varied greatly. Generally, the smaller farms required much more time to service the flock and to gather eggs – a difference as calculated by a three-year Alberta study of about 65 minutes per layer and per dozen eggs as compared with their larger counterparts.[46] Those producers who sold to graders spent the least amount of time delivering their product while those selling to retailers spent 'slightly more time'.[47] The least well off, taking more than twice the time for delivery with a concomitant hit to the bottom line, were those marketing directly to the consumer. Further, larger egg producers were in the process of transforming themselves into 'businessmen farmers', constantly aware of and sensitive to the costs of production, as well as marketing issues and changes in price that could either make or break their year.

It was the latter that most concerned producers as they had little to no influence over the price of the commodity that determined their livelihood. That was a determination assumed in 1960s Canada by the big supermarkets like A & P, Dominion, Loblaw's, or Safeway. These stores, or established graders, determined price levels at the beginning of each week depending on several factors. Eggs as loss leaders was a common phenomenon, which was 'extremely annoying to producers'.[48] Supermarket promotions were indirectly charged to farmers as the price paid to them was adjusted downward to reflect the consumer discount. Farmers seethed at this treatment as incomes in the sector were determined to a large extent by the egg price level and to a much lesser degree by volume of product sold and the efficiency of production. All of this meant a direct hit to their profitability.

The *Poultryman* tackled this subject in a 1975 editorial. While the example was American, it highlights similar problems suffered by Canadian egg farmers in a pre-supply managed era – the result of market conditions for the farmer was universal. The research done by J. L. Skinner of the Department of Poultry Science at the University of Wisconsin-Madison was presented: 'A lot is being said about food prices these days', he noted:

> Eggs are one of those unfortunate commodities … for which the price to the producer is what is left over as we back down from the retail level. We take out the various costs and services and pay the remainder to the producer. This assumes that the producer's ingenuity will enable him to figure out a way to stay in production on that residual amount.[49]

[46] G. R. Keay, 'The economics of producing and marketing table eggs: A case study of 16 commercial egg farms in Alberta, 1961-1964', Farm Economics Branch, Alberta Dept of Agriculture, n.d., File 80-1/305 vol. 2, Agric Poultry Prices and Statistics, vol. 3786, RG 17, LAC.

[47] Ibid.

[48] Ibid.

[49] Fred Beeson to Eugene Whelan, 16 June 1975, J. L. Skinner, quoted in 'Editorial', *The Poultryman* (1975) found in file 9-15-1, Agri Canada and Agencies, Canadian Egg Marketing Agency, vol. 19 – (1-2), box R12298, vol. 377, Eugene Whelan papers, LAC.

Skinner wondered what would happen if the calculation was done the other way – from the producer to the supermarket, and the latter would have to make a profit rather than merely accept whatever was left over. The result was instructive, at least for egg farmers. These American grocery stores would have to charge their customers US92.9¢ per dozen for Grade A Large. Prices then prevailing in US Pacific Northwest supermarkets for that quality of egg were US41¢ in Washington and Oregon, US39¢ in San Francisco and in Los Angeles, between US36½¢ and US39½¢. 'If', Skinner offered, 'your wife is buying them cheaper than that, you are being, in effect, subsidized by the producer'.[50]

A problem for farmers was their division into a myriad very small units of production. Eggs were a commodity whose cost could be manipulated by processors and supermarkets with deeper pockets or with more influence in price setting. Power asymmetries characterized the industry with debilitating consequences for the small agriculturalist, the most common sort of farmer in Canada up until the later 1960s. No amount of government legislation – the Agricultural Stabilization Act (1958) included – could change that salient fact. In the conceptions of those touting the benefits of productivity, size mattered. In Ontario, for example, the average farm size in 1961 was 153 acres, which, even at that time, was viewed as small.[51] Agricultural economists of the day focused on the need for holdings to get bigger and for economies of scale to kick in.[52]

Still, price instability, or so it was suggested, likely altered some of the trends toward greater specialization, exerting restraints on some farmers who might have modernized their operation but for the price risk.[53] However, that was happening as demand for eggs became year-round as opposed to seasonal. As commercial production increased throughout the country, new insulated barns were being constructed with heating to ensure supply. Cyclical instability was more and more a thing of the past, which brought with it certain difficulties. Overproduction took the place of underproduction during winters, with a concomitant effect on price. But the former was more debilitating year-round. A federal report on the British Columbia egg situation noted that in early 1967, 'the handwriting was on the wall that over-production was evident'.[54] Another government report pointed out that 'Since the middle integrator is primarily interested in profit from volume, there is some danger that they will regularly produce beyond reasonable market requirements'.[55] Further complicating this scenario was the practice of freedom of entry of new production units and unrestrained expansion among existing producers and contract farmers.

[50] Ibid.

[51] R. G. F. Hill and H. Weijs, 'Farm enlargement and consolidation in Ontario', *Canadian J. Agricultural Economics* 14 (1966), p. 69.

[52] This was not only happening in Canada. In the United Kingdom, the Farmers' Union of Wales bemoaned the departure of small producers from the field: 'The Union has noted with apprehension the exodus of smaller producers from the egg industry and the detrimental effect of this on the Welsh farming economy … This cannot be good for Wales'. Farmers' Union of Wales, 'New central authority for eggs', 10 June 1969. TNA, MAF 293/288.

[53] S. Comachi to L. B. Pearson, 16 Feb. 1967, file 80-1/305 vol. 2, Agric Poultry Prices and Statistics, vol. 3786, RG 17, LAC. In her letter to the prime minister, the writer noted that 'Twenty-five years ago the farmer received twenty-five cents to thirty for a dozen eggs. Twenty-five years later the farmer still gets twenty-five to thirty cents for the same product'.

[54] J. Raffa to F. E. Payne, 'BC Egg Situation', 31 Oct. 1967, file 801.141, vol. 3, Agric/Poultry, Prices and Statistics Eggs, vol. 3786, RG 17, LAC.

[55] Ibid.

These disadvantages were mitigated to some extent after 1945 by government transfers to farmers, which increased by 300 per cent,[56] but these interventions into the market did nothing to fix the issue raised by some economists and policy experts of 'the farm problem'. That conundrum, stated simply, was 'that average farm incomes are unacceptably low at free market prices, but attempts to increase incomes by raising prices leads to surpluses'.[57] By late 1967, the federal department of Agriculture forecast that 'egg prices will come under downward pressure as egg production is expected to begin increasing'.[58] Critically, a one per cent oversupply resulted in a five per cent price reduction which wreaked havoc on planning and modernization processes. Production technology was changing very fast as hens were lifted off the floor and put in what came to be called conventional cages, usually stacked four levels high. The system was completely automated with manure and eggs (separately) being shifted from the barn by conveyor belts requiring minimal human handling. This technology was very expensive and banks and other financial lenders began to demand guarantees for their loans. As a result, by mid-decade, some in the industry and in government were talking about the need for marketing boards or some sort of industry commitment to plan and administer the further development of this increasingly technologically driven sector.

Quotas and import controls were also being discussed among Agriculture officials, especially as prices paid to farmers for a dozen Grade A Large remained low. A part of the problem was that eggs had been imported from US sources in reasonably large numbers at various points in time with a concomitant downward price effect on the Canadian market. The situation was particularly bad in early 1967, a condition that had been exacerbated by activities of producers during late 1966. Then, farmers had been purchasing increasing quantities of baby chicks that were to create the surplus context they found themselves in by early the next year. Federal representatives had frequently warned the industry of the necessity to reduce, as opposed to increase, layer numbers, but they had been ignored.[59] By the beginning of summer in 1967, the volume of eggs being marketed had set all-time records that ran contrary to historical patterns when May was the peak month for eggs.[60] Legislation that had been targeted to improve producer prices did little to address widespread concerns about producer sustainability.

The Ontario government, no doubt influenced by the overall plight of farmers in the province, established a special committee on farm income in 1968 to report on difficulties being experienced by agricultural producers, which some saw as a program for implementing a planned and regulated economy for the province's agriculture.[61] The result, *The challenge of*

[56] G. Skogstad, 'The two faces of Canadian agriculture in a post-staples economy', *Canadian Political Science Rev.* 1, 2 (2007), p. 29.

[57] A. R. Bird, 'An 'efficient cooperative' as a means of supply control', *Canadian J. Agricultural Economics* 9, 1 (1961), p. 71.

[58] F. E. Payne, 'Re: Egg Situation', 20 Oct. 1967, File 801.141, vol. 3, Agric/Poultry, Prices and Statistics Eggs, vol. 3786, RG 17, LAC.

[59] J. J. Greene, Minister of Agriculture to Clement Vincent, Quebec Minister of Agriculture and Colonization, 27 June 1967, File 801.141, vol. 3, Agric/Poultry, Prices and Statistics Eggs, vol. 3786, RG 17, LAC.

[60] J. J. Greene, Minister of Agriculture to Clement Vincent, Quebec Minister of Agriculture and Colonization, 27 June 1967, File 801.141, vol. 3, Agric/Poultry, Prices and Statistics Eggs, vol. 3786, RG 17, LAC.

[61] As Michael Stewart Foley notes in his work on the American Farm Crisis, 'Although journalists and social scientists studied farm activism at the time, historians have neglected it'. Michael Stewart Foley,

abundance: Being the report of the Special Committee on Farm Income in Ontario (1969), offered a recipe for farm success that insisted farmers enjoy a share in the wealth being generated by their sector.[62] Among the recommendations made to the Ontario government that had commissioned the report was that agriculturalists be rewarded with 'acceptable returns for well managed farms [and] adequate incomes for farm operators'.[63] Eggs were not the only commodity in crisis; the Committee recommended broadly that 'supply management for the agricultural industry and economic development for the neglected regions of the province. The combined objective of these programs is to provide productive employment and adequate incomes for the rural population in a way that benefits both rural and urban society'.[64] It might also have noted that farmers wanted more income stability; the huge swings so characteristic of commodity sales played havoc with planning and investment. Price fluctuations also dismayed consumers. For example, as a 'Sarnia Housewife' noted in a letter to the *Globe and Mail*'s advice editor: 'Eggs have gone from 60 cents [a dozen] in 1963 to 45 cents in 1964 to 79 cents in 1966'.[65] She did not like those swings and the resulting uncertainty experienced with respect to her meal costing and planning. Both producers and consumers suffered the vagaries of the market.

Finally, Eugene Whelan, then the parliamentary secretary to the minister of Fisheries and Forestry, weighed in with a passionate plea for farmers. In a letter to the minister of Agriculture, H. A. Olson, he noted that since he had become a Member of Parliament in 1962, he had seen the position of farmers 'gradually worsen each year'.[66] While he was optimistic that with the Liberal Party under new leadership 'these injustices would disappear', changes had not yet materialized and Whelan had rededicated himself to securing a better result for farm communities.[67] Whelan's continued support for farmers would later see him appointed Minister of Agriculture on 27 November 1972, when he was tasked with the implementation of supply management.

In the mid-1960s, however, little consensus existed. Agriculture remained important to the national economy, but its political significance was declining. Indeed, as early as 1921, Canada was roughly split 50-50 in terms of rural-urban populations, but the surge was clearly on the side of the latter. By 1961, about 70 per cent of Canada's population was urban with increasingly little connection to the farm. Agriculture had unique issues, which became known as the

Note 61 *continued*
'"Everyone was pounding on us": Front porch politics and the American farm crisis of the 1970s and 1980s', *J. Historical Sociology 28*, 1 (2015), p. 104. This neglect by historians is also true for the Canadian context, with exception of Ryan O'Connor's regional analysis 'Agrarian protest and provincial politics: Prince Edward Island and the 1971 National Farmers Union highway demonstration', *Acadiensis* 37 (2008), pp. 31–55. Primary sources from the period in Canada also illustrate that serious farm problems began even before the inflationary period of the 1970s when agricultural industrialization placed demands on farmers to become increasingly specialized and capitalized as the cost price squeeze intensified.

[62] Ontario Special Committee on Farm Income, *The challenge of abundance: The report of the Special Committee on Farm Income in Ontario* (1969).

[63] M. Moore, 'Ontario committee reports: Vast farming changes proposed', *Globe and Mail*, 7 Jan. 1969, p. B1.

[64] Ontario Special Committee on Farm Income, *Challenge of abundance*, p. 194.

[65] E. Thompson, 'Advises: Budget, don't boycott, woman says', *Globe and Mail*, 2 Jan. 1967, p. 12.

[66] Whelan to Olson, 10 Oct. 1968, file 611.9E1, part 3, vol. 3765, RG 17, LAC.

[67] Ibid.

'farm problem'. These included not responding appropriately to normal demand and supply mechanisms since farmers could not control the weather, when a cow freshened, or if wild ducks would bring high pathogenic avian influenza to their egg barns. Production could not be turned on and off as it could with a factory producing inanimate objects. As well, the atomized nature of farm life, with each producer competing against their neighbours, meant little by way of cooperation and passive supply control. Even cooperatives suffered these forces; all it took was for one farmer to believe that they could do better than fellow members in production or price for the whole mechanism to fall apart. The so-called farm problem was real, and it had resisted solution since time immemorial.[68]

It had, however, metamorphized from a focus on rural poverty to one of surplus production.[69] Different countries had tried different schemes to slow down the almost-exponential increase in agricultural production, but none had hit upon a sure-fire method of doing so. In the United States, the Agricultural Adjustment Act (1933) had initially authorized direct payments to farmers if they curtailed production. Later, the administration of John F. Kennedy emphasized production controls and paid farmers directly if they followed through with this legislative emphasis. In the United Kingdom, in the case of eggs, the sector had received protection from the Egg Marketing Board (EMB) since 1957.[70] The Board provided direct support to egg farmers by setting prices. The result of this, the EMB told the Rowland Wright Reorganisation Committee for Eggs, was that government policy had 'contributed to the development of a market in which supply and prices have been much more stable than would have existed in a free market situation'.[71] Overproduction was not so much of a concern in that context. It was the achievement of this sort of control over production that Canadian egg farmers and policy makers were grappling with in the late 1960s as too many eggs on the market once again drove prices to ruinous levels.

IV

Given the deteriorating egg situation, the Canadian Egg Producers Council (CEPC) held a conference in June 1968, the first of its kind, to discuss the development of a national plan for the orderly marketing and management of the supply of eggs in Canada. Provincial ministers

[68] Interestingly, at the same time as the Canadian government was considering enhancing protections for the sector, the UK Labour government of Harold Wilson decided to remove them. The Reorganisation Commission for Eggs, struck in 1968 and chaired by Rowland Wright, recommended that the industry move to a free market and that the egg subsidy be phased out. Following a transitional period to last five years, 'egg prices will be determined by the conditions of the commercial market instead of being centrally fixed'. HC Debs, 22 Jan. 1969, col 456, www.theyworkforyou.com/debates/?id=1969-01-22a.453.10&s=camelford (accessed 30 June 2020). See also, for example, Reorganisation Commission for Eggs, 'Verbatim Record of Hearing of Oral Evidence from the National Egg Producer Retailer Association', 24 Nov. 1967, TNA, MAF 280/50.

[69] See E. Lotterman, 'Farm bills and farmers: The Effects of subsidies over time', Federal Reserve Bank of Minneapolis, 1 Dec. 1996: www.minneapolisfed.org/article/1996/farm-bills-and-farmers-the-effects-of-subsidies-over-time (accessed 30 June 2020).

[70] Godley and Williams, 'Democratizing luxury', p. 273.

[71] 'Comments by the British Egg Marketing Board on the Report of the Reorganisation Commission for Eggs: The Board's Proposals for the Future, Part IV', n.d., TNA, MAF 280/2.

of agriculture followed up in July in Regina while a November meeting in Ottawa between the provinces and federal representatives, chaired by the federal deputy minister of Agriculture, S. B. Williams, were all focused on the establishment of a national marketing scheme for eggs. This flurry of activity was a sign of the desperation egg farmers felt with respect to their prospects for a decent income, and government for some sort of stability in the industry. The CEPC conference concluded that 'the overriding goal and priority must be effective supply management and price adequacy. Necessary compromises and agreements on detail can and must be worked out. Otherwise, the industry, as egg producers wish to see it, will not survive, and we will see the disappearance, as producers, of the vast majority of those now trying to make a livelihood from egg production'.[72]

Finding consensus for the best way forward, however, was not easy. The issue of cheap egg imports remained and continued to depress Canadian egg prices. In 1967, when representatives of the Ontario Egg and Fowl Board, the Quebec Federation of Egg Producers and the Saskatchewan Poultry Association, along with the Canadian Federation of Agriculture, met with the minister of Agriculture to discuss the price issue, the groups believed that the primary problem lay with the importation of US eggs. That country could produce eggs more cheaply given its lower feed, equipment, and housing costs. The producer associations wanted import restrictions when the average price of all grades of eggs in Canada was below 30¢ per dozen. Provinces were 'attempting to put their respective houses in order through the establishment of boards', but that was proving difficult so long as American product could be imported 'in quantity and demoralize the entire program' they noted.[73] It was not only US eggs. In 1970, Whelan told Prime Minister Pierre Trudeau of egg issues relating to imports from Denmark. Whelan argued that buyers 'should not be allowed to bring any products into Canada without a permit … [These egg imports were done by] some sharp little broker trying to make a fast buck and he could care little what happens to the stability of the industries affected here in Canada'.[74]

Producers were hesitant about production controls without sufficient import control. This applied to interprovincial trade as well. British Columbia had become the first province to establish a broiler marketing board in 1961, and while this had stimulated discussions about the value of marketing boards, 'stormy debates' between farmers and other industry stakeholders continued to stymie similar attempts among egg producers. For example, Walter Brown, a producer-vendor from North Vancouver, asserted that 'When you can stop eggs coming into

[72] Canadian Egg Producers Council, 'Proposal for a National Egg Marketing Plan for Canada', Aug. 1972, file 19-15-1, Agri Canada and Agencies – Canadian Egg Marketing Agency – Vol. 1 – (2-2), 1972–73, R12298 374, vol. 374, RG 17, LAC.

[73] 'Meeting with Mr. Greene and Mr. Sharpe re Eggs', 19 June 1967, file 801.141, vol. 3, Agric/Poultry, Prices and Statistics Eggs, vol. 3786, RG 17, LAC.

[74] Whelan to Trudeau, 30 June 1970, file 611.9E1 part 3, vol. 3765, RG 17, LAC. Later, Whelan elaborated on this to Trudeau: 'What good would it do to develop a marketing scheme … that stabilized your market and some other country who could produce eggs … below our cost of production but not below the cost of production in that country, decides to ship them into Canada. Under our present laws of importation, he would have no difficulty but he certainly could make a mess of the most efficient marketing production system we could develop in our country'. Whelan to Trudeau, 24 Aug. 1970, file 611.9 E1 part 3, vol. 3765, RG 17, LAC. Import controls would become an essential part of supply management.

B.C. and scuttling our prices…then maybe I'll agree that an egg production control board will work. Until then, I'll vote against it right down the line … prairie eggs control the B.C. price. What could a marketing board do about that? Nothing'.[75] Part of egg farmers' resistance to provincial production controls was the inability to control surplus interprovincial supplies from reaching the market and depressing local prices.

Therefore, Brown, and others like him, did not necessarily think the theory of quotas was a bad one, but they believed it could only work on a national scale if interprovincial shipments and international imports could be controlled. Nor was the federal government keen to go along with the demands made about curtailing imports. As Whelan observed, 'Canada is an overall exporter of food and to gain the export markets we need, we push as hard as we can to get other nations to drop their trade and tariff barriers. Therefore, we need to be in the position of being beyond reproach'.[76]

As stakeholders continued to debate what to do, egg farmers expressed their dismay that, 'The more they lay, the poorer you get'.[77] Farmers were seemingly at the bottom of a commodity swing that was proving perilous for the industry. As was pointed out, 'Between April 1970 and October 1971, there wasn't one major egg producer in Ontario who showed a profit on his operation'.[78] Exiting the business was one possibility although the amount owed to banks and feed companies would make that a moot gesture. Adequate returns were needed to allow medium-sized egg farmers like Roland Stalker to continue to produce. He told a *Globe and Mail* reporter that 'Two years ago I didn't owe a cent except for a small mortgage on the house. I was ahead $2,000 on my feed bill. Now, even with exceptionally good egg prices, it will take me years to get even'.[79]

The problem was obvious to egg farmers; prices fluctuated wildly with supply and demand and the former had surged ever more often while the latter had remained stagnant. That had played into the hands of processors and supermarkets as they had driven down prices paid to farmers. Indeed, they believed that they were being exploited by a number of ruthless buyers who were only interested in enriching themselves. Most often, or so farmers believed, that meant 'giving farmers a raw deal'.[80] That was certainly the case with Kurt and Eric Kaiser, brothers who owned a large egg farm on the Lake Ontario shoreline southwest of Picton. In the 21 months from March 1970, they had lost $270,000, a very significant sum, because they were forced to sell their eggs in the Toronto market – there was none other to absorb their product in sufficient volume – at a loss of between 10 and 15 cents a dozen.[81] Provincial oversupply was a problem, but so was the attitude of processors and supermarkets.

In July 1971, a eggs dozen cost 17 cents retail, while the cost of production was about 31 cents. The only way, or so Kurt Kaiser believed, for producers to exit this debilitating scenario was for the province to establish a supply management board with egg quotas.[82]

[75] Walter Brown, cited in 'On opposite sides of the fence', *Canada Poultryman* 10 (1965), p. 12.

[76] From the Office of the Hon Eugene Whelan, 'Egg history', Sept. 1974, file Egg Marketing, 1974, 17-3, Vol. 374, RG 17, LAC.

[77] John Scott, 'The more they lay, the poorer you get', *Globe and Mail*, 5 Jan. 1972, p. 25.

[78] Ibid.

[79] Ibid.

[80] Dennis Stephens, 'Processors, retailers advise marketing boards: Farmers sow cooperation to reap increased profits', *Globe and Mail*, 7 Mar. 1967, p. B5.

[81] Ibid.

[82] Ibid.

Prices were, in the words of a Canadian Egg Producers Council document provided to the minister of Agriculture, 'disastrously low … extending from 1970, through 1971 and the first half of 1972'.[83] That caused significant hardship and losses to egg producers. As the document went on to note, 'Not only this but the public interest is badly served by the economic waste and inefficiency that is an inevitable consequence of severe cyclical instability, and by the instability of consumer prices – sometimes extremely (and to the producer disastrously) low, but at others unnecessarily high as production inevitably falls to inadequate levels under the pressure of persistent losses'.[84]

Beyond the cyclical price instability, the years between 1970 and 1971 also experienced the 'Chicken and Egg War' that resulted when Quebec producers attempted to introduce provincial quotas and restrict egg imports from other provinces. During the 1960s, record-low egg and broiler prices had stimulated the creation of more marketing boards and a greater acceptance towards controlled marketing, but their powers generally remained limited. For instance, in Ontario, the issue of quotas was essentially a non-starter at that time because of the province's privileged position in the market. When the Quebec government established the Fédération des producteurs d'œufs de consommation du Québec (FPOCQ), a marketing board that restricted the price, grading, and sale of all eggs in Quebec, including egg imports from other provinces, the news was greeted with outrage from provinces such as Ontario and Manitoba, who relied on the Quebec market to get rid of their annual egg surpluses.[85] Various legal proceedings were taken against the board and throughout 1970 and 1971 a series of retaliatory manoeuvres took place, including the enactment of import controls for egg and poultry products in Ontario, Manitoba and British Columbia, as well as confiscations of 'alien eggs' and 'illegal chickens', all of which made national headlines and prompted critics to warn about the Balkanization of Canada's economy.[86]

The events of the 'Chicken and Egg War' prompted increasing numbers of both farmers and bureaucrats at the federal and provincial levels to consider the need for a national marketing plan. In September 1971, the Ontario government appointed a judge, James F. Ross, to head an inquiry to examine all aspects of egg marketing in Ontario. In April 1972, he produced his assessment, *Report of the Royal Commission Appointed to Inquire into the Egg Industry in Ontario*.[87] The *Globe and Mail* suggested that the real reason for the Ross commission was to head off those opposed to supply management.[88] Indeed, the province had cancelled its plans for a producer ballot on a proposed quota marketing plan after charges were levied that opponents were rigging the vote.[89]

[83] Egg Marketing Agency, 'Proposal for a National Egg Marketing Plan for Canada', 9 Aug. 1972, file 611.9E1, part 3, Agric Poultry Others, vol. 3765, RG 17, LAC.

[84] Ibid.

[85] G. Bain, 'The chicken-and-egg war', *Globe and Mail*, 11 May 1971, p. 6.

[86] 'Prairie premiers plan to end farm produce trade barriers', *Globe and Mail*, 19 Dec. 1970, p. B2; and 'New powers to halt Quebec broilers: No-permit chickens liable to seizure under Ontario law', *Globe and Mail*, 14 Apr. 1971, p. 14.

[87] J. F. W. Ross, *Report of the Royal Commission Appointed to Inquire into the Egg Industry in Ontario* (1972).

[88] J. Rusk, 'Egg quota marketing in Ontario wanted without producers' vote', *Globe and Mail*, 8 Apr. 1972, p. B2.

[89] Ibid.

Ross had begun, as he noted, a free trader and remained so until he concluded that traditional methods of production planning were no longer adequate and that some restraint was inevitable if 'egg producer's legitimate income objectives [were] to be ensured in the future'.[90] He was perplexed by the fact that producers 'acting individually have no rational basis for making production decisions that would result in a more stable supply'.[91] Moreover, it was unbelievable to him that it took a long period of unusually low prices before egg farmers voluntarily cut back on production to reduce overhanging supply.

In part, that was the nature of the industry – thousands of producers with none of them capable of influencing total supply and, therefore, overall price. Production technology was also changing and much of this new technology involved high investment costs. The emphasis of these farmers was to continue producing, even more so as prices fell. Further, egg farming dictated certain standards of behaviour. Farmers were committed to production volumes well in advance of marketing their product and, once investments were made and production was on stream, it was extremely difficult, if not impossible, to stop. While these factors applied to agriculture in general in Canada, they affected egg farmers more sharply as the industry was more volatile than most other sectors of the farm economy.

The Ross report was a provincial initiative but, coming from Ontario, which had the largest number of egg farmers and layers, when combined with developments in the other provinces, resulted in a federal response. The same month that Ross released his report was the same month that the federal deputy minister of Agriculture called a special meeting to consider proposals for a comprehensive egg marketing plan for Canada. By August, public hearings into the establishment of a national egg marketing agency were scheduled. These flowed somewhat naturally from a Supreme Court of Canada (SCC) decision, the *Manitoba (AG) v Manitoba Egg and Poultry Association* (the Manitoba Egg Reference) [1971] S.C.R. 689. Prompted by the 'Chicken and Egg War', the case focused on the ability of provinces, in this case, Ontario and Quebec, to pass legislation preventing the importation of chicken and eggs from Manitoba and it had very real consequences for the Canadian federation. As previously discussed, this was a period of intense overproduction of both chicken and eggs and each province was intent on keeping 'its' market for its own producers. This battle represented a new level of competition. Instead of individual producers fighting for markets, the provincial marketing agencies in the case of eggs were battling each other for the Canadian egg market. The SCC ruled in the Manitoba Egg Reference that the issue was *ultra vires* of provincial authority, which helped to stimulate both the federal and provincial governments to rectify this deleterious situation.[92] This resulted in more focused negotiations that ultimately created the intent to impose provincial quotas on egg production regulated by federal authority but including as well provincial egg marketing agencies.[93]

[90] Ibid.

[91] Ibid.

[92] Canada, SCC, Attorney-General for Manitoba v. Manitoba Egg and Poultry Association et al., [1971] SCR 689, scc-csc.lexum.com/scc-csc/scc-csc/en/item/6240/index.do (accessed 30 June 2020).

[93] An interesting bookend to this case occurred in April-May 1973, when the British Columbia Egg Marketing Board seized a shipment of Manitoba eggs, which were to be marketed in BC. That created a minor skirmish, with the Manitoba minister of Agriculture, Samuel Uskiw, threatening the BCEMB with

That happened after 'a prolonged period of emotional debate' in December 1971.[94] The Farm Products Marketing Agencies Act, Bill C-176 (FPMAA) was passed that provided for the establishment of the National Farm Products Marketing Council, the development of national marketing plans for farm commodities and the creation of national marketing agencies for the respective commodities.[95] In the case of eggs, the federal minister of Agriculture, H. A. Olson, and nine of his provincial counterparts signed an agreement on 20 November 1972 designed to pave the way toward the establishment of a national egg marketing agency before the end of the year. Quotas were to be based on the five-year production average from 1967 to 1971 and it would divide up 475 million dozen eggs. This plan was the first in Canada under the FPMAA and then the only one to date outside of milk marketing. Still, as the federal representatives warned, it was not 'the complete answer to our marketing problem. This can only come about when the farmers and others involved recognize that this is a Canadian problem, not a provincial or regional problem, and when all Canadian farmers recognize that the Government cannot legislate cooperation, but only provide the mechanism and environment to make cooperation possible'.[96]

The Canadian Egg Marketing Agency (CEMA) was established on 15 December 1972 which followed closely upon the Comprehensive Federal-Provincial Agreement that had been signed by all ten provinces on 20 November that had linked federal and provincial jurisdictions so as to achieve the necessary cooperation and coordination between the two. This agreement had provided for a national egg marketing plan based on quotas, import controls and producer pricing, and was entrenched in legislation via the Farm Products Marketing Agencies Act of that year. CEMA assigned quotas to each province, based on their percentage of total egg production.[97] Table 1 shows the percentage of production awarded to each province according to the totals applied in 1973.

It also provided for the creation of the National Farm Products Council, 'a public interest oversight body responsible for ensuring that the national supply management system of poultry and eggs works in the balanced interest of producers, processors and consumers and can withstand public scrutiny'.[98] That admonition remains as an undergirding principle of the system in the twenty-first century.

Note 93 *continued*
court action. Clearly, the BC action ran counter to the FPMAA, and was soon appropriately addressed, although not before some harsh words had been shared.

[94] R. Ferguson, 'Notes for Address at Blenheim Rural-Urban Night', 24 Oct. 1972, R12298, vol. 375, RG 17, LAC.

[95] Canada, Farm Products Marketing Agencies Act, 1972 (Can.), c. 65.

[96] 'Bill C-176 (Farm Products Marketing Agencies Act)', file 9-15-1 – Agri Canada and Agencies – Canadian Egg Marketing Agency – Vol. 2 – (1-2), 1973–1974, R12298 374, vol. 374, RG 17, LAC.

[97] See D. Stager, *Economic analysis and Canadian policy* (1988), p. 519.

[98] S. Wallace, 'Canadian Hatching Eggs Producers Proclamation', 5 July 2013, www.gazette.gc.ca/rp-pr/p2/2013/2013-07-17/html/sor-dors144-eng.php (accessed 14 Apr. 2018). For an account of egg pricing, see Vernon Yorgaon, 'But who reviews the reviewers? The case of eggs', *Canadian Public Policy* 2, 3 (1976), pp. 511–19.

TABLE 1. The percentage of production awarded to each province according to the totals applied in 1973

British Columbia	12.05%
Alberta	8.70%
Saskatchewan	4.76%
Manitoba	11.40%
Ontario	38.16%
Quebec	16.55%
New Brunswick	1.82%
Nova Scotia	4.10%
Prince Edward Island	0.63%
Newfoundland	1.78%[a]

Note: [a] Government of British Columbia, Natural Products Marketing (BC) Act, British Columbia Egg Marketing Scheme, 1967, BC Reg. 173/67, O.C. 2263/67, www.ecb.gov.bc.ca/civix/document/id/loo84/loo84/15_173_67 (accessed on 27 Apr. 2018).

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While the result was favourable to egg producers (and to consumers), in that the new program stabilized egg supply and egg pricing, it was a road little travelled to that point and one that brought into focus issues of federal/provincial jurisdiction, the role of the market, the organization, or lack of same, of the egg industry, and conflicting and competing perspectives of farmers themselves. Despite its promise, in no way could it have been considered a done deal as the federal government, and especially its minister of Agriculture began to consider options. Indeed, a new minister, Eugene Whelan, was to later identify a quite remarkable confluence of circumstance that he claimed led to the promise of supply management in the egg sector. 'The story', he told an audience of egg farmers, 'that lies behind the formation of the Canadian Egg Marketing Agency is really the story of the economics of farming in Canada, the story of federal-provincial relations, of international trade, of the rapid introduction of new technology and the story of mankind's struggle to carve out some degree of certainty in a fast-changing and highly uncertain world'.[99] The only thing left out was the perfectibility of a global society. Still, for Canada's egg farmers, the implementation of supply management did mean salvation of a sort – from financial loss, from a life of penury and from depredations visited upon them by supermarkets and processors.

Issues solved by supply management, namely overproduction and the resulting volatility in egg prices, continue to harm most agricultural producers who function outside of the system's paradigm. While the market was said to be rational, the actors in it were not, and the case of egg farming provides a useful cautionary tale for those who believe that a deregulated system

[99] From the Office of the Hon. Eugene Whelan, 'Egg history', Sept. 1974, file Egg Marketing, 1974, 17-3, Vol. 374, RG 17, LAC.

would improve farmers' prospects. Indeed, the neoliberal agricultural policies that were then touted, as they are now, were not and are not appropriate solutions to this issue. Today, Canadian dairy, egg, and poultry producers recognize their privileged position, although it had indeed been a long road to get there. Although calls for increased trade liberalization across borders – international and regional – remain, nation states must consider the ramifications of their farm policies and agricultural systems if they hope to achieve more sustainable food systems in the future.

Book Reviews

UK and Ireland

NICK ASHTON-JONES, *Landscape, wealth and dispossession* (Parker Street Publications, 2019). Parts I and II, 96 pp. and 164 pp. illus. £20.

Understanding the relationship of our economic system to the environment is no longer the preserve of specialist climate scientists. As the global environmental crisis has grown over the last decade a plethora of writers have wrestled with the question that Nick Ashton-Jones sets out to answer in these books: 'How did we come to this cruel and unjust state of affairs?'

Few of these writers have tried to analyse capitalism's rapacious nature through the sweeping historical approach taken by Ashton-Jones. These books, the first two volumes of a projected six, begin with an overview of British geology before moving to a discussion of pre-class societies in what would become the British Isles. Part II analyses the development of feudalism and what this meant for the interaction between humans and their landscape.

This long view ought to give the reader an appreciation of how exactly how we have arrived where we are. As Ashton-Jones explains, geography on its own can only explain a 'lifeless planet, but it is required to 'appreciate the impact of life … upon the nature of landscapes'. This approach, which locates humans at the centre of the creation of the landscape we see today, is important but Ashton-Jones fails to get to grips with the nature of the historical change that happens in the period he covers.

A society's mode of production is a specific combination of different forces of production (technology, infrastructure, etc.) with the relations of production (the particular organization of society). Thus as modes of production change, relations between people change and, crucially for the topic covered here, so does society's relationship with the natural world. A hunter-gatherer society and feudal or capitalist modes of production have very different relationships with nature. The process of transformation is itself important because it shapes how the new society is organized. This dynamic ought to be at the heart of Ashton-Jones's analysis but he tends to see continuity when a break with the past is more generally accepted.

So, quoting Yuval Noah Harai, Ashton-Jones says that the 'agricultural revolution was history's biggest fraud' despite it being clear that there are fundamental differences between nomadic societies based on hunter-gathering and sedentary, or near sedentary, societies based on farming. He tells us that 'William of Normandy made a point of respecting immemorial feudal English law' but after 1066 the Normans created a new set of feudal relations. As Marc Bloc explained in *Feudal society: The growth of ties of dependence* (1939, trans. 1961), 'No definite break with the past occurred, but the change of direction which, despite inevitable variations in time according to the countries or the phenomena considered, affected in turn all the graphs of social activity … There were … two successive "feudal" ages, very different from each other in their essential character.'

Ashton-Jones' claims of continuity stretch the bounds of credibility at times. For instance he argues that we can 'trace the state capitalism of the defunct Soviet Union to the Viking settlement of Novgorod a millennium earlier'. But the economic nature of the USSR was the consequence of a number of historical events that took place after the Russian Revolution – none of which were inevitable.

This approach is particularly problematic when it comes to the transition from feudalism to capitalism. Here the author focuses entirely on the alleged development of capitalism through the commodification of land under feudal society, a process that began, he claims, with the Conquest and a Norman state 'built upon a foundation of the ownership of land rights rather than … personal loyalty to a superior lord'.

However, capitalism is more than the private ownership of land, or indeed the existence of commodities. Capitalism is a system of competitive commodity production very different from feudal society and its ascendance was not inevitable. The emerging capitalist class in England (which Ashton-Jones claims came to dominate Parliament following the Wars of the

Roses) needed the Civil War to defeat Charles I before capitalist relations could break free of their feudal chains. Similar processes on the continent failed to lead to the break-through of the bourgeois order.

Why does this matter? Well if capitalism is the result of inevitable processes begun when the Normans conquered England then there is no alternative. However, capitalism is a break from the past. The motivations of oil companies in driving the degradation of the environment and the exploitation of people in South America and Africa may appear superficially to be the same as William's grab of England, but the motivation is entirely different. Ashton-Jones claims that the duke wanted England 'with a sort of insanity' but if he did, it was only to satisfy the needs of his feudal lordship. The motivation of capitalist multinationals is the need to accumulate wealth or risk bankruptcy due to competition with other firms. Ashton-Jones, by contrast, argues for continuity. The 'characteristic colonialism of the British Empire started in England in 1066'. This approach devalues the horrors of colonialism and imperialism while simultaneously implying these were inevitable.

Oddly, for a series of books predicated on understanding the way that humans shape their environment, ordinary people, and their role in contesting or making historical change is almost entirely absent. A striking omission of his account of feudalism is any sense of the way that ordinary people challenged their lords, struggled for control of resources and opposed processes like enclosure.

As I write this review, appalling news of the scale of bushfires in Australia dominates my social media news feeds. Understanding exactly why, in the face of global and local environmental catastrophe, politicians seem unable to act requires a coherent analysis of the origins and nature of capitalism. Despite Ashton-Jones's long view of British history, his approach fails to offer the clarity we need.

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DAVID CROUCH (ed.), *The Victoria County History of the counties of England. A history of the County of York: East Riding*, X, part 1, *Howdenshire, the townships* (Boydell & Brewer, 2019). 352 pp. 63 illus. £95.

This is the latest volume of the Victoria County History for York and the East Riding and describes the liberty and wapentake of Howdenshire, excluding the town of Howden itself, which will be covered in part 2, due in early 2021. Until 1836 Howdenshire was an 'exempt franchise' of the Bishop of Durham, an enclave which survived the Reformation and the Civil War. Occupying the south-western portion of east Yorkshire its ownership is a complicated story and the editor has taken the decision to organize this volume not by parish as is usually the case but with a separate description of each of the nineteen townships. Each section is divided into similar headings: landscape, land ownership, economic history, river defence and drainage, social history, religious history and local government.

The earliest record of Howdenshire is in a grant of King Edgar in 959 when it was a waterlogged island, an area of wetland carrs within a fenland landscape. It occupies an area of some 48 square miles on the left bank of the Yorkshire Ouse between the Derwent in the west and the Foulness stream to the east, the northern boundary formed by the old Derwent and associated drainage channels. Reclamation and water management began in the 1160s organized by Hugh du Puiset, bishop of Durham, with the construction of several major drains and sluices. Early riparian settlements were along the raised alluvial banks but the perpetual threat of inundation meant that this water management system was maintained with little change until the mid-seventeenth century.

The sluices were known as clows, clowers, or cloughs while structures known as staiths, paired timber-framed earthworks with stapled faggots of thorn and brushwood (yedders) jutting into the river, deflected the scouring effect of the current at ebb and flow and prevented it undermining the raised flood banks. The use of the term staith suggests these were also used as convenient landing and loading stages for small boats, as allowed by the water level. Between the staiths were pikes or hobs, lengths of reinforced bank strengthened with timbers and yedders. The inhabitants had customary obligations to raise and fortify the banks and costs were shared by the endangered townships, fines being imposed for lack of maintenance. The temporary abolition of the episcopal liberty in the 1640s during the Civil War and Interregnum was disastrous. By 1660, the system was in serious decay and the waters of the Ouse breached its banks resulting in its course shifting eastwards, and at Skelton the left bank had to be entirely reconstructed.

The damp sticky clay soil was usually more suitable for plantation and pasture than for cereals, but oats were grown. Flax and hemp were important crops, while sheep provided wool, all providing the raw materials for local weaving. In the eighteenth century the more successful yeoman farmers and gentry were able to improve the land by warping. Deep warping drains allowed the land to be deliberately flooded. The

alluvial deposits greatly improved fertility to a steadily increasing area of land as the process was completed over the years, and allowed the cultivation of wheat, barley and oats. This method was employed until 1950 when the £20 cost per acre meant that it was cheaper to use a combination of chemical fertilizers and pesticides. This was the modern and progressive approach to farming but with the environmental costs that have become apparent, nitrate run off into our waterways and declining fertility of the soil. The farming collapse in the 1880s had resulted in abandonment of significant areas to grass until mechanization, combined with chemical treatments, made arable profitable again.

The late medieval common field system at Asselby survived as a working concern until the reign of Queen Victoria, but Barmby preserves the fullest evidence of a township's common fields. Blacktoft developed where the Ouse debouches into the Humber and began as a marginal fishing village. It provided a mooring point for river traders venturing from Trent Falls and in modern times safe anchorage at low tide and in fog for the traffic to and from Goole. Metham, though one of the smaller townships, was the seat of one of Yorkshires principal gentry families, the Saltmarshe family, who possessed the eponymous village until the death in 1941, without an heir, of Philip Saltmarshe whose photograph appears as a frontispiece.

The story of Howdenshire is very pertinent in the circumstances we now find ourselves in, with the increasing flood risk from extreme weather events. It is also evident that the more generalized approach to water control of current river authorities is inadequate and inferior to the detailed local response that was once the norm. The balance between the level of protection of urban and rural communities also needs to be addressed because of the large-scale housing developments on the flood plains of our major rivers.

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RICHARD BROCKINGTON with SARAH ROSE, *The Victoria History of Cumberland: Kirkoswald and Renwick* (Institute of Historical Research, 2019). 118 pp. £12.

This remarkably illuminating, deep-time, microhistory of one 30-square-mile parish, Kirkoswald, reminds us what we lose when we analyse a whole county or even a country. It builds an increasingly vivid sense of place as it takes the reader from the late Stone Age through to recent times, analysing in impressive depth buildings, streets and many of the people who lived, worked and played on them. The book will undoubtedly be of immense value to local historians of Cumbria, but it should also serve to remind academic historians of the fruits of exhaustive, detailed analysis in relatively small case-study areas that boast similarly voluminous archival records.

This edition is very good value, bristling with insightful colour images within a logical and easy-to-follow layout. It comprises a helpful glossary of specialist terms and some explanatory notes on the sources. The book is based on a great deal of original research at several archive holdings, reminding us of the wealth of historically important, qualitative records in local as well as national record offices. Inevitably, at times, its thoroughness contributes to an overly descriptive narrative, which leads the reader to ponder the wider significance of relatively minor local events, land transfers and changes in work practices. But ultimately, this is a price worth paying in return for such a thorough local history. It inspired me to want to read more local histories of Cumbrian parishes and to compare their stories in detail.

While this book does exactly what it promises, providing an excellent analysis of one parish, as I progressed through the chapters, I would have appreciated more information about how unusual the case study is in its county and national context. Kirkoswald's story is fascinating and in many respects lively and noteworthy, but how similar and how different were the experiences of those living in other Cumbrian and in other English villages? The book reminded me very much of Michael Wood's *The story of England* (2011), which seeks to unpack the major national events of English history as they were experienced by one Leicestershire village, Kibworth. Whereas Wood superimposes a national framework on local history through one village's eyes, Brockington and Rose seem to do the opposite by explaining Kirkoswald's local particularisms first and foremost and how they fitted into national history secondarily. Both approaches work well, but further comparison with other villages would have boosted the work's significance and reach academically.

After explaining the parish's main characteristics, and its landownership frameworks, the succession of thematic chapters works very well indeed, focusing on particular sub-disciplines of history (economic, social and religious), before explaining manorial, vestry and local governance in depth. The book explains a great deal about infrastructural communication networks, especially roads and bridges, and it is fully contextualized in its natural environment topographically, with the exception of flooding. I was surprized to find no references to the manufacture and installation of the tiled drainage tunnels that coursed through the

Cumbrian landscape well into the nineteenth century. It could have elaborated on the history of flooding and drainage management to provide valuable information about lessons learned in the past in order to inform the present and future. It might also have said more about the social and economic connections between Kirkoswald and Carlisle. For example, how important were Carlisle's weekly Saturday markets (general, horse and cattle) to the villagers, as sellers or buyers? I was shocked to find no index reference for markets or droving, as long-established droving routes passed near to Kirkoswald until well into the nineteenth century. Of course, the archival record limits the extent to which researchers can write about women and about the poor, but this volume is a particularly male-dominated history with a disproportionate focus on elite society. The 'Welfare' section (pp. 63–6) provides a brief overview of the major legislative changes and their impact in this particular parish, but the social history of these changes could have been much more widely contextualized. Further research might have drawn out more detailed analysis of particular women's lives and of the families who claimed poor relief. Architecturally, the book showcases some fantastic images of relatively modest buildings (e.g. the general stores building on p. 46), but it remains silent on the quintessential character of Cumbrian architecture and how it shaped this parish, especially in relation to other plebeian architecture. For example, were 'clay dabbins' built in this particular part of Cumberland or were they limited to the Solway Plain and how extensively was slate used as a building material?

Nevertheless, this is a fine and remarkably detailed parish history, which will undoubtedly be useful and important for local communities, historians and other researchers for the foreseeable future. It reconnects us to the minute and the micro- developments in one parish, and to its people's reactions to national legislation, and to local governance. By zooming in on Kirkoswald and Renwick, by reading this remarkable example of one parish's historical geography, we can better understand regional and national historical geography.

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DAVID STONE (ed.), *The accounts of the Manor of Esher in the Winchester Pipe Rolls, 1235–1376* (Surrey Record Society 46, 2017). lxxvi + 438 pp. £30.

The Pipe Rolls of the Bishops of Winchester provide a familiar and remarkable source for historians of medieval agriculture. It has been estimated that they include 10,000 manorial accounts. Yet this sheer quantity provides its own problem both in studying the material and in their publication. Different approaches have been followed. We have editions of four complete pipe rolls (1209, 1211, 1303 and 1410) and a group from a single manor (Crawley). Now Dr Stone has provided an edition of 44 accounts for a single manor together with a scholarly introduction. This must be warmly welcomed by historians of both medieval agriculture and much else.

The bishopric of Winchester's estates ran from Taunton to Southwark, from the Isle of Wight to north Oxfordshire, covering a variety of manors and agricultural areas. Esher, in Surrey, was an interesting but atypical example. While most of the bishopric estate was based on Anglo-Saxon grants, Esher was not acquired until 1245. It was bought by a bishop of Winchester to endow a new monastic foundation, and was then re-acquired by his successor, in order to provide a new residence near enough to London, Windsor and the court, vital for their political and governmental roles. He re-acquired Esher, but the Dorset sub-manor remained with the abbey. Esher's documentary coverage thus began substantially later than on the other bishopric manors. It was never large or rich, and its soils were poor. Here demesne agriculture was given up and the agricultural land leased in 1365, much earlier than elsewhere on the estate, where this development was largely a product of the fifteenth century.

But this volume is much more than just a collection of 44 Esher accounts. The editor uses these and the other 53 accounts to provide a substantial introduction and account of the development of this manor, while each published account is given an introductory commentary, and the opportunity, in the course of the volume, to discuss a wide range of issues. Moreover, one of the great strengths of these records is their ability to provide a complete sequence of statistics with few gaps. The statistical appendices draw upon all the accounts, including those not published here and include arable acreage, livestock numbers, arable yields (supplementing Titow's figures for the whole estate with those for rye and large and small oats), and listing goods and produce entering and leaving the manor.

Esher was an untypical manor within the bishopric estate. Its poor soils led to arable farming being dominated by rye and oats. It comprised a patchwork of demesne fields and scattered farmsteads with convertible husbandry. But despite these variations it also reflected some of the common arable trends on the estate as a whole: initial thirteenth-century growth, shrinkage at the end of the century, the early fourteenth-century crises of weather and pestilence, and subsequent consolidation at a lower level in the

years leading up to the devastating impact of the Black Death. The response to this last crisis led to the end of demesne agriculture, but not before the accounts suggest its vulnerabilities in labour and management. Many of the bishop's lands lay in the chalklands of southern England, and they were among the greatest wool producers in England. Here the lord maintained a flock, although not large and with long periods when no sheep were maintained, between 1266 and 1270, and from 1316 to 1335. Pigs were not kept on large scale on the bishopric estate and here there were none after 1282. Cows ceased to be kept in 1316. One unexplained curiosity was why the goatherd was moved from Farnham in 1321–7.

While the strength of these records is in the details of the lord's demesne agriculture, they have much to show, as the editor makes clear, about the peasantry themselves. An appendix provides potted biographies of those who died during the Black Death of 1348–9. By working through all the accounts of a single manor, unusual documentation is revealed, as in the tithe returns for the parish in 1248 and 1335, which allow comparison of the relative importance of the various crops in peasant and demesne agriculture.

The manor had been acquired and developed as a residential site, so that in addition to information about the farm buildings, we learn of the investments in the lord's housing. Having acquired the manor, the bishops lost little time in developing it. A new free-standing chapel was completed in 1268, although sadly the previous account dealing with most of the construction is missing. There were frequent indications of some of the buildings present and of occasional large-scale upgrading as in 1376 when over £100 was spent. This was a major episcopal residence accommodating bishops and their distinguished guests from royalty downwards. The accounts show traces of some of these visits, and of the buildings and their materials. This residential role was reflected in the landscape and the accounts through the vineyard and fishponds, swans and peafowl. Sadly, subsequent rebuilding in the fifteenth and eighteenth centuries and demolition, has meant that none of the buildings featured in these accounts have survived.

The records are published in translation, which greatly increases their accessibility. This volume should prove to be both a valuable source for the agrarian history of Surrey and of the wider country. It has a great deal to tell us about the worlds of the lord bishop and of his tenants. Its scholarly mixture of sources, introductory text and statistics should make this a valuable entry to medieval agrarian source materials, particularly when used in conjunction with the 1302 Pipe Roll covering the whole estate (ed. M. Page, *rev. ante AgHR* 45.2, p. 202). Together, they should allow students to engage with the sources both to examine a medieval manor and its evolution and to compare Esher with other manors on this great estate. This volume is an immense achievement, and it is hoped that its welcome publication may encourage further work on individual manors of the bishopric.

JOHN HARE
Winchester

ALISON LOCKER, *Freshwater fish in England: A social and cultural history of coarse fish from prehistory to the present day* (Oxbow Books, 2018). 172 pp. 16 plates. £38.

Alison Locker, a highly respected expert in fish remains archaeology, has assembled a valuable pioneering overview uniquely combining zooarchaeological and historical approaches to the changing place of freshwater fish varieties in human cultures of what is now England. For investigators hitherto focused on matters terrestrial or marine the book identifies multiple freshwater issues in agrarian, landscape, dietary, socio-cultural, and general environmental and economic history. But students of historical fishing and fisheries in England will wish to follow arguments and discussions more complex than can here be summarized. The book's indubitable strengths and occasional problems may inhere in the very breadth of its subject – how have the English interacted with coarse fish?

After brief mention of the fish species, native and introduced, now inhabiting England's fresh waters, the book concentrates on 'obligate' freshwater varieties, those unable to live in salt water. This relegates to secondary attention such migratory or broadly tolerant species as Atlantic salmon, eel, sea trout, sturgeon, and various estuarine flatfishes. What follows is structured chronologically from prehistory to the early twenty-first century. The result is first a narrative of human diet and land use based primarily on archaeology and then another mainly drawn from the written record about leisure, sport, and human social behaviour. Though Locker does not emphasize the point, the transition occurred in generations centred on 1500.

From prehistory through the early Tudors, if inhabitants of southern Britain looked at all upon freshwater fish, they saw food. Palaeolithic and Mesolithic hunter-gatherers ate much freshwater fish; their agrarian Neolithic through Iron Age successors virtually none, perhaps because the latter granted to watery places a sacral status incompatible with economic exploitation. Roman conquest and culture restored some taste for fish, both the pungent briny sauces (*garum*,

salsamentum) fermented for everyday use and the large specimens that colonists and aspiring indigenes used to show off elite status. Post-Roman pagan Anglo-Saxon immigrants reverted to an Iron Age model, while surviving and introduced Christian dietary practices encouraged eating fish when meat was forbidden. Even before arrival of piscivorous Norse settlers, some sites and human skeletal material suggest that elites consumed a modicum of freshwater and marine fishes, notably the larger and more impressive species such as pike. Then, even before the Norman Conquest, signs of fish consumption increase, especially at urban sites. The new trend featured the growing dietary importance of marine fishes, first eel, then herring, eventually also cod, and both a relative and absolute reduction of freshwater species, which became ever more expensive objects of prestigious display. Those fish came from natural waters understood, like artificial ponds, to be private property. Up to the mid-1400s English ponds held native species and not the exotic carp. Towards the end of this period, recreational fishing also emerges in the English written record, notably in the anonymous *Treatyse of fysshynge wyth an angle* printed by Wynkyn de Worde in the second edition (1496) of the *Boke of Seynt Albans*. Locker treads wisely through the oldest surviving tracts on fishing, correctly observing that, while textual instructions in capture techniques – all in fresh waters – are now known from some earlier generations in England and elsewhere and some individuals did plainly fish for fun, before 1496 books on sport had ignored this activity.

Remaining chapters (5–8 and an 'afterword') trace out the further evolution of conditions adumbrated by 1500, namely the transformation of freshwater fish from dietary and economic elements to objects of cultural display and performance. The zooarchaeological record gives way to written traces of a new English engagement with recreational angling and fishes of the carp family, first natives and eventually common carp Waters under landowner control offered opportunities to fish with rods, lines, and nets. A new genre of angling books culminating in Izaak Walton's *Compleat angler* (1653) depicted an established gentlemanly pursuit of all freshwater fishes, supported by its own commercial infrastructure. With the first Industrial Revolution (1740s–1860s) came a new English social structure and an emergent division between 'game' angling (salmon, trout, grayling, often also pike) on privately owned waters and 'coarse' fishing mainly for indigenous cyprinids. The business of angling, shops with specialized tackle, tradesmen, angling clubs in several social strata, and a variety of angling literature, grew apace. Coarse fishing developed most actively in and around Victorian cities, where working class fishers formed their own clubs. Fishermen (and this was a mainly male activity) of higher class often, but not exclusively, fished fly for game species.

Since the late 19th century all sorts of anglers came gradually to endorse a more 'sporting' ethos, whether defined by eschewing certain capture techniques or limiting the killing of fish. Newly emergent angling celebrities and specialized publications promoted both technical and social innovations, including a fashion of taxidermy to preserve trophy catches. The long-prized pike yielded angling priority to carp as the largest coarse fish and most difficult to master, reaching cult status by 1950. Nowadays the hegemony of carp among angled coarse fishes meets a general desire to capture big fish by basic methods, while at the same time intensively managed reservoirs provide recently stocked exotic American rainbow trout for another type of angler. Competitive angling, once the preserve of local coarse clubs in pursuit of roach, gained international status in contests to take carp on one hand and trout on the other.

Freshwater fish successfully portrays the remarkable 500-year English metamorphosis in the cultural role allocated to freshwater fish from a dietary to a recreational object. In part because readers familiar with archaeozoology and medieval diets may know less angling history and angling antiquaries have reciprocal blind spots, some broader observations are in order.

The shift from food to play at least roughly coincided with predominantly verbal sources replacing material evidence in present-day knowledge of past freshwater fish and fisheries. Both recovered fish bones and written instructional or literary texts offer skewed perspectives on how people dealt with fish. Readers would benefit from some instruction on the epistemological value and limits of each type of evidence, not least the limited ability of fish bones to reveal human purposes and the unstable relation between angling literature and angling practice.

Locker's restricted attention to obligate freshwater species has reasonable biological grounds, but still fits uncomfortably with how people took food from fresh waters in the Middle Ages and their descendants take recreational values from the same. In writing a history, why not explore the entirety of freshwater fishing? But at the same time the book tends to deprive the fish and their aquatic environment from any active role in its story. Given Britain's relatively depauperate natural fauna, how did the more diverse fish populations in those eastern waters once part of the Pleistocene ancestral Rhine, play out in fisheries? Subsequently, what may be said of responses by English fish species

to the successive changes in English agricultural systems, then in urban, industrial, and post-industrial landscapes, quite apart from fishing pressure itself? What role might the warming trend that began in the mid-nineteenth century have played in the availability to English anglers of grayling, trout, roach, and carp, each with its own temperature preferences?

Stereotypes of 'game' and 'coarse' fish and angling may be thought nineteenth-century constructs peculiar to England. They need to be historicized as such. Their use as analytical terms obscures historic commonalities and differences, including the importance of the 'all-round anglers' whom Locker identifies among leading lights from the seventeenth through even the early twentieth century. Nor did practitioners or writers of freshwater fishing in the Middle Ages or even the sixteenth century in England or elsewhere identify 'play' exclusively with angling as opposed to other forms of fishing. Ambiguities in contemporary approaches to those activities might better be acknowledged. Sport is as participants conceive it. The post-medieval evolution in England may have differed from that on the continent, but the grounds and process for this divergence remain unexplained. Quite possibly it is the unimportance of freshwater contributions to the English diet by the later Middle Ages that is central to that story.

Such questions, however, arise from the very breadth and success of Locker's innovative interdisciplinary survey. They rightly pertain to a future agenda that can test and build upon the sweeping story her book sustains. *Freshwater fish* deserves the attention of archaeologists, historians, and angling antiquaries alike.

RICHARD C. HOFFMANN
York University, Toronto

BRONACH C. KANE, *Popular memory and gender in medieval England: Men, women and testimony in the church courts, c.1200–1500* (Boydell & Brewer, 2019). 256 pp. £60.

This book sets out a compelling case for the importance of memory to popular culture in later medieval England. Where much recent historical writing on memory in the Middle Ages has focused on elite and learned contexts, it reveals the mnemonic strategies and markers used by ordinary rural men and women to remember and narrate their own lives. More particularly, it shows the way in which these strategies helped to reproduce the patriarchal ideas about authority, gender, and social relations that structured everyday life. The result is a richly detailed social history that displays a deep sensitivity to its subjects' world-views.

Most of the research underlying this comes from a study of witness depositions produced in the course of litigation before the church courts of Canterbury and York, relating to disputes over marriage, defamation, and tithes, among other matters. These are technical and often complicated sources, which provide only brief and highly partial glimpses of the voices of the people who were called to testify. But throughout, Kane provides careful readings of the vignettes that they offer, seizing upon the telling details that take us beyond the formulaic language of the legal Latin, towards the lived experiences of the witnesses themselves.

After an introduction that makes clear the historiographical stakes in relation to medieval social history and memory studies, the first two chapters provide a survey of the two broad cultural contexts. Chapter 1 looks at the way in which ecclesiastical discourses about memory developed in both pastoral and judicial settings, influencing the way that witness testimonies were elicited in the courts, while Chapter 2 explores the ideas about female authority that emerge from legal arguments over the capacity of individual women to act as witnesses before the courts. While we might be unsurprised to find that these arguments drew on misogynistic tropes about female promiscuity and deceit, Kane also attempts to recover the affective networks of female kinship and sociability from which women often narrativized their memories.

The subsequent five chapters explore diverse themes, showing the ways in which memories of everyday life were grounded in ideas and experiences surrounding bodies and sexuality, kinship and marriage, custom and writing, and movement through the landscape. Readers of this journal will no doubt be especially interested in this last chapter, which brings together an array of evidence – much of it from tithe causes – showing the importance of the connection between memory and place; in line with recent work on early-modern England, it demonstrates that the agricultural landscape was understood as a repository of customary memory. But here as throughout, Kane's emphasis on gender also provides new insights into these familiar topics, showing the way that patriarchal ideas about authority leeched into every aspect of the way that people remembered.

The book is full of tantalizing arguments, such as the idea that men and women constructed different temporalities in their depositions, the men's more linear, the women's more synchronic – or that women tended to remember with reference to bodies, aligning with normative perceptions of female social experience as embodied. Indeed, if the book has a flaw it is that such insights were sometimes left hanging, when they would have repaid more investigation; it seemed to me that they deserved more space, possibly at the expense

of the literature surveys that opened most of the chapters. Nonetheless, there were other subplots that were pursued effectively throughout, such as the way that women's memories often provided the foundation for those of men, even while they themselves were (informally) excluded from providing testimony in certain kinds of cases, such as those that concerned tithes or ecclesiastical rights.

Overall, the book represents a timely contribution to medieval English social history. Its attention to the way that medieval patriarchy contoured the structures of everyday rural life is illuminating, and it will be especially useful for teaching students about the ways in which gendered patterns of authority might marginalize men – particularly younger, poorer, and servile men – as well as women. In its main aspect, it shows the possibility of studying popular memory in the Middle Ages in a way that is mindful of the particularities of individual experience while still sufficiently broad to draw out a powerful cultural history. And in its suggestions around the forms of temporality, embodiment, and affect, it signals future directions for studies that seek to uncover the memories of non-elite people in the medieval world.

TOM JOHNSON
University of York

ERICA FUDGE, *Quick cattle and dying wishes: People and their animals in early modern England* (Cornell University Press, 2018). 264 pp. $29.95.

This excellent book explores the multifaceted relationships that existed between early modern people and their animals. It draws on a large dataset of 4,444 wills from the residents of Essex, and on a second comparative dataset of 2,013 wills from London and Middlesex, which cover the period 1620 to 1634. This extensive body of research (which is supplemented by a range of other primary source materials) allows Fudge to push far beyond standard accounts of the economic relations that tied humans and animals together, and to probe the nature and quality of their everyday coexistence. The frequency and mundane nature of these interactions are examined in colourful detail, with the characters of the testators and of animals fleshed out wherever possible. Fudge is clear from the outset about the interdisciplinary nature of her research, which draws on insights from history and the field of animal studies. Those interested in environmental history, new materialism, early modern material culture and economic history will also find rich pickings in this lively and beautifully written volume.

In chapter 1, Fudge sets herself the tricky task of explaining why specific animal bequests appear in so few of the wills she examines. Just over ten per cent of them feature such bequests, and Fudge herself notes that the naming of animals was an 'exceptionally rare' occurrence. In rationalizing the relative silence of these sources about the pervasive presence of animals in the lives of Essex residents, Fudge takes us into very interesting methodological terrain. Fudge reflects on the 'messy' nature of the will-making process and reminds us that these complex documents often reflected the complex temporalities (and precariousness) of early modern life. Important questions are posed about the legal, social and spiritual function of wills, and the deliberately cautious and generalized nature of their provisions and language. These were often, Fudge suggests, a response to precariousness. Fudge also prompts us to think twice about seemingly familiar terminology in early modern wills and inventories. She highlights, for example, the blurred boundaries between 'cattel' and 'chattel', which did not always fall neatly into distinct categories of livestock and inanimate goods. The potentially capacious category of 'appurtenances', she suggests, might easily apply to everything on, and associated with the land that was bequeathed in so many wills. This might include, of course, the livestock that grazed on it, which in turn points to the implicit inclusion of many more animals in wills than is visible at first sight. Fudge also identifies what she terms 'collecting phrases', which may well have incorporated livestock but without direct mention of them.

In chapter 2, we encounter the will of the yeoman Christopher Fuller as Fudge focuses in on those testators who 'attempted specificity' when it came to the bequest of animals in their possession. Fuller's will included more than 20 animals and he listed his cows by name. His will, Fudge suggests, offers important insights into the everyday nature of human reliance on animals, which was critical to a family's wellbeing. Here, she is in search of the affectivity that may have characterized interactions between people and their livestock. Fudge assesses the relevance of Bernard E. Rollin's concept of the 'social contract' for her period. This was a contract that tied humans and animals together in bonds of mutual reciprocity, but that always had the 'shadow of slaughter' lurking in the background. Fudge offers an interesting perspective on how early modern moral law may have shaped the regimes of care that seventeenth-century animals experienced, and she is careful to distinguish the affective attachments of humans to animals according to particular species, their care regimes, and the length of their cohabitation.

Naming practices are the focus of chapter 3. Fudge persuasively argues that the 0.3 per cent of wills in

the Essex dataset that include named animals is not a reflection of 'reality', but of the recognition that wills were principally for the transaction of business, not for displays of emotional attachment. Equally convincing is her insistence that the practice of naming was not simply a functional labelling exercise, but the attribution of individuality and a signal of attachment. It is no surprise to discover that names were usually reserved for those animals with which humans lived longest, and with which they had the most frequent bodily interactions.

The spiritual associations of domestic animals are placed under the microscope in chapter 4. The 'value' of animals is here extended beyond their well-established 'material utility' as sources of economic productivity and nutrition. The care of bees and lambs, Fudge suggests, offered religious and moral lessons – and opportunities for self-reflection – as well as being essential for the extraction of useful, saleable materials such as honey, wax, and wool. A particular brand of Protestantism is prioritized here, and it would be interesting to see if, and in what ways, different confessional groups perceived the soteriological function of their animals. The 'feelings' that Fudge discerns in this chapter, and indeed throughout the book, might have benefited from a more purposeful engagement with the history of emotions field, but this chapter nevertheless remains suggestive and engaging.

The book's final chapter compares the Essex records with wills from London and Middlesex. A very different set of relationships are traced between people and their livestock, with the emerging urban sprawl of London seemingly fostering a more transient, short-term and violent species of encounter that lacked the 'kindness' of pastoral relations beyond the city walls. Early evidence of the commercialization of dairying is just one reason that Fudge identifies as a contributing factor to the shifting perception of livestock (and especially cows) as 'technology' rather than 'co-workers'. The book's afterword engages directly with the ethical challenges that frame many of Fudge's research questions, and that relate to the degraded status of livestock in the mechanized world of agricultural production. She is successful, I think, in uncovering a 'lost way of thinking' about the relationships between humans and their animals in the seventeenth century, born of a society and a culture in which these two species were deeply entangled and interdependent throughout their respective lifecycles. The animals depicted here were recognized and treated as active and sentient 'partners' in the human life course, even though their own life course lay in the hands of their human owners. Fudge does not suggest that these relations are recoverable in the modern age. Instead, the value of her history lies in opening a dialogue with past agricultural practices that might well have important ethical implications for the present.

SASHA HANDLEY
University of Manchester

MICHAEL SYMES, *The English landscape garden: A survey* (Historic England, 2019). viii + 96 pp. 104 illus. £20.

Gardens are a topic of perennial and growing interest for both historians and the public. This short book offers a bridge between these two sets of readers by offering a readable yet erudite introduction to English landscape gardens. It is well illustrated and grounded in examples of gardens across the country (many of which can be visited), and helps the reader get to grips with some complex ideas, from the iconography of statues and garden buildings to the definition and nature of the picturesque. In tracing the development of the genre, Symes provides a balanced view, giving equal weight to different forms, theorists and practitioners rather than focusing only on the big names. Whilst we get chapters on Kent, Brown and Repton, there is also discussion of Switzer, Langley, Whately, Shenstone, Bridgeman and many others. This is a story with many characters and many sub-plots: the English landscape garden is revealed as a complex and varied phenomenon, one that evolved over the course of the eighteenth century.

The first three chapters offer an introduction to the landscape garden and provide a framework for its development. Ideas, influences and practicalities are discussed in a (comparatively) lengthy opening chapter, followed by an overview of its evolution, and of the key theorists and writers who shaped its changing aesthetic and form. Symes does an excellent job of synthesizing a large body of research and allowing the reader to distinguish the wood from the trees: the detail is there, but the bigger picture is to the fore. Together, these three chapters provide context for the short topic-based chapters that make up the bulk of the book; but they also set out Symes's agenda and perspective: one that is largely concerned with design and aesthetics. What follows, then, are 13 chapters that focus on particular topics or individuals. In these, Symes explores in a little more detail many of the key ideas, people and forms highlighted in the introductory chapters. Their brevity – many are just four pages long – allows him to offer the reader an insight into a huge range of topics, but necessarily means that discussion is limited. As befits a survey, they are easily digestible summaries rather than fully developing the topics under consideration.

Symes takes a broadly chronological approach, tracing the landscape garden from the extensive or forest gardening championed by Switzer, through the 'artinatural' garden of Langley and others, to Kent's pictorial garden and the mid-century circuit garden, and on through Brown's vision of landscaping, the rise of the picturesque and finally to Repton's pragmatic synthesizing of design elements. The reader is thus provided with a clear picture of how the English landscape garden evolved over time. But this is no simple story of progressive change: Symes is careful to highlight how key ideas persisted or re-emerged; how earlier elements survived subsequent remodelling in many places, and how a 'pure' form was very rare, either on paper or, especially, on the ground. Hybridization was not something reserved for the plantsman, and Symes is right to question the overweening importance of the big-name designers, arguing that they often worked within the aesthetic and physical framework left by their predecessors. Within this, Brown seems to come under particular scrutiny. Despite being acknowledged as the 'indisputable giant of landscape gardening' (p. 67), his impact is systematically dissected in a manner not attempted for Kent or Repton, for instance – a result, perhaps, of the scrutiny as well as the celebration of his work that surrounded the tercentenary of his birth.

Interspersed with these chapters on designers and writers are others that focus on particular elements of the landscape gardens. We thus have discussion of plantings (including the impact of imported plants); the use of iconography and the poetic associations of landscape gardens (especially grottoes); the *ferme ornée* and the relationship between garden and park/farm, and the terrace walk. As with the chronology, these chapters draw on a wide variety of gardens to illustrate the arguments being made – some famous and others far less familiar. Contemporary prints and present-day photographs serve to draw out particular points, making them more than simply pleasant adornments, but an integral part of the analysis. Symes again does a good job of balancing brevity and overview with detail and exemplification.

As a survey, this book has many qualities, but its concern throughout is with the evolution and implementation of design. Very little is said about how these designs were received, or about how gardens were used or viewed by owners and visitors – beyond a broad idea of approbation or criticism. Nor do we have any discussion of the economics of the landscape garden: what were the (relative) costs of different models of landscape garden and how did these impact on the choices made by landowners in terms of design and maintenance? Such factors undoubtedly played an important role in shaping landscapes gardens, but maybe they lie beyond the scope of a short survey. More central to the approach that Symes takes to the subject, yet dealt with only briefly, is the influence of politics on the evolution and choice of design. Most fundamentally, there is the question of national identity: what made these landscape gardens English (as opposed to Welsh or Scottish, for example) and to what extent was English identity bound up with and communicated through this medium?

Unsurprisingly, then, a short survey has gaps in its coverage, but overall Symes's book provides an excellent and engaging overview of its subject: one that will satisfy many readers and encourage others to find out more.

JON STOBART
Manchester Metropolitan University

ANTHONY C. RAPER, *The ancient and famous Weyhill Fair* (The Weydon Press, 2017). 207pp. illus. £12.00.

The fair at Weyhill has been in existence for at least eight centuries. This is Anthony Raper's second book on the subject and expands on his previous book *Weyhill Fair – the greatest fair in the kingdom*, published in 1988. Comprising 24 chapters of varying lengths, some as short as two pages, Raper examines the historical development of the fair from the first written evidence in a 1225 close roll. When the nearby town of Andover applied for a royal charter in 1599, it provided the first reference to Weyhill Fair by name, noting that it was held over three days, before, on and after Michaelmas. With the adoption of the Gregorian calendar in 1752 and the loss of eleven days that year, harvest-related events moved, with the fair being held around 10, 11 and 12 October. Legal disputes between the fair and the corporation of Andover were on-going in the seventeenth and eighteenth centuries: there were also disputes with Appleshaw fair, held a few miles north of Weyhill only two days before, along with disagreements between the various landowners where the fair was held, regarding the split of the profits.

Raper then examines the different fairs held, starting with the sheep fair: described as the largest in England, some 150,000 sheep were penned in 1825. The development of the improved Hampshire Down breed is stated as leading to the establishment of additional fairs in spring and summer, for the sale of lambs. However, the coming of the railways reduced the number of sheep sold at Weyhill: Raper gives the example of early lambing Dorset ewes being sold at Dorchester Poundbury Fair, after which they were moved by rail to their new owners, alleviating the need

to walk the sheep over the Downs to Weyhill. As for this latter activity, a short description of the drovers, their role and responsibilities, as well as the routes they travelled, is presented.

The cattle, or beasts, fair was held on the second day: beasts referred to cattle, oxen, pigs, goats and poultry. Whilst Weyhill was famous for cattle, local newspaper reports focused on sheep, horses and hops. With regard to the latter, Raper notes that hops had been sold previously at Stourbridge in Cambridgeshire. This fair declined at the end of the eighteenth century with the development of canals and improved roads: further, the hop growers of Farnham in Surrey moved their trade to Weyhill. In the nineteenth century, the hop fair ran for a whole week, although most sales were agreed after three days, local farmers having secured their supply of hops to brew beer for their workforce. By 1888, the fair reduced to two days with the Borough hop market in London starting to replace it, as farm-based brewing declined. However, Raper does not record the ending of the sale of hops at Weyhill.

As for the cheese fair, the cheese came primarily from Somerset, Wiltshire, Gloucestershire and Hampshire. Again, this fair had declined by 1825, further exacerbated by the railways enabling fresh liquid milk to be transported around the country. By 1889, only one cheese merchant attended: the cheese fair closed in 1920. The horse fair also declined according to Raper as a result of the large number of horses requisitioned during World War I and the increasing mechanization of agriculture. Brief consideration is given to the mop (hiring) fair and the leather fair, before the need for law and order at the fair is reviewed in the book. Initially, this was achieved through the court of Pie Powder, which enabled quick decision-making and arguments to be settled: however, it existed in name only after the seventeenth century and ceased in 1829.

Looking briefly at the parallel Gypsy fair held on the road outside the fairground, the book presents three traditions associated with Weyhill Fair – the wake, the balls and the 'horning of the colts'. The latter was an initiation ceremony for newcomers to the fair, involving singing and beer. Other aspects of the fair were the trades fair 'where anything can be bought' and the pleasure fair with its sideshows and entertainments. A lengthy chapter then examines the literary links to the fair in the form of words, music and film: two silent films were shot partly on the site. Raper finishes by noting the decline of all three fairs: spring, summer and autumn, from the start of the twentieth century. The last remaining fairground booth, along with those of the Farnham hop-growers, are now listed buildings and form part of a Craft and Design Centre opened in 2003.

This book is superbly illustrated with photographs and postcards, primarily from the author's collection, although the same image of the pleasure fair is used twice (pp. 131, 146). On several occasions, the author draws attention to details that are not visible at the resolution at which the images have been reproduced. From the opening paragraph of chapter 1, there are numerous typographical errors scattered throughout the book, along with several instances of repetition. For example, the horse fair song is presented as a small (unreadable) image of the score (pp. 86–88) with line 6 of the first verse and line 5 of the final verse missing: the whole item is later repeated (pp. 153–155) with readable score, albeit with verses 2 and 3 interchanged. A further example of duplication and inconsistency occurs in a newspaper report presented of a fire in 1764 (p. 70), whilst the report of another fire in 1786 is almost identical, although dated to 1784 (p. 71): finally, this report is again included (p. 120) as part of a larger extract from the 1784 newspaper. The glossary is incomplete (for example, 'yean' on p. 57 is not defined), whilst various terms are glossed within the text, rather than in the glossary ('wind-galled', 'roarers', 'clickers' are defined on page 88, and again on page 154). Referencing is minimal with a list of recommended books, rather than a bibliography. In summary, this self-published book contains some fascinating content about an important topic and whilst it is well illustrated, it is poorly presented.

ALAN WADSWORTH
Evesham, Worcestershire

ANDREW ROSSABI (ed.), *Richard Jefferies: a miscellany* (Galileo Publishers, 2019). 304 pp. £9.99.

Richard Jefferies was a prolific author whose essays on rural life, both human and nonhuman, helped to shape how late Victorians imagined England's countryside. He was also an innovator of children's literature through his 'Bevis' books and apocalyptic fiction via his novel of civilizational breakdown *After London*. Further, his memoir *The story of my heart* constituted a striking example of nature mysticism, chronicling Jefferies' lifelong search for spiritual transcendence. His marginality in the literary canon today is due partly to his early death at 38, and partly to his tendency to express himself through short essays that give his œuvre a fragmentary character. However, Jefferies strongly influenced later authors, from W. H. Hudson to Edward Thomas, and his sensitivity to the suggestiveness of landscapes is echoed by contemporary nature writers like Robert Macfarlane. The miscellany is thus an apt vehicle for introducing Jefferies to new readers, and it is hard to imagine an editor better placed to compile one than Andrew Rossabi, whose

mammoth, three-volume biography of the man (with two volumes still to be published) promises to be a milestone in Jefferies scholarship.

Instead of approaching Jefferies' work chronologically, Rossabi jumps around the publication timeline, tracing at once Jefferies' maturation as a writer and key stages in his life. This orientation coheres with Jefferies' simultaneous concern with the hard facts of life in the countryside and the intense feelings and imaginative visions that filled his inner world or 'soul-life' as he termed it. Rossabi admits that 'Jefferies was not a phrasemaker' and 'is not best served by excerpts', his power being 'accumulative' rather than epigrammatic (p. 113). Nonetheless, the passages of up to 16 pages give ample tastes of the immersive worlds that Jefferies' writing could conjure and will encourage readers to hunt down the full texts, most of which can be found online.

Rossabi's curation exhibits the rich variety of Jefferies' work. His early sensation tale, 'A strange story', indexes his interest in archaeology and fantasies of nature reclaiming the land from humans. His novels of village life like *The dewy morn* and *Amaryllis at the fair* resemble Thomas Hardy's combination of pastoral idealism with social realism. Conversely, extracts from Jefferies' children's books *Bevis* and *Wood magic* show him refining his mystical nature religion, which he would express directly in *The story of my heart*. Jefferies wrote of modern life leaving 'dust' upon the heart and enclosing the mind in 'a husk' for which nature was the only cure (p. 26). In his reveries triggered by the landscapes' sensual delights, the binary between humanity and the natural world dissolves, and Jefferies declared himself 'lost, and absorbed into the being or existence of the universe' (p. 29).

Yet, despite his reverence for nature, Jefferies also insisted on its indifference to humanity. 'If the entire human race perished at this hour', he wrote, 'what difference would it make to the earth? What would the earth care? As much as for the extinct dodo' (p. 147). This indifference is further underlined by extracts from *After London*, which depict England returning to primeval forests. Cultivated lowlands sink back into marshes while the wild descendants of domesticated dogs prey on sheep flocks and vermin hordes devour crops. These visions point to the tension in Jefferies' thought between Romantic idealizations of nature and more Darwinian views of it as a scene of ruthless struggle (although Jefferies was technically an evolution sceptic).

Among Jefferies' journalistic writing is a long letter he wrote to *The Times* on the condition of agricultural labourers, which established him as an authority on rural affairs. The letter reflects Jefferies' conservatism, arguing that labourers were better off than unionists claimed while their employers' fortunes were often precarious. The letter also observes the rustic workers with the analytic detachment of an ethnographer. Jefferies describes their diets, changing sartorial tastes and distinctive gaits, shaped by their working motions.

Jefferies' sharp eye paints rural Victorian life in further vivid details in passages from collections such as *The gamekeeper at home*. He notes the unconscious ease with which the gamekeeper shoulders and fires his gun, conditioned by years of use to experience the weapon as 'almost a portion of his body' (p. 69). Meanwhile, in a corner of the gamekeeper's shed lies an old man-trap, left to rust since the outlawing of such devices. Jefferies depicts the trap as a 'relic' of more brutal times before modern policing and the gradualist diffusion of political power (p. 67).

Jefferies is equally acute in his observations of the religious and social habits of Victorian villagers. The tendency of non-conformists to marry early and remarry quickly when widowed reminds him of the Mormons in North America. This analogy leads him to speculate that the two groups, seemingly so far apart, possess a common 'cast of mind' characterized by unsentimental practicality and a strict division of public and domestic spheres (p. 225).

A persistent theme in the collection is how modern labour degrades body and soul, reminiscent of John Ruskin's social criticism. 'One of the New Voters' depicts the health-wrecking living conditions of an agricultural worker. Jefferies' description of summer landscapes is marred by the irony that those working in them are too malnourished, exhausted and uneducated to appreciate their beauty. Elsewhere, Jefferies praises the pigeons nesting in the roof of the British Museum as wiser than the humans who toil inside, forgetful of the gorgeous sunshine. Such sentiments appear most poignant in the extracts from Jefferies' last essays, written upon his death-bed, when he could no longer enjoy the great outdoors.

Aside from the historical interest of Jefferies' writing, this miscellany shows that he anticipated several concerns of recent nature writing. Like Richard Mabey, he problematized the rural/urban binary and constructed natural landscapes as therapeutic objects against depression and ennui. He also exhibited an early (or proto-) conservationist sensibility, lamenting the destruction of wildlife by hunting and industrialization. Moreover, his sense of humans' dependence on the natural world and his dark visions of ecological catastrophe could not feel timelier.

WILL ABBERLEY
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Europe and Elsewhere

ERIKA GUTTMANN-BOND, *Reinventing sustainability: How archaeology can save the planet* (Oxbow Books, 2019). 192 pp. 59 illus. £25.

Reinventing sustainability is a vibrant, fascinating, and above all optimistic exploration of past successes in human relationships with local environments. The book takes a truly multidisciplinary perspective, with a substantial bibliography drawing upon literature from archaeology to urban planning, anthropology to water management, and agronomy to politics. The author's work falls primarily at the crossover of environmental sciences and archaeology, but owes a great deal to scholarship in an impressive range of disciplines. Taking a wide view of the problems of climate change and population growth, Erika Guttmann-Bond draws examples from across the globe, and works on a time scale from the origins of farming, 11,000 years ago, right up to the present day, to argue that the technology and knowledge needed to improve countryside management already exists. Archaeology, she argues, holds the key to sustainable future land management and design, which are both beneficial to the environment and cost-effective.

The book is richly illustrated and accessibly written, introducing the reader to the key disciplines of archaeology and anthropology in a way that is understandable for the non-specialist. It includes inset boxes to explain key terms and ideas, and gives brief but readily understandable explanations of how archaeologists find information and come to conclusions in their research. The work makes a convincing case for drawing on multiple disciplines to fully understand the big issues we as a society face today, and for the use of archaeology in particular. Guttmann-Bond acknowledges the impact of Rachel Carson's *Silent spring* in raising awareness of the problems associated with industrialized agriculture. However, reading as a historian, a more detailed explanation of where the work sits within the wider literature of the disciplines it incorporates would be appreciated.

Chapter 1 provides an introduction to 'Learning from the past'. The book's focus on farming as a means to positive change as well as a cause of negative environmental impacts is welcome, and acknowledges the multifaceted nature of this complex and often controversial interrelationship. The author uses this relationship to frame the following discussion, and provides an interesting introduction to archaeological methodologies and the science of climate change. These sections provide a firm foundation from which to understand the numerous case studies given in the following chapters, without drifting too far from the focus of the book as a whole.

Chapters 2 and 3 cover two contrasting environments; 'Wetlands and wetland agriculture' and 'Farming the desert.' These chapters reveal one of the key themes of the past, present, and future with regard to environmental management, to which the book returns frequently: water. The examples of past management practices are drawn from across the world, showcasing the truly global scope of the book. Accounts of archaeological methods and discoveries, supported by a robust bank of statistics, are brought to life by a liberal scattering of first-hand accounts of different landscapes from history, as well as by the lively style of the author. This allows a great deal of ground to be covered, including the impact of cultural norms on local governance of water resources and the way communities use their landscapes, beginning to add an anthropological element to the discussion of physical evidence and agricultural processes.

Guttmann-Bond uses chapter 4 ('Food security') to set up the second half of the book, which highlights practical suggestions for the future. In this and the following two chapters, she advocates the utilization of some aspects of early technology alongside new discoveries in agroecology, science, and architecture to create a more sustainable future. Chapter 4 tackles the impact of the industrial farming techniques introduced during the 'Green Revolution' of the 1960s and 1970s, which is posited as a point of disruption to the traditional, sustainable systems of the past in terms of environmental management and cultural heritage. The theme of culture, interwoven with archaeological and biological evidence, is one of the great strengths of this book, reinforcing the broad, multidisciplinary nature of Guttmann-Bond's insights into the nature of sustainability.

Chapter 5 ('Saving the soil'), follows on from the questions of diminishing soil quality under industrialized agriculture addressed in the previous chapter. It makes a particularly interesting case for an appreciation of the soil as a valuable resource in and of itself, in addition to being a crucial source for knowledge about the past. It reflects the author's clear passion for the earth, and the number of clearly explained illustrations devoted to bringing this much-maligned substance to life, including soil samples under a microscope, are, once again, extremely useful for readers who do not have a background in archaeology or soil science.

Vernacular architecture is the theme for chapter 6. Here, the ingenious solutions found by past cultures to the everyday problems of living in urban spaces in harsh or potentially volatile localities are explored. The

chapter addresses issues of comfort as well as of safety, looking at means of providing cooling ventilation and retaining warmth as well as resilience in the face of disaster events. This is something of a departure from the largely agricultural focus of the preceding chapters, and serves to highlight the influence of anthropology on the book as a whole, and the influence of cultural factors on the implementation of the suggested solutions to the environmental problems of the present and future.

In the final chapter, 'The Tao of environmental management,' the threads of this geographically and temporally wide-ranging, multidisciplinary study are brought together. This chapter is written from a more theoretical perspective, highlighting E. O. Wilson's concept of 'biophilia': the need for humans to 'affiliate' with other living organisms, and, crucially, the notion of symbiosis. Despite the bleak future sketched out in the subsections on oil, and biodiversity and climate change, the book ends on an optimistic note, citing the progress made by the environmental movement since the 1970s.

Guttmann-Bond succeeds admirably and persuasively in her ambition to offer practical solutions from the past to modern environmental management issues. At each stage, convincing connections are made between present problems and past solutions, but the author is careful to restate, several times, that she is not advocating for the rejection of science and innovation. But rather for an approach to current environmental issues based in a thorough understanding of past successes, and an adaptation of traditional practices to provide both environmental benefits and cost-effective modern agricultural techniques. *Reinventing sustainability* is an engaging collection of case studies which show how archaeological research can inform future sustainability in agriculture and human lifestyles. It will undoubtedly serve as a jumping-off point for future research and future innovation.

JANE ROWLING
University of Hull

KEES KUIKEN, *Rural salvation markets: medieval memoria in Dutch village parishes* (Nederlands Agronomisch Historisch Instituut, 2019). 302 pp. €16.53.

This book aims for a comprehensive survey of late medieval liturgical commemoration, particularly the commissioning of prayers for the dead through the establishment of anniversaries and chantries. In line with the doctrine of purgatory, founders of such services sought to gain spiritual benefits – above all a speedier transfer of their own souls and those of named beneficiaries to Heaven – in return for lifetime or testamentary bequests of money, lands or donations in kind. The innovative thrust of the approach is an unusually broad combination of secular and ecclesiastical perspectives by an author with a background in Religious Studies and a diverse portfolio of research interests. The empirical data derives from 56 parishes spread across the three dioceses of Liège, Munster and Utrecht in the northern Low Countries. All in all, many thousands of services can be traced in this sample, from a single one in the village of Hijum to no fewer than 3,020 at Oirschot (pp. 224–8). One of the great strengths of the study is the painstaking combing of relevant categories of evidence from over twenty archives as well as in-situ research, not just specialized *memoria* registers but also fraternity records, wills, deeds, population surveys and surviving clues from material culture (such as tomb slabs and armorial crests), to name just a few genres. Arranged in three main parts dedicated to aspects of economy, society and culture, the qualitative argument is supported by no fewer than 18 figures, three graphs and 23 tables in an extensive appendix, plus an index of place names.

In terms of major findings, the book traces the broad chronological outlines of the phenomenon: originally confined to large-scale endowments at religious houses in the High Middle Ages, liturgical commemoration received a major boost through the Fourth Lateran Council of 1215, which tied the cure of souls to the emerging network of parishes. The high point came in the 'long' fifteenth century, when parochial institutions like poor tables established themselves as major *memoria* providers alongside a range of internal and external competitors. At Warmond, near Leiden, which serves as a case study throughout the book, there is documentation for 1,201 different services, 998 of which were entrusted to the local priory, 114 to the parish fabric, 64 to a guild, 20 to a women's convent and five to an external fraternity. Worsening socio-economic conditions, related to demographic growth, and Reformation-inspired attacks on Catholic doctrine then ushered in a gradual – but not universal – decline of foundations from the 1520s until the region formally adopted Protestantism later in the century. Demand derived from a wide spectrum of social groups. At Warmond, the seigneurial Wouden family dominated the scene (with no less than a quarter of parish-based services catering for its members), but humbler groups were not excluded. Apart from getting themselves on the bede roll, affordable options included 'budget' anniversaries with a smaller number of candles, fewer celebrant priests and no alms for the poor. *Memoria* foundations, furthermore, reveal a matrix of reciprocal

(trans-)local loyalties involving the living and the dead, nuclear families and wider kin, villages of origin and subsequent places of residence as well as ancestral and more recent spiritual preferences, the latter allowing observant orders to grow their market share at the expense of other monastic communities.

Conceptually, the approach is informed by Erik Thoen's model of social agrosystems and Bas van Bavel's work on market economies (pp. 5, 174). Kuiken introduces us to distinct village types in the region, differentiated by soil types, landholding patterns and production regimes, relates the growth of the parish to the decline of demesne farming in the later Middle Ages (at Britswerd, parochial funds came to own 22 per cent of a surface area of 72 ha; p. 231) and emphasizes the commodification of commemoration, manifest, for example, in consumer choice of providers and tailor-made levels of investment. One hectare of land sufficed to set up an anniversary, while chantries with daily masses required ten. The undisputed market leader, a fraternity dedicated to Our Lady at 's-Hertogenbosch, became the 'single largest *memoria* provider in the medieval Low Countries' (p. 135) with tens of thousands of members. Its growth reflected a combination of affordable fees, tangible signs of belonging (such as the annual supply of a candle to each member) and a comprehensive network of agents promoting its interests, mirroring practices known from the sale of indulgences. Whether the fraternity always fully discharged its resulting obligations, however, remains doubtful.

Formally, the text can get a little dense. A great wealth of information on families, villages and foundations is conveyed in relatively short sections (pp. 112–18), sometimes in relation to several layers of conceptualization. Given constraints of space, there is not really the scope to develop each of these fully. This can be acerbated by a few editing issues such as repeated passages (p. 47) or misplaced captions (p. 142). Another challenge is the meaningful definition of 'rurality' in such a heavily urbanized region. The solution here is to link town status to the possession of a charter, which seems a rather formal criterion, as the author concedes (p. 177). Looking beyond the Netherlands, one wonders whether the financial benefits from such a dramatic 'increase of divine service' over several centuries, i.e. the surpluses accruing to the various lay funds after payment of all associated costs, created the same sorts of tangible benefits for parish communities as Clive Burgess has identified for metropolitan environments like London and Bristol.

Overall, *Rural salvation markets* offers uniquely detailed insights into the commissioning, delivery, and long-term evolution of liturgical commemoration within a particularly dynamic socio-cultural setting. Future comparative studies on city contexts as well as other rural regions would be very welcome.

BEAT KÜMIN
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STEPHEN HEYMAN, *The planter of modern life: Louis Bromfield and the seeds of a food revolution* (W. W. Norton & Co., 2020). 340 pp. £21.

'How ya gonna keep 'em down on the farm/After they've seen Paree?' asked a popular song of 1919. It expressed the fear that mid-Western doughboys, dazzled by their experiences in the French capital, would never again 'want to see a rake or plow'. But, to the writer Louis Bromfield (1896–1956), who was raised on an Ohio farm and volunteered to serve as an ambulance driver on the Western Front, the experience of French life brought a fresh perspective on agriculture: one which would ultimately make him the most celebrated farmer in the USA.

Stephen Heyman's biography of Bromfield places greater emphasis, as its title suggests, on his commitment to the soil than on his literary career, but by no means neglects the latter. Indeed, Bromfield's fame as a farmer could not have grown without his already existing reputation as a novelist. This reputation has not survived, though in his time he was an international best-seller.

Surrounded by the devastation of the Western Front, Bromfield fell in love with a beautiful rural landscape even as it was being destroyed. He had to wait six years, after his discharge, before he could return to France: a period during which he gained status as a journalist and novelist. At first he lived in Paris, among the American expatriates, but the call of rural France was strong and in 1929 he moved to Senlis. He became the town's most noted resident – initially, because of the many literary figures who visited him; later, on account of the splendid garden he created, which was admired by painters and horticulturalists.

A neighbour called Bosquet became for Bromfield a symbol of Gallic self-sufficiency. His two-acre holding was intensely productive, largely thanks to his skill at composting. He was 'allied with nature', and Bromfield, sated by a hectic life of celebrity, wanted to experience that sort of stability. With the guidance of a peasant, Victor Picquet, he created a fertile soil; this required the use of methods entirely different from those which were devitalizing the land in Ohio.

By the time he wrote his semi-autobiographical novel, *The farm* (1933), Bromfield believed that 'no nation can exist or have any solidity which ignores the

land' (p. 86). The 'Dust Bowl' was clear evidence that the USA had made a catastrophic error in treating the land as an inexhaustible resource. Bromfield was influenced by a tour of India he undertook in 1933, during which he visited Sir Albert Howard's agronomic institute in the state of Indore. Howard had retired by then, but Bromfield was impressed by the scientific composting carried on there, and became an early advocate of his methods. India also provided the inspiration for Bromfield's novel, *The rains came*, which in 1939 was made into a highly successful Hollywood film. With the wealth this brought him, Bromfield was able to build what Heyman describes as 'one of the most influential farms in American history' (p. 147).

Returning to America in 1938, Bromfield simply wanted to raise his children on the sort of farm – Jeffersonian, democratic – which had sustained his grandparents. His was no 'hobby farming'. He was determined to make his farm profitable, and between 1939 and the mid-1940s transformed its worn-out land into an agricultural showpiece, using methods which were in tune with the ideas of Howard and of the US soil scientist, F. H. King.

Like the British organic school, Bromfield saw a thriving agriculture as vital to the stability both of rural communities and of the nation as a whole. Whereas industrial civilization imposed a state of economic insecurity on its inhabitants, Bromfield wanted to create a 'thrifty island of security' (p. 173) as an example to other American farmers. He was also, like the organicists, opposed to specialization: Malabar was a mixed farm, a challenge to the mechanized agri-business that made it practically impossible for a family to live off the land.

During the war, Bromfield grew critical of government policy; from having been a very left-wing Democrat, he shifted to supporting the Republicans. He became a spokesman for ordinary farmers at a time when, in his view, everything was being done for the sake of industry and to the disadvantage of food producers. It is possible that his attacks on the Roosevelt administration helped alter certain aspects of its policy in favour of the farming sector.

There is no doubt, though, about Bromfield's impact on the work of the ecological group, Friends of the Land, founded in 1940. Invited to Malabar Farm the following year, the Friends were powerfully boosted by his support. He became their Vice-President in 1942, speaking on their behalf at a wide range of venues across the USA.

The story of his own achievements was now more interesting to Bromfield than any fiction could be, and he enjoyed a new lease of life as a writer of autobiographical books such as *Pleasant Valley* (1946) and *Malabar Farm* (1949). His fame as a farmer led to him appearing as a congressional witness on aspects of food policy, including the use of DDT. For a time, he supported the work of entrepreneur and health promoter Jerome Rodale (another of Albert Howard's disciples), but came to consider him too much of an organic 'cultist'.

Malabar Farm proved not to be commercially successful, and Bromfield was forced to accept a move to greater specialization. He poured his wealth into the project, but sales of his farming books did not match those of his novels, and he ended up in financial difficulties. His final few years are a story of sad decline.

The sub-title of Stephen Heyman's book surely over-states the case. As Heyman points out, less than one per cent of America's arable land is organically cultivated: this hardly amounts to a 'food revolution'. Nevertheless, Bromfield drew attention to social and ecological issues that remain of critical importance, and Heyman has performed a most valuable service by producing such a lucid account of this extraordinary and appealing man.

PHILIP CONFORD
University of Leicester

R. DOUGLAS HURT, *The Green Revolution in the Global South: Science, politics, and unintended consequences* (University of Alabama Press, 2020). 280 pp. 18 b&w figs. $49.95.

The American agricultural historian, Douglas Hurt, has set out to write a dispassionate analysis of a controversial historical episode: the 'Green Revolution' (GR) in the global South since the 1940s. The book devotes chapters to Latin America, South Asia, East and Southeast Asia, China, and Sub-Saharan Africa and includes a chapter on recent debate over the introduction of agricultural biotechnology in the South. Along the way there are brief but interesting accounts of GRs in countries rarely mentioned in the secondary literature (e.g. Ethiopia, Guatemala, Vietnam). And in its discussion of recent developments where the scholarly literature is sparse, the book makes good use of newspaper articles and other media.

Hurt's aims in writing the book were two-fold. On the one hand, it is an attempt to 'synthesize the literature' (p. 4), offering an overview of the GR which 'will provide an understanding of its agricultural history' (p. 5), and 'a usable introduction' (p. 7) for non-specialists. Such a book would be very welcome since the literature to date consists mainly of specialized monographs. On the other hand, for those with a specialist interest in the GR, he seeks to '[trace] the acceptance or rejection of the GR over time' (p. 4),

providing 'a survey of the ways that agricultural and social scientists … have considered the GR' (p. 6). Effectively a history of the controversy surrounding the GR, this, too, would make it a novel addition to the literature. As admirable as both aims are, however, the book does not succeed in either respect.

When turning to a 'synthesis', most readers expect to find a discussion of all the major works comprising the literature in question. One problem with the book under review, however, is that (to judge from the bibliography) a remarkable number of important books and dissertations on the subject have been left out. The chapter on East and Southeast Asia, for example, does not refer to studies of rice research by Edmund Oasa or by Anderson, Levy and Morrison. Similarly, in the chapter on Latin America although important work is listed in the bibliography (e.g. books by Jennings or Hewitt d'Alcantara on Mexico), it is then not referred to in the text. Moreover, there is a disturbing tendency to rely upon news media as sources, not in addition to specialist primary literature or well-established secondary works (which is legitimate) but instead of them (e.g. chapter 3). The book does not, therefore, provide a reliable review of the secondary literature.

Nor is it suitable as an introductory text. Some generalizations about the GR are repeated many times; highly condensed accounts of technical issues need to be unpacked; there are abrupt shifts within the narrative; and important technical terms are left undefined. Furthermore, although the book is rich in information, its interpretations are poorly sign-posted so that students will find the text hard going.

As far as the history of controversy is concerned, one might expect such an analysis to identify the kinds of argument which were used by the protagonists at different time periods, as well as to identify where the critics/defenders were 'coming from' (e.g. discipline, institutional affiliation). In the case of the GR this could be highly illuminating: starting with largely uncritical support during the 1950s and '60s, followed by prolonged criticism during the 1970s, a lull in debate during the '80s and '90s, and the re-emergence since then of controversy over the advisability of a 'second' GR. Unfortunately, what we get instead is an overly generalized discussion of the debate which reports that 'some critics said X while others said Y'. To make matters worse, the book uses a referencing system that restricts references to the endnotes and allocates one endnote per paragraph. Since many paragraphs include more than one claim, it is often impossible for the reader to attribute a specific claim in the text to a specific source in the note. In effect, therefore, the controversy is dealt with at arm's length.

In some respects the book's characterization of the controversy is useful. It points out, for example, that proponents of the GR were more concerned with increasing production than with the GR's possible social and environmental consequences. But Hurt's repeated characterization of the controversy – as a dispute between 'agricultural scientists' who defended the GR and 'social scientists' who criticized it – is a serious distortion. Some of the most prominent defenders of the GR were in fact agricultural economists while the critics included agronomists of ecological orientation. The major fault line in the controversy, therefore, lay not between disciplines but between those who were narrowly focused upon production and those who took a broader view of what 'agricultural modernization' should entail.

To conclude, in its attempt to discuss both the science and the 'politics' of the GR, it seems to me that the book has missed a fundamental point. For example, although his case studies clearly demonstrate the necessity of state support in order that GRs succeed, in his lengthy discussion of failed GRs in sub-Saharan Africa since the 1980s, Hurt makes no mention of the World Bank's policy of 'structural adjustment', which systematically eroded the strength of African states. Similarly, his discussion of GRs in several countries lends abundant support to the view that land reform has often been a major factor in the success of a GR. While conceding that it played a role in China, however, Hurt never addresses it as a systemic issue of general importance. Lastly, the book has almost nothing to say about rural political conflict unleashed by the GR in several countries. All of this suggests that the author is reluctant to acknowledge a conclusion that other analysts drew some time ago: that the outcomes of agricultural 'modernization' schemes are usually attributable to the political and economic context in the host country.

JONATHAN HARWOOD
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ESTHER KINGSTON-MANN, *Women, land rights, and rural development: how much land does a woman need?* (Routledge, 2018). 174 pp. hbk £125, pbk £36.99.

A comparative history of women's land rights is long overdue, and this book provides a thought-provoking comparison of the land reform movements in early modern England, and late nineteenth- and twentieth-century Russia and Kenya seen through a gendered lens. The radical restructuring of land ownership rights in the name of 'improvement', 'modernization' or 'development' had particularly harsh consequences for women, and historians have paid little attention to the

gendered nature of these movements. Kingston-Mann, an expert on the Russian peasantry, highlights the potential for comparative history to 'generate better understanding of the issues' as well as its inevitable tendency to 'oversimplify and frustrate the specialist' (p. 1). This is not a long book and each of the three substantial chapters hurries through a complicated history of each country that interweaves discussions of traditional land rights, the political roots of ideas of ownership, changes to property regimes, women's agricultural work and legal rights, and protest movements against property reform. The book's dual arguments are that the adaptability and productivity of peasant agriculture have been consistently underestimated by top-down reformers, and women's contribution to agricultural production has been almost universally overlooked.

The chapter on Russia runs through a list of state-led policies imposed on the rural population. These stretch from the establishment of peasant communes after the abolition of serfdom, through the Stolypin reforms, War Communism, the NEP, Stalin's forced collectivization and consequent famines, de-Stalinization, and Perestroika up to 'shock therapy capitalism' in the 1990s. Throughout all but the most disastrous phases, women retained control of garden plots on which they grew a significant proportion of their families' food. In 1938, '45 percent of Soviet agriculture's total farm output' was produced in these gardens (p. 71), on which women carried out 80 per cent of the work (p. 72). In the economic instability of the 1990s garden plots accounted for 25 per cent of national agricultural output, and female garden cultivators outnumbered men 2:1 (p. 80). Yet women's contribution to food provision was consistently overlooked by policy-makers and subsequently by historians.

In Kenya, as in most of sub-Saharan Africa, women dominated agricultural production in the pre-colonial era. Kingston-Mann concentrates on the Kikuyu of Kenya's Central Highlands, tracing women's agricultural labour and land rights through the brutal impositions and atrocities of the British twentieth-century colonial regime. While women's agricultural labour was widely exploited, their rights to land were extinguished and their agricultural expertise never acknowledged. Instead women were blamed for environmental degradation and lectured on how to cultivate unsuitable north European crops. Forced relocation and 'villagization' were followed by the Swynnerton Plan that gave private land rights to African men but removed them from African women. Nonetheless, 'Kikuyu women have retained their role as the primary food producers' (p. 128), and rural women's groups and agricultural initiatives have flourished since independence, despite hostility or indifference from the government.

The English case study examines the early modern enclosure movement. Kingston-Mann's depiction of the seventeenth-century village as a place where 'male run village councils (juries) acknowledged multiple, overlapping, long- and short-term land claims, universal land access for men and for women, and common lands open to all' (p. 12) bears strong similarities to Russian peasant communities. English village councils 'apportioned land to adult male household heads, established the size and location of women's gardens, and regulated access to cultivated fields, pasture lands and common land', but 'all-male juries nevertheless guaranteed women exclusive rights to use kitchen gardens that ranged up to 10 acres in size' (p. 13). It is also asserted that 'Women were the household's primary food producers' (p. 13), that 'few rural households regularly produced a surplus', and that 'peasants were in general unwilling to assume that they could survive independently of one another' (p. 14). Unfortunately, few agrarian historians of England would agree with these statements. English villages did not redistribute land on a communal basis: tenants had specific rights that were bought and sold. Women did not have a separate right to garden plots: gardens were attached to houses and farms that were leased or owned. Women were not the primary food producers; the latest estimates suggest women carried out about one third of agricultural work. Rather than being communities of households of roughly equal wealth, English villagers ranged from wealthy gentry to impoverished landless labourers.

As such, this study does indeed show the benefits and pitfalls of comparative history, and of covering very broad sweeps of history in relatively few words. Inaccuracies creep in; it is not always easy to follow the narrative. But the book is brimming with ideas and suggestions for future research, and full of interesting observations and references. Its overall point, that women's contribution to agricultural production and their rights to property in land have been woefully ignored in existing studies is undisputable. However, some of its other assertions are wide of the mark or fail to take into account existing studies. In particular, while the conclusion concentrates on the failures of top-down development policies, it fails to mention Barbara Roger's *The domestication of women: Discrimination in developing societies* (1981), perhaps the most searing critique of developers' unquestioned gendered assumptions.

JANE WHITTLE
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JULIAN CRIBB, *Food or war* (Cambridge University Press, 2019). 350 pp. £18.95.

Drawing on a range of archaeological and historical sources, in *Food or war*, Julian Cribb provides an analysis of the extent to which food security, reliant on access to land and water under certain climatic conditions, has been a more important cause of war than political, religious, ethnic or national differences. He describes how, as a general rule, civilizations and empires emerged in fertile river valleys such as the Nile, the Tigris and Euphrates, the Indus and the Ganges, the Yangtse and the Yellow, the Mekong, the Tiber, the Rhine and the Danube because they needed surpluses of agricultural produce to maintain the armies on which they depended for their expansion and survival. He is aware of non-agrarian and non-environmental explanations as to why civilizations disintegrated and empires declined across Europe, Africa, the Middle East or Asia, such as corrupt and abusive governance; limited technological innovation and stagnant economic performance; ruling class divisions and civil wars; foreign incursions and domestic rebellions; and imperial overreach and associated fiscal mismanagement.

Nevertheless, by and large, Cribb defaults to the crucial interrelations between the breakdown of food production, climate change and population growth that combined with wars to devastate farming communities and contribute to the outbreak of famines. He concludes that: 'If the pathway to war, government failure, or the collapse of a civilization can be thought of as a series of dominoes, collapsing one upon another, the fall of the food domino and the climate domino lie very early in the sequence and have irresistible impact and consequences.'

As he traces the lineages of a variety of antiquities and feudalisms, Cribb refers to pertinent examples where famines and plagues correlated with the overthrow of monarchs and Emperors, when the capacity to pay and feed their armies was reduced, so that they mutinied and even joined foreign invaders. However, Cribb's method, which predisposes him to emphasize the role of ecological constraints on food production, leads him to neglect the propensity of states to go to war for territory that may or may not have been suitable for agriculture, which may not have been motivated primarily by food insecurity. There is evidence that pre-modern rulers, who allowed for the diffusion of authority among a broad governing elite, tended to resort to pre-emptive wars to extend borders onto terrain, not necessarily or mainly because it was productive land, but instead to establish provinces, protectorates or colonies with armies to discourage or withstand sudden attacks by neighbouring peoples. By contrast, those monarchs and emperors, who concentrated power in their own hands and were a law unto themselves, were likely to embark on expansionist wars for private gain, because, after all, it was by conquest that they obtained extensive agricultural estates.

More generally, whatever rulers suspected or thought they knew when they decided to go to war, expectations as to the overcoming of food insecurity by taking control of high-yielding land were often superseded by the narrow interests of bankers and manufacturers, who stood to benefit from state borrowing and military spending, as well as by the influence of psychologically robust political ambitions, exaggerated prospects for glory, delusional forecasts of victory, and emotionally charged civilizational beliefs, nationalist ideologies and atavistic attitudes. To give Cribb his due, he is cognizant of how land has been associated with sovereignty, ethnicity, identity and community, whereupon it has proven to be an effective way to mobilize peoples behind warlike leaders.

Of the more than 200 million people who have perished in wars between nation states since the 1850s, Cribb records pointedly that more than half have died of starvation. Whilst Cribb tends to shift his focus between struggles over agricultural or pastoral land and food security as causes of war and war as a source of starvation and malnutrition in the everyday lives of civilians, he explains that many of the fatalities from hunger during wars were due to deliberate policies to control occupied peoples or to deny them sustenance in order to feed invader armies. Additionally, from the outset, famine resulted from the seizure of their produce by a people's own rulers to supply their military; from sieges and blockades that halted an enemy's food imports; from the disruption of farming by defensive scorched earth policies; and from the reduction or cessation of the productivity of farmland by the displacement of rural populations.

As Cribb develops his narrative, he reports that the World Peace Foundation has compiled cases of mass starvation or induced famine since 1870 responsible for at least 105 million deaths that resulted from post-revolutionary economic policies as well as from ethnic and religious genocides. He elaborates commendably on how, for a high percentage of internal armed conflicts and violent outbreaks of unrest in Africa, the Middle East and Asia, between 1946 and 2006, their similarities were more pronounced than their differences. This was because they were connected to disputes over natural resources, such as access to or use rights over agricultural or pastoral land and available supplies of water, as well as mineral deposits,

intensified by prolonged drought in what were often dry ecosystems.

Although Cribb does not give sufficient regard to the ways these intra-state wars were complicated by outside interventions by current and former colonial powers or by the United States and the Soviet Union, which acted out their international Cold War competition through proxy wars in developing countries, he does acknowledge the influence of local ethnic, regional, cultural and religious rivalries. This was especially so in circumstances where ecological pressures were intertwined with extreme inequalities and fragile institutions where there was unbending opposition from privileged groups against demands from deprived groups.

Looking to the future, Cribb focuses on the reports of the Intergovernmental Panel on Climate Change and the projected increase of the world population to over and above 10 billion in the 2050s, when he expects that food production could potentially require close to 70 per cent of the world's usable soil and around 79 per cent of fresh water. He is not alone when he warns that, unless there is a sizeable reduction in carbon emissions and a substantial expansion in environmentally sustainable agriculture, access to soil and water will be increasingly relevant to global, regional and national strategic calculations.

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