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*

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Book Reviews

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Thirteenth-Century Prices and the Money Supply

By A R BRIDBURY

THE thirteenth century has always been a favourite with historians. It commends itself to scholars of diverse interests as the culminating age of medieval achievement. Not least in this company are to be found the agrarian historians. For them, until recently, the thirteenth century was quite simply the classic age of demesne farming; and demesne farming was, for them, the classic expression of buoyant market forces working in a feudal context to promote the interests and advance the prosperity of the baronial and knightly classes upon whose welfare the achievements of the age depended.

In recent years a bleaker interpretation of the evidence has darkened the prospect that agrarian historians once viewed with such unqualified satisfaction. As so often in historical questions, the facts are not in dispute. No one denies the rising trend of thirteenth-century prices and rents. But historians whose concern is with the 'condition of the people' now stress the misery to which thirteenth-century market forces reduced everyone who was unable to take advantage of them. Rising markets undoubtedly favoured the lucky, the enterprising and the well-born; but according to recent investigators, for people in general, thirteenth-century conditions spelt want and degradation and even ruin.¹

Can we be sure, however, that the underlying assumption made by everyone concerned with the issues, is justified by the evidence? Is it in fact true to say that

demesne farming flourished in the thirteenth century as a result of market conditions in which it was very hard for demesne farming to fail? The evidence for this universal belief in the buoyancy of thirteenth-century conditions is partly circumstantial. Expansion is to be found practically everywhere that one looks for it in the thirteenth-century records. Clearances, the reclamation of marsh and fen, changes in land use and new settlements, all seem to tell of thrust and growth. The direct evidence of rents is, apparently, no less telling. By the end of the century, rents were altogether more onerous for the tenantry than they had ever been before; and if entry fines, though sometimes spectacularly high by then, did not always rise in proportion to the rise in rents, we are assured that commercial considerations were not the only ones that governed what was demanded.²

Fines, however, like rents, are not the easiest of payments to interpret. Moreover, if we are to believe what we are told about thirteenth-century market conditions, we ought to look closely at the evidence of prices. Fortunately there are price series for a variety of farm products. And some of these do indeed show that the prices paid, or obtained, for certain products, rose throughout the thirteenth century. But not all these series are equally reliable or indeed significant. Farm products were anything but homogeneous. Livestock quality varied infinitely; so did the quality of

¹For a recent survey, see J R Maddicott, 'The English Peasantry and the Demands of the Crown 1294-1341', *Past and Present*, Supplement no 1 (1975), esp pp 70-2.

²J Z Titow, *English Rural Society 1200-1350* (1969), pp 76-7; B F Harvey, 'The Population Trend in England between 1300 and 1348', *Transactions of the Royal Historical Society*, 5th ser, XVI (1966), pp 25-7.

manufactured foods like cheese; and the range of quality to be found in wool is notorious.³ Furthermore the volume of usable evidence for product prices varies enormously. Grains varied in quality as other farm products did. But grains provide us with what is easily the best attested evidence; and grains were easily the most important products so far as farm profits were concerned. Livestock prices or dairy-produce prices meant very little to thirteenth-century demesne farmers because few of them depended upon sales of such things for more than a fraction of their incomes. Even wool was no more than a subsidiary source of income even for the biggest wool farmers.⁴ The medieval demesne farmer was essentially an arable farmer. In Postan's felicitous phrase, the big estates were little more than 'federated grain factories'. Much of the income they received consisted of cash earned by selling grains; and a good deal of it consisted of cash paid by tenants who sold grain in order to be able to pay their rents. Accordingly, if we want to know how demesne farmers fared in the thirteenth century it is to the grain markets that we must address ourselves in the first instance; and we must count ourselves fortunate that the most important price series are, in this case, also the most reliable.

I

As a result of Dr Farmer's exhaustive labours in the archives, we can be reasonably confident of knowing as much as we are ever likely to know about the trends of grain prices in the thirteenth century.⁵ But what we can know about these trends is

somewhat less than we should like to know because there are seemingly irreparable deficiencies of material in the mid-century decades. Dr Farmer has warned us about these deficiencies; but his warnings have not always been heeded. Nevertheless, between 1226 and 1244 there are at present prices for the principal grains for only four years out of eighteen; and between 1255 and 1262 there are grain prices for only two years out of seven.

We can perhaps supply these deficiencies in a sense. If we take 4s 6d per quarter as the middle-market price, when wheat was neither cheap nor dear, then we find that there were roughly twice as many years between 1210 and 1270 when wheat was less than 4s 6d per quarter than when it was more. Taking middle-market prices for the other grains produces comparable results. We may perhaps make the tentative assumption, therefore, that if we had quotations for the missing years we should find that they confirmed rather than upset the evidence that Dr Farmer has examined and collated.

But even if we make a much more modest assumption and assume merely that prices fluctuated in the missing years as they did in other years, the grain prices nevertheless force us to conclude that between 1210 and 1270 we can perceive no long-term trend. Grain prices rose and fell, as good years succeeded bad, and bad good, without displaying any long-term tendency either up or down.

Contemporary farmers had very little idea of how the cereal market had developed, and of course, none of how it would develop. Historians all too easily forget that farmers coped with market prices as they formed and looked back with imperfect knowledge and failing memory on a comparatively short span and narrow compass of experience. So far as contemporary farmers were concerned, grain prices, as they rose and fell in the course of the thirteenth century, did so without

³ T H Lloyd, 'The Movement of Wool Prices in Medieval England', *Economic History Society Supplement* 6 (1973).

⁴ A R Bridbury, 'Before the Black Death', *Econ Hist Rev*, 2nd ser, XXX (1977), p 398.

⁵ The cereal prices used throughout this article and in the accompanying graphs are taken from D L Farmer, 'Some Grain Price Movements in Thirteenth-Century England', *Econ Hist Rev*, 2nd ser, X (1957). Dr Farmer's years are those in which the harvests were gathered.

offering them any hope that high prices had come to stay or any confidence that high prices would not be followed by years of prices which could easily cancel the gains previously made. The only lesson that market conditions could teach the more perceptive farmers was that if good prices did not last, neither did bad ones.

After 1270 a decisive change takes place. Henceforth, so far as wheat prices are concerned, 4s 6d per quarter no longer serves as the middle-market price dividing cheap years from dear ones. Between 1270 and 1325 we find that wheat only falls below 4s 6d per quarter when harvests are quite exceptionally abundant. The line that divides years of cheap wheat from years when wheat is dear must be drawn, henceforth, at 5s 6d per quarter or even perhaps at 6s. Once again, moreover, there is no easily recognizable trend either up or down. There is not even an increase in the violence of fluctuations as we approach what were, for most people, the terrible years that followed 1315. The most violent fluctuations of price recorded in this period occurred between 1287, when wheat stood at 2s 10½d, and 1295 when it rose to 9s 2¾d. This was worse than the worst fluctuation previously recorded, which occurred between 1254, when wheat fell to 2s 11¼d, and 1257 when it touched 8s 0¾d. And both these fluctuations in fact exceeded in violence the worst fourteenth-century fluctuation before 1315. This occurred between 1306, when wheat stood at 4s 6d, and 1309, when it rose to 7s 11¾d.

Wheat was always the dearest of the grains as oats were the cheapest; but wheat prices differed in behaviour from that of the prices of other grains only in the violence of their fluctuations. In other respects what was true of wheat after 1270 was true also of barley, rye and oats.

In retrospect we can see a pattern in the price history of the thirteenth century that no one living at the time could possibly have perceived. We can see that the history

of grain prices in the thirteenth century was dominated by two periods of significant change, the first of which began in the final quarter of the twelfth century, and the second in the final quarter of the thirteenth century.⁶ As a result of the changes that took place at those periods grain prices were established at new and higher levels which persisted for several generations. These changes irrupted suddenly and without warning; and only now can we see that what, at other times, proved to be nothing more than a violent aberration, at these junctures inaugurated a new era.

Once the shock of change had worn off, experience offered no clear guidance to those who managed the big estates and determined manorial policy as to how they should proceed. If those in charge had assumed that a period of high prices would inevitably bring low prices in their wake, as they always had done before, then prudent management required no more of them than that they should put by the profits of the fat years against the long haul of lean years to come, using some of the profits perhaps to attend to some of those thousand and one repairs and renewals that get postponed when times are bad or endlessly delayed when the weather makes it impossible to carry them out at the only season of the year during which they can be done. No doubt many demesne farmers took this view of farming prospects in the 1270s; and even those who came to the conclusion, for whatever reason, that this time high prices had come to stay, would have had no warrant for the further assumption that the future would break so completely with the past that the high prices they were enjoying would prove to be merely the prelude to still higher prices later on. And in fact anyone sanguine enough or rash enough to look forward to such a double break with the past and to act upon his expectations would soon enough

⁶P. D. A. Harvey, 'The English Inflation of 1180-1220', *Past and Present*, 61 (1973).

have found his manors encumbered with more debt than they could bear; for once the new price levels had been established they stabilized in the sense in which they had stabilized between 1210 and 1270.

II

Modern discussions of investment policy in thirteenth-century farming have generally assumed that demesne farmers made decisions about investment in the confident expectation that prices would continue to rise in the future as they had done in the past. On this assumption historians have often expressed surprise at how little investment, by modern standards, demesne farmers appear to have undertaken.⁷ But it is clear from the evidence that if demesne farmers had judged by experience they would have had no such confident expectations about the future. They could not have made investment decisions on the basis of optimism about the future course of prices founded upon grateful recollections of the past because there was no such past, at least no such past in the recollection of anyone living, to which they could have appealed.

In the short run, once grain prices had jumped to higher levels in the 1270s, experience may not have been a sure guide for demesne farmers, who could have been forgiven for allowing optimism about the future course of grain prices to colour their vision. But once it became clear that grain prices would henceforth fluctuate about stable levels, as they always had done in the recollections of those with the longest memories, it also became clear, as it had done after the previous jump in grain prices, that grain prices cannot change sharply and permanently without having profoundly important ramifications for many other relationships.

At first demesne farmers found themselves sharing with their tenants the welcome experience of uncovenanted benefits in the form of higher prices and hence higher profits than ever before. This sharing was inevitable until contracts were revised, because manorial tenants with crops of grain to sell were bound to gain, in proportion to their sales, as much as their landlords did. Demesne farmers even found themselves sharing these benefits with some, perhaps with many, of their non-servile labourers. Such labourers were often paid partly in kind. Some were paid mainly in kind.⁸ And no one can fail to be impressed by their importance in thirteenth-century rural society. Consequently when grain prices rose as they did in the 1270s, payment in kind spread the benefits even to them. But these were purely temporary gains. There could be no permanent rise in general well-being on the land without some profound change improving the availability of land for farming. And there is no reason whatsoever why we should suspect that any such improvement had taken place at that time.

On the contrary, historians who have taken rising thirteenth-century grain prices for granted, have argued that rising prices reflected an increasing scarcity of land caused by a growing pressure of population which was, in its turn, aggravated by a contraction of the arable acreage as a result of loss of productivity due to over-exploitation. But grain prices did not rise in the last quarter of the thirteenth century. Nor did they do so earlier in the century. On each occasion when they changed a jump took grain prices to a plateau. This is not in the least how an intensification of population pressure exerts its influence upon grain prices. Population pressure is a force of cumulative power, not of sudden

⁷See, for example, R H Hilton, *The English Peasantry in the Later Middle Ages*, Oxford (1975), chapter x.

⁸For an interesting discussion of these matters, see N R Goose, 'Wage Labour on a Kentish Manor', *Archaeologia Cantiana* XCII (1976).

onset and subsequent surcease. If we want to see how population pressure reacts on grain prices, in the absence of widespread improvements in the organization and techniques of farming, we cannot do better than follow the relentlessly progressive trend of grain prices in the sixteenth century.⁹ Whatever allowance we ought to make for accessory monetary influences upon it we surely cannot fail to see that the steadiness of the trend is not the least notable of its features. The contrast with twelfth- and thirteenth-century changes could scarcely be more striking. Where grain prices rose steadily in the sixteenth century, they rose suddenly in the twelfth and thirteenth centuries. And where they pursued a rising trend in the sixteenth century, they pursued level, if not at times, falling trends, in the thirteenth century. Whatever may have been happening to population size in the thirteenth century, we cannot use grain prices as evidence that the pressure of population was actually increasing at the time.

Stable grain prices may be incompatible with increasing population pressure. But they are not necessarily incompatible with an increase of the size of the population. It is not inconceivable that the pressure of population was contained at this period because land lost to arable cultivation, whatever the cause, was more than compensated for by land newly added to the arable acreage as a result of colonization. The mass of evidence of colonization is, in its way, as impressive as the mass of evidence of land lost to arable cultivation. But it is evidence of a different kind. The evidence of land lost to arable is usually evidence given to excuse a bailiff who was required to account for rents which were not forthcoming, or to exonerate a tax-

payer from a liability. The evidence of colonization is, for the most part, evidence of grants made upon payment of a fee. The evidence of land lost by arable cultivation may not mean what it says. Indeed there is a strong presumption that it does not.¹⁰ But the evidence of colonization is unmistakable. And what it seems to tell us is how difficult colonization was becoming. If colonization had still been easy it would not have made such a stir in the records. And when we recall the stability of thirteenth-century grain prices we cannot readily believe that the quantities of land involved were anything like as extensive as they needed to be if they were to do more than compensate for any losses there may have been, still less if they were to improve the food supply.

If thirteenth-century grain prices give the impression that colonization, at best, could do no more than keep the arable acreage constant in relation to needs expressed in terms of market demand, so does the evidence provided by the catastrophic famines of the years 1315-17. The consequences of severe famine were comparable with those of a notable colonizing movement. Famine was as capable of adding to the supply of land as colonization was. When it did so, it worked by diminishing the population instead of by increasing the arable acreage; but the effect upon the relationship between land and population was the same.

Opinion about the effects of the early fourteenth-century famines has moved away from Postan's view of them as a cataclysmic disaster which signaled the onset of debilitating problems that dominated economic life until the end of the Middle Ages. Miss Harvey's survey suggests that very little changed in agrarian England between 1300 and 1348.¹¹ Even

⁹W G Hoskins, 'Harvest Fluctuations and English Economic History 1480-1619', *Ag Hist Rev*, II (1953-4), reprinted in W E Minchinton (ed), *Essays in Agrarian History* (1968). This study has been subjected to keen criticism, but not so as to invalidate its use here. See C J Harrison, 'Grain Price Analysis and Harvest Qualities 1465-1634', *Ag Hist Rev*, XIX (1971).

¹⁰Thus, for example, A R H Baker, 'Evidence in the Nonarum Inquisitiones of Contracting Arable Lands', *Econ Hist Rev*, 2nd ser, XIX (1966).

¹¹See note 2 above.

Dr Kershaw, who has tried so hard to curdle our blood with his account of an early fourteenth-century crisis, of which the famines were the centrepiece, was obliged to conclude his survey by conceding that 'in many of the wealthier and more densely populated parts of the country there is no indication that the agrarian crisis initiated a lasting decline in production and occupation of the land'; and to confess that his evidence to the contrary was drawn very largely from estates situated in 'the poorer and less populous regions'.¹² Studies of replacement rates, though few and not altogether satisfactory, are at any rate scattered geographically and seem to indicate, in the words with which Dr Razi concluded his remarkable study of the Halesowen evidence, that English villagers in this period 'were able not only to replace themselves from generation to generation, but also to produce a surplus of offspring to maintain population growth'.¹³ If Dr Farmer dissents from these views it is only to the extent that he perceives some shift in the economic balance between the period immediately before the famines, when grain prices 'had a hair-trigger sensitivity' to harvest yields, and the period of the 1330s and 1340s when they seem to have lost that degree of sensitivity.¹⁴

Dr Farmer's extensive studies of crop yields, wages and prices, have added a new depth to the discussion. His conclusion that yields did not change in the period 1271-1410 except when farmers kept more livestock, will not please those who contend that the famines inaugurated an era of impaired productivity on the land. But there are difficulties about the behaviour of prices in the 1330s and 1340s that Dr

Farmer's researches may not have settled. Good harvests in that period seem to have had the effect of driving prices to lower levels than any known since the general enhancement of prices in the 1270s. Was this the result of the easing of population pressure after the famines? The accumulation of surpluses, which takes the sharpness out of harvest failure, also has the effect of forcing producers to lower prices more than they would have done in more stringent circumstances in order to dispose of stocks which supply less urgent needs than they once did. It would be tempting to see the workings of this mechanism in the grain price movements of that period but for the behaviour of money-wage rates. An easing of population pressure at that time might reasonably be expected to have induced some increase in money-wage rates, or if not something as positive as an increase, then at least it should have imported an element of firmness into the labour market. But it did not. Money-wage rates, after a long history of gentle advance, seem to have chosen just this period of the 1330s and 1340s for an equally gentle retreat.¹⁵

The advance of wage rates in the thirteenth century is perfectly intelligible if we accept that the jump in grain prices that took place in the 1270s was part of a wider movement that caught up the remuneration of labour in its wake. The advance of wage rates at that period suggests indeed that this wider movement was one that it would not be unreasonable to call inflationary. That is to say, in the final quarter of the thirteenth century, as upon an earlier occasion, prices expressed in money rose generally without reflecting a change in the relative scarcity of resources. Is this perhaps what we can see happening in reverse during the 1330s when a series of abnormally low grain prices seems to have

¹² Kershaw, 'The Great Famine and Agrarian Crisis in England 1315-22', *Past and Present* 59 (1973), pp 49, 46.

¹³ Z Razi, *Life, Marriage and Death in a Medieval Parish*, Cambridge, 1980, p 33.

¹⁴ D L Farmer, 'Crop Yields, Prices and Wages in Medieval England', *Studies in Medieval and Renaissance History* 6 (1983), p 137.

¹⁵ Farmer, *ibid*, p 144. Cf E H Phelps-Brown and Sheila V Hopkins, 'Seven Centuries of Building Wages', in E M Carus-Wilson (ed), *Essays in Economic History*, II (1962), p 174.

dragged money-wage rates down to lower levels? The retreat of money-wage rates makes it difficult for us to interpret the fall in prices as a sign that the post-famine decades bore witness to a substantive improvement in the ratio of land to labour. And if the abnormally low grain prices of the time do in fact indicate that the country was, however briefly, in the grip of deflation, then what could be more likely than that money wages should fall into line with a change in monetary relationships which did not reflect any change in the relative scarcity of resources?

III

What sort of world was it then in which neither the colonizing achievements of the thirteenth century nor the clearances executed by the sharp famines of the early fourteenth century were capable of restoring a measure of slack to the economic system? The land market was evidently saturated. If we may judge by the behaviour of grain prices, the land market had been saturated for a century or more. What it required was a more rigorous exorcism than any it had yet received. And when the time for exorcism came, as it did with the Black Death, it took recurrent visitations of that dreadful pestilence before land could be had on easier terms; and before that decisive clearance there was patently no scope for any general and abiding improvement in standards of living in the English countryside.¹⁶

The inflation of the 1270s, like the previous inflation that began in the late twelfth century, was not progressive: it ended in stability. A new structure of prices supplanted the old one; but contracts fixed before inflation naturally took no account of the fall in the purchasing power of money brought about by inflation. Consequently the new levels of prices,

once they had worked their way through the economic system, left demesne farmers with higher profits as producers but with lower real incomes from monetary sources. The higher profits earned by so many estates at this period are not, as they are so often taken to be, indisputable proof of the energetic efforts made by the more active and able demesne farmers to realize the potentialities of hitherto neglected or imperfectly developed resources. They are very largely the results of inflation; and they may very well have helped to conceal from less vigilant demesne farmers the fact that monetary income was actually diminishing in real value at the same time.

The fall in the purchasing power of money doubtless suited many demesne farmers; for they were, as a class, inveterate borrowers. But many of them received half their incomes in cash;¹⁷ and the insidious effects of the declining purchasing power of money were bound to have had their impact upon the most torpid and ineffectual of them in the end. We can perhaps see something of the alacrity of some and the lethargy of others in the differences of opinion expressed by Dr Titow and Miss Harvey on the subject of whether the general level of rents and fines rose by much or little in this period.¹⁸

Once they had grasped the fact that higher prices had come to stay, demesne farmers were compelled to start revising as many of their rents and other charges as they could. But they did not embark upon any fundamental reorganization of the manorial system. Nor did they lose confidence in the system by surrendering the manorial demesne lands they had managed to a series of tenants. It would be difficult to imagine how such a move could possibly have improved estate solvency or profitability in conditions such as those of the late thirteenth century.

Some demesne farmers certainly did

¹⁶ A R Bridbury, 'The Black Death', *Econ Hist Rev*, 2nd ser, XXVI (1973).

¹⁷ E Miller, *The Abbey and Bishopric of Ely*, Cambridge, 1951, p 93.

¹⁸ See note 2 above.

lease out fractions of demesne to tenants at this time. But there was nothing abnormal about that. Fractions of demesne were always being leased out in this way. When Postan saw this being done in the twelfth century he converted what he saw into a trend;¹⁹ and historians of thirteenth-century farming are equally disposed to see the beginning of the end of demesne farming in any evidence of demesne leasing then. But when the Bishop of Ely's managers let small parcels of demesne land to tenants at this period, we should be quite wrong to interpret their action as a fearful omen, since 'high farming' on the Ely estates, according to their historian, 'may have reached its highest pitch of intensity and profitability in the reign of Edward II'.²⁰ And when the Bishop of Winchester's estate managers seriously diminished the demesne farming of the estate they were, apparently, pursuing a policy whose logic was not in the least determined by despondency about market prospects for grains.²¹ We can see from the evidence that Dr Titow has used in his study of population pressure on the Bishop of Winchester's manor of Taunton that demesne leasing, though pursued vigorously there, was dictated neither by shortage of labour nor indeed by poor market prospects. The manor was evidently choked with labour; and entry fines of as much as £40 were paid or pledged for virgates on the estate.²² Entry fines capitalized expected income flows. A farmer with £40 to pledge was not a starving peasant desperately giving hostages to fortune. He was a man who could choose where to farm and presumably someone who could take a rational and informed view of farming prospects on Taunton manor. Whatever may have been behind the leasing policy carried out on the

Winchester estates, the Taunton evidence makes it extremely difficult for us to believe that the policy was prompted by prophetic insight into the bleak future that lay ahead for demesne farming in the late fourteenth century.

We cannot hope to see how estate management reacted to the sudden change of price level that occurred in the late twelfth century with anything like the same clarity as we can see how it reacted to the later one. But we can at any rate see how the twelfth-century price change left its mark. Assized rents, that is to say the customary rents that were once the full rents for tenancies, continued to be entered separately on many manorial account rolls before the increments were recorded, that is to say the additional rents that turned assized rents into the closest approximation to rack rents obtainable. And the price change also left its legacy of immutable dues. Commutation payments, as Denton remarked a century ago, originally intended perhaps to be the cash equivalent at current wage-rates of the services performed by tenants, were never revised, so that once inflation had raised wage-rates above their twelfth-century levels, such payments no longer provided thirteenth-century demesne farmers with the cash they required in order to be able to hire an equivalent force of wage-labourers if they needed one, or with the equivalent purchasing power over other things if they did not.²³

Demesne farmers were often marvelously fertile in expedients with which to overcome the problems created by immutable dues and tenures whose terms could not be changed except after a more or less prolonged lapse of time. Nominal profits undoubtedly rose as a result of the adjustments that were made after the twelfth- and thirteenth-century price changes; but it would be taking much for

¹⁹ A R Bridbury, 'The Farming Out of Manors', *Econ Hist Rev*, 2nd ser., XXXI (1978).

²⁰ Miller, *op cit*, p 98.

²¹ Titow, *English Rural Society*, pp 52-3.

²² J Z Titow, 'Some Evidence of the Thirteenth-Century Population Increase', *Econ Hist Rev*, 2nd ser., XIV (1961).

²³ W Denton, *England in the Fifteenth Century* (1888), p 107, note i; Harvey, 'The English Inflation', p 18. See note 6 above.

granted if we were to assume that these increased profits always provided demesne farmers with as much purchasing power as lower profits had done in earlier days.

IV

The sudden inflation that set such problems for contemporaries has not lost its power to baffle; for it sets its problems also for us. How are we to explain these extraordinary irruptions? The late twelfth-century inflation is more obscure than the later one because it occurred during the infancy of the public records. There are no mint output figures for the late twelfth century; no records to tell us how big the export trade was; no accounts of the money sent abroad to finance Angevin foreign policy. We cannot even be sure that the price change was as sharp as it looks, so meagre is the price material upon which we are compelled to depend. The sharp rise of late thirteenth-century grain prices, however, is not so much obscure as inscrutable. There is by then no shortage of public records; but the records only deepen our perplexity instead of dispelling it; for prices rose in the late thirteenth century at a period of tranquillity for the country. The king may have been bankrupt; but the civil war was over and done with; and if the Lord Edward's response to Flemish seizures of men and goods in 1270 had any immediate effect upon the wool trade it was surely in the direction of reducing bullion flows to England rather than increasing them. Mint output figures survive from 1234, and mint output in the early 1270s was in fact lower than at any time since extant figures began.²⁴

When grain prices rise sharply and permanently and then stabilize at a higher level

without displaying any pronounced tendency to rise or fall subsequently, and do this twice, with an interval of a century between each rise, we are irresistibly drawn towards a monetary explanation of what has happened. But the relative inactivity of the mint in the 1270s, when grain prices had just made their thirteenth-century jump, is surely a warning that we must not expect a monetary explanation of these phenomena to be easy to justify.

One potential source of doubt we can eliminate from the start. For most of the Middle Ages, and for most purposes throughout the Middle Ages, the currency issued by the mint consisted of silver pennies. These pennies scarcely varied at all, in the thirteenth century, either in fineness or in issued weight. They were made of silver mixed with copper in ratios which were generally within a few points of 925 parts of silver to 75 of copper; and the weight of metal used, measured in terms of the number of coins cut from a mint pound, varied only from 240 to 245. If we are looking for a monetary explanation of the price history of this period we shall not find one in mint manipulation of the fineness or weight of the coins issued.

Once they had started to circulate, however, these coins soon began to deteriorate in quality and diminish in number. All of them lost weight in use because silver is a soft metal which soon rubs away; some were clipped; others were sliced into halves and quarters to provide small change; and others again simply disappeared into hoards, or were lost or exported. Anything that reduced the number of coins circulating ought to have raised the value of those that survived, with the effect of depressing prices. And anything that caused a growing disparity between the face value and the silver content of the surviving coins, if it had any effect whatsoever on relative values, ought presumably to have had the effect of diminishing coin value and hence of raising prices.

²⁴ The mint output figures used in this article are taken from J Craig, *The Mint*, Cambridge (1953), and Mavis Mate, 'Monetary Policies in England 1272-1307', *British Numismatic Journal*, XLI (1972). The figures are rendered graphically in terms of average monthly output over twelve-month periods in N J Mayhew, 'Numismatic Evidence and Falling Prices in the Fourteenth Century', *Econ Hist Rev*, 2nd ser, XXVII (1974), p 11.

The mint could only keep the currency supplied and thus maintain the king's monopoly of the right to coin all the money circulating in the country if it could attract enough silver with which to do so. The mint was kept fairly busy at all times because there were always people who had to have their bullion turned into coin however unfavourable the terms they were offered, just as there are always people today who are forced by personal or business needs to sell assets which, if the profitability of their investments were their sole consideration, they would certainly not sell at that particular moment. But the terms upon which the mint accepted old coins did nothing to encourage the population to have its poor coin restored to mint condition. For the mint, in buying coins for renewal, was interested in buying silver, not in acquiring currency. Consequently the mint weighed rather than counted the coins it was offered, and charged a fee for its services which defrayed its costs and left a residue which provided a welcome seignorage for the king.²⁵

The terms upon which coins were renewed in thirteenth-century England in fact severely discouraged everyone from offering deteriorating or damaged coins to the mint. Recoinage without the incentive of debasement was the rule; and since coins did not, as a general rule, lose purchasing power as their silver content rubbed away as a result of constant handling, it follows that those who surrendered poor coin to the mint surrendered purchasing power with their poor coin and thus paid dear for their bright new pennies. And the poorer their coin the greater the forfeit they paid, so that those who held coins whose con-

dition gave rise to expressions of the gravest public concern were least likely of all to have submitted them for renewal without offering the most strenuous resistance to the king's charge.

Had coins lost purchasing power as they lost silver, so that many poor coins bought neither more nor less than the smaller number of new coins by which the mint was prepared to replace them, then currency standards would have been much easier to enforce. To some extent, indeed, they would have been self-regulating. As the currency deteriorated so prices would have had to rise in terms of nominal coin values in order to reflect the changes in real values that had taken place. This rise in prices would have made monetized silver more valuable than before in terms of bullion or ornamental silver because coins in mint condition command a premium in markets in which coin values vary with silver content. As more silver was monetized so prices would have fallen because coins of mint condition were restoring higher real values to the unchanged nominal values in which the currency was expressed. But thirteenth-century grain prices did not rise and fall as we might reasonably expect them to have done if the periodic deterioration of the currency had caused widespread changes in the purchasing power of coins.

Where thirteenth-century English kings wielded the stick in their efforts to force silver into their mints, elsewhere in Europe monetary authorities proffered a carrot. Recoinage campaigns abroad were sweetened by doses of debasement.²⁶ Indeed in

²⁵ C. Johnson (ed), *Dialogus de Scaccario* (1950), p 36 et seq. See also, C. Johnson (ed), *The De Moneta of Nicholas Oresme* (1956), p 54. Salisbury Municipal Records, Ledger A, fols 82-82d (1421), recites a royal writ which states that the subsidy shall be paid in gold half-nobles and nobles worth 5s 8d by due weight of the noble; that anyone who pays with coins worth more will have the excess returned to him; and that coins worth less will not be accepted.

²⁶ Debasement does not necessarily mean reducing the silver content without changing the face value. It can equally mean raising the face value without altering the silver content. But medieval English kings never resorted to this particular device.

Sometimes the seignorage was reduced in an attempt to attract more silver to the mint. But this could hardly make enough difference to be worth doing. A lowering of the rate by, say, 3d in the pound, meant that, on an investment of £100, a currency speculator saved 25s. But this was, roughly speaking, the clear profit he could usually make out of an £8 investment in a sack of wool. If he were in any doubt, he could always risk less by going into wool.

many countries monetary authorities had got precociously addicted to the use of various forms of debasement as a way of attracting silver to their mints long before English kings had resorted to any but the mildest interference with accepted standards of fineness and weight; and had plunged ever more deeply into addiction at a period when English kings, who had come late to the true practice of debasement, were indulging an acquired taste for it, sparingly and at decent intervals. Debasement had the effect of raising prices by increasing the volume of currency. It forced everyone with better coins than the debased ones to exchange their better ones for a larger number of poorer ones. Anyone who failed to do that soon enough found himself paying out more silver than necessary for any particular purchase; and anyone quick enough to spend his debased coins before prices rose found himself satisfactorily in pocket as a result of debasement.

But debasement and the inevitable inflation that followed did not play havoc with established patterns of trade between countries. There was no question of goods and services from countries whose price levels were comparatively low, because their currencies had not been debased, sweeping the board in countries whose debasements had caused an inflation of costs and prices. The active arbitrament of silver in exchanges between currencies meant that medieval debasements had few of the international repercussions that we associate with modern devaluations. Such devaluations, which alter otherwise fixed parities so as to cheapen a particular domestic currency in foreign exchange markets, invariably stimulate exports, at least in the short run, and discourage imports, by enabling exporters to translate their prices, upon favourable terms, into the prices they will actually obtain in markets abroad, and by making things correspondingly harder for importers, who

find that they can translate their prices into those of the devaluing country only by doing so at rates of exchange which render their goods less saleable than before.

Such feats of monetary prestidigitation were utterly beyond the powers of thirteenth-century monetary authorities, because monetary exchanges between medieval countries consisted of exchanges of silver embodied in coins of diverse provenance and a variety of denominations whose value was determined fundamentally by the quantity and quality of the silver they contained. Foreign coins were, everywhere, weighed and even assayed, not counted; and exchange rates expressed the appropriate silver parities suitably discounted for transaction costs.²⁷ If the mechanism of international exchange had worked without friction, the effects of debasement and inflation would have been stopped at the frontier, or at any rate at the Channel. When silver's relative scarcity has not changed, a pound's weight of silver of a given fineness will undoubtedly buy more coins in one country than in another if the monetary authorities of the former country have taken it into their heads to raise revenue by debauching the currency whilst the monetary authorities of the latter have not; but a pound's weight of silver ought not to be able to buy more goods and services than before in either country. The purchasing power of coins may have been altered as a result of debasement, but not the purchasing power of silver. Exchanges may have had to fluctuate in the Middle Ages as the silver content of coins was changed; but prices expressed in terms of silver ought surely to have stayed the same.

In practice debasement took time to work its way through the system. The lag between debasement and inflation that enabled ordinary members of a community in which the currency was being debased to

²⁷ On these costs, see J D Gould, *The Great Debasement*, Oxford (1970), Chapter 5.

make a profit out of debasement, before prices rose, by being quick off the mark in having their heavier coins exchanged for the new lighter ones, also enabled international operators to do the same. Exchange rates responded at once to debasement. Domestic prices, by failing to do so, gave exporters a margin between these lower prices and the prices that would have prevailed if the volume of domestic currency had increased to the point at which it monetized, on debased terms, the entire stock of silver that the currency had previously employed, given an unchanged velocity of circulation. This margin made exports cheaper; and by the same token made imports dearer.

When we turn to English grain prices, neither their long-term stability in the thirteenth century nor their sudden changes of level, is easily explicable in monetary terms. The paradox of medieval debasement is that a country which was inflating as a result of debasement could actually improve its terms of trade with countries which had not resorted to debasement. England, which did not debase its currency in the thirteenth century, was bound to have found that international terms of trade, if they moved at all, had to get worse as other countries made their markets harder to enter and their own products more saleable abroad. Balance of payments problems, in such circumstances, had to manifest themselves in bullion movements. A modern disequilibrium under a system of fixed exchange rates produces a foreign exchange crisis: a dollar shortage or the like. A medieval disequilibrium did not, because there could not be an excess supply of any currency upon the foreign exchange markets when mints everywhere stood ready to turn silver in any shape or form into coin of the realm, whichever realm it happened to be, and indeed welcomed the chance to do so for the sake of the fees they earned.

Nevertheless the evidence of grain prices

does not suggest a persistent loss of silver gradually eroding the foundations of the currency and deflating the economy. Indeed if we were to judge silver supplies by the behaviour of grain prices we should be compelled to conclude that England had received a sudden bounty of silver in the late twelfth century and again in the late thirteenth century as a result of which prices had jumped to higher levels which were then maintained for long periods during which flows of silver into the country were balanced by flows out of it. Grain prices suggest, in fact, that debasement did not confer much benefit upon debasing countries which traded with England in the thirteenth century.

V

But grain prices, significant though they may be for a general analysis of most aspects of many medieval economies, may not tell us what we want to know. After all, the advantage that a debasing country could derive from changes in its terms of trade depended not so much upon how long it took debasement to inflate domestic prices in general as it did upon the responsiveness of the particular domestic prices whose sluggishness made the terms of trade more favourable. Such prices might respond to changes in the terms of trade very much more rapidly than the general level of prices did; and this was particularly likely if changes in the terms of trade brought a rush of foreign business to producers who, for one reason or another, could not readily increase output. Moreover the advantages of debasement in the special case of trade with England might very well have been nullified for debasing countries as a result of an entirely different factor: the inflexible demand for English wool. If the volume of English wool sold in the markets of debasing countries were no more dependent upon price in the thirteenth century than it proved to be in

the fourteenth,²⁸ then exports from England would have been able to match exports from such countries, with the result that there would have had to be no movement of bullion from England to pay for imports which could no longer be requited in any other way.

The strength and indeed the independence of the English economy derived mainly from such forces as these. And yet English kings get the credit for having accomplished far more in the field of monetary management than they could possibly have achieved. It is fortunate, in this connection, that one of the most famous attempts to manage the currency occurs in this period, so that we can turn Dr Farmer's grain prices to account in gauging its efficacy. It was carried out by one of the most celebrated of English kings. As a test of the power of the kings of England in monetary affairs it would be hard to find a more significant case-study than that of Edward I's recoinage campaign of 1279. Coercion not debasement was the spur; and no king used coercion as an instrument of monetary policy with more resolution than did Edward I.

Mint figures show that recoinage began in London in April 1279, and in Canterbury in January 1280. Recoinage was then taken up at many provincial mints, some of which had been opened for the purpose, in the course of the year 1280. The provincial mints were then shut down in the early summer of 1281, so that although we have got no accounts for their output, they are not likely to have had time to make a substantial contribution to the total output of new coin. Recoinage continued at London and Canterbury. By September 1281 these two mints had turned out over £420,000-worth of new coin. But this was by no means the end of the matter. It is perfectly obvious from the figures that the London mint continued to turn out unusually large quantities of coin from native

bullion until August 1286, and from imported bullion until April 1290. Canterbury meanwhile coined more imported silver between September 1281 and July 1290 than it had coined from silver whatever its provenance between January 1280 and September 1281.

If we take it, therefore, that Edward I's recoinage began in London in April 1279 and ended at Canterbury in July 1290, then we shall find that London and Canterbury, between them, issued about £400,000-worth of coin manufactured from native bullion and about £470,000-worth of coin manufactured from imported bullion. We must make certain reservations about these figures. They exclude the work of the provincial mints. They include the normal work of the mints that proceeded year by year in periods of recoinage as in periods when the king left the mints to do what work came their way. And they tell us of coin issues, not of coin circulation.

It is impossible to do justice to the contribution of the provincial mints or to calculate how much of the foreign bullion minted in England went straight back whence it came to provide mercantile communities abroad with the kind of monetary stability that Maria Theresa dollars provided them with later.²⁹ But we can perhaps make some attempt to estimate how much difference Edward's recoinage made by deducting from the gross figures of mint output an allowance for the reconditioning process that went on normally, as bullion was exchanged for coin and old coin was exchanged for new, in periods when a comprehensive recoinage was not the order of the day.

How much we should deduct from the

²⁸ A R Bridbury, *Medieval English Clothmaking* (1982), pp 89-90.

²⁹ If English coins circulated abroad, this stands Gresham's Law on its head, and does so because bad coin only drives out good when the bad coin buys as much as the good, so that the good can be melted down with advantage in order to provide more coins of equal purchasing power. When good coins continue to circulate they do so because they buy more than other coins do. If English coins were held in such esteem abroad it was clearly in the interests of currency speculators to bring silver to the English mints and then smuggle abroad the coins that they issued.

gross figures it is not easy to say. The mint records, which begin in 1234, include an earlier period of recoinage in their run. This recoinage began in 1247 and came to an end in 1250. If we ignore it, the mint figures seem to tell of an output between 1234 and 1270 which averages out at something like £30,000-worth of coin per year. If we may assume that Edward's recoinage went on for about a decade, this means that we ought to deduct somewhere in the region of £300,000 from the gross output of nearly £900,000 in order to get anywhere near an estimate of how much difference Edward made to the currency. When we probe farther by asking how much difference it made to the currency to be renewed, for the period of a decade, at a rate which, even when we have made reasonable allowance for coinage export, must have been at least twice the normal rate and, on occasion, may have been three times the normal rate, we ask the most difficult question of all, because no one can say how much coin circulated, as a general rule, at times when there was neither an exceptional influx of silver from abroad nor an abnormal outflow, such as there was whenever English kings succumbed to the temptation of assuming the role of paymaster to a succession of European allies.

But we need not know how much of the currency Edward recoined in order to be able to measure the success of his efforts. We can instead trace the impact of his reforms on grain prices. And grain prices do nothing to commend to us the enthusiastic approbation that Edward I's monetary policies generally receive. For the early years of recoinage, particularly the years 1280-83, when we might have expected cereal prices to fall as a result of Edward's efforts, were in fact marked by a sharp rise in grain prices. Such a rise in prices occurred whenever harvests were deficient. Consequently if we looked neither back nor forward we might reasonably conclude that the rise that took place

in these years reflected great credit upon Edward's campaign to renew the currency because it kept within bounds what might otherwise have been a sensational surge of prices. But when we look back we find that grains have been fluctuating in cycles of high and low prices, similar in amplitude and level, since 1268 or 1269. And when we look forward we find these cycles of highs and lows continuing without diminution.

When grain prices do indeed plunge, as they do in 1287 and 1288, they fall even farther than they fell in 1267. Had it lasted, this fall would have been hailed as a triumphant vindication of Edward's currency reform, despite the fact that a response in 1287 to a strenuous programme of reform which began in 1279 was surely unaccountably belated. In the event, however, the fall proved to be a mere aberration. Cereal prices quickly returned to the loftier regions whence they had strayed. And in a longer perspective we can see that the prices of 1267, and of the scatter of years immediately before 1267 for which grain prices survive, were memorable because prices as low as these recurred thereafter only when something wholly exceptional drove prices down below their normal range for a year or so.

This fact is, in itself, a curious reflection upon Edward's reforms: for in 1267 we are within a decade of the complaints that apparently convinced Edward that he had to act in order to remedy an accumulation of defects in the currency. Numismatic historians who insist that Edward acted in good faith tell us that these defects were the culmination of many years of wear and tear of the currency, of abuse of the currency, and of adulteration of the currency as a result of the importation of foreign coins as well as of the circulation of counterfeit native coins. Are we to conclude, as a result of our knowing how low grain prices were in the 1260s, that these defects were, in fact, of very recent accumulation and revealed them-

selves in the sudden rise in grain prices that began at the very end of the decade?

Is it likely that so much deterioration had taken place so quickly? Sharp rises in grain prices had been known before, one of them at least, in 1255 and 1256, a mere five or six years after the last recoinage had ended, sharper than any recorded in extant documents until 1295. But these rises had always been followed by equally sharp falls. What made the rise from 1267 to 1271 so remarkable was that it broke with usage in this respect and established much higher prices as normal. Consequently if Edward had been disposed to listen sympathetically to those who argued for currency reform, we need not assume that he did so for the somewhat discreditable reason that he badly needed an excuse to replenish his coffers from a source which had proved to be disappointingly unproductive for many years.

In the event, however, as we can plainly see from the subsequent course of grain prices, filling his coffers was about the only tangible result that Edward achieved with his currency reform. Nor was this reform the only major monetary upheaval to produce little or no effect upon grain prices at this period. Between 1294 and 1298 Dr Prestwich estimates that Edward shipped about £350,000-worth of coins abroad.³⁰ Between 1300 and 1302 over £262,000-worth of coins were minted in order to replace the foreign pollards and crockards which had circulated so freely hitherto. And between September 1303 and the end of Edward's reign the London and Canterbury mints were inundated with foreign silver: they coined over £361,000-worth.

These were, to all appearances, huge transfers of coin. But the only noticeable feature of grain prices during the period of Edward's export of coin to pay for his

Flemish and Gascon expeditions was the soaring peak of 1295, followed by the plunging fall so characteristic of grains after dear years, and succeeded by recovery, in 1297, to levels normal for the late thirteenth century. Can it be that we perceive no evidence of deflation in these figures because, denuded of its native coin, England was being invaded at this period by floods of counterfeit and foreign coin? The crisis caused by the widespread currency of pollards and crockards undoubtedly overlapped with the period of coin export. But if pollards and crockards had reversed what might otherwise have been a deflationary trend, how are we to account for the fact that between 1297 and 1303 wheat prices fell in every year, and that other grains fell almost in unison?

Edward did not move against the pollards and crockards until Christmas 1299, and did not demonetize them until Easter 1300. These were years of good harvests, as we shall see. It is not impossible that good harvests, comparable with those of 1287 and 1288, offset the pernicious effects of these alien coins, so that prices which ought to have risen against a corrupt currency fell instead as a result of a series of bumper crops, and then fell still more because it took time before the mint could replace the demonetized coin with its own issues. But if we are not very careful we shall find ourselves invoking harvest abnormalities in order to explain every failure by a monetary factor to exert the influence we had attributed to it. The influx of foreign silver with which Edward's reign ended, provides a case in point. As it began, prices rose. As it continued, prices fell. Then, in 1306, prices started a rise which continued until 1309 and took wheat to a higher peak than any yet recorded in extant accounts, except for 1256 and 1295. The peak was then followed by a plunging fall such as we have so often seen in grain prices, and a recovery whose subsequent course was interrupted by the phenomenal experiences of 1315.

³⁰ M Prestwich, 'Edward I's Monetary Policies and their Consequences', *Econ Hist Rev*, 2nd ser, XXII (1969), p 411.

VI

How are we to interpret this sequence of prices? Can we really blame the harvest for rising prices whenever monetary policy decreed that prices should fall, or whenever monetary factors ought to have depressed them? And can we really attribute falling grain prices to bumper harvests whenever everything we know about the contemporary monetary scene leads us to expect such prices to have risen?

The evidence of crop yields that Dr Farmer has recently published discourages any such interpretation of the evidence.³¹ Dr Farmer's yields, however, do not tell a plain story. For one thing they are drawn exclusively from Winchester and Westminster material, not from the wider selection of material upon which Dr Farmer based his price and wage series. The exigencies of the material available make it somewhat harder to match harvest success with price changes than it might seem to be. For another, crop yields, in Dr Farmer's series, do not seem to move together as grain prices do. To take the most important crops, wheat and barley, there were between 1271 and 1346 many occasions when wheat crops were good, according to Dr Farmer's index, and barley crops bad. In 1278 and 1279, when wheat yielded very nearly the best crops Dr Farmer has ever found, barley returned miserable results: in 1279 worse results than in 1316, at the height of the famines. In 1293 when wheat plunged, barley soared. In 1296 the roles were reversed. After the famines correlations were, on the whole, better though there were glaring exceptions such as in 1340 when wheat rose and barley dipped.

Obviously it is not easy to interpret the fluctuations of grain prices in terms of Dr Farmer's index of 'harvest success'. According to that index wheat was clearly the more reliable of the two most important crops. Thus between 1271 and 1346, out of seventy-six years there were thirty-four bad

or at any rate disappointing wheat crops and forty-two bad or disappointing barley crops. The rest more or less lived up to expectation or exceeded it. Had good and bad crops been equally good or bad, and had they been evenly distributed throughout the period, the task of interpreting Dr Farmer's findings in terms of currency factors would have been made much easier. But good or bad crops tended to cluster together in runs. Again wheat had a more even record than barley.

Thus barley crops were generally bad or more or less inadequate before 1308 and better thereafter. Between 1271 and 1307 there were twenty-seven poor crops out of thirty-eight; between 1308 and 1346 only fifteen poor crops out of thirty-nine. So far as wheat is concerned there were runs of bad crops between 1281 and 1295; and runs of good or very good ones between 1296 and 1314, that is to say right up to the eve of the famines. In these nineteen years before the famines there were only five bad crops, whereas in the previous fifteen years there had been only two good ones. After the famines, in the years between 1325 and 1346, when farming had perhaps got over the immediate effects of those disastrous years, there were only six bad wheat crops out of twenty-two.

Not only was wheat's crop record more reliable than barley's, but wheat crops were, on the whole, better than barley crops. When barley crops were bad they were worse than bad wheat crops except when wheat was really bad, as it was in 1315, 1316, 1321 and 1339. When they were good they were seldom as good as good wheat crops, with rare exceptions such as 1323, 1325, 1333 and 1338. Wheat was obviously a better crop as well as a more valuable one than barley. It was, not unreasonably, much favoured by medieval farmers. Consequently it is likely to have responded more sensitively to the impact of currency factors upon prices than barley did.

When we turn back to the currency history

³¹ See note 14 above.

of Edward I's reign, we can now see that Edward's recoinage of 1279 coincided with a run of bad harvests. These bad harvests, however, cannot account for the astonishingly contrary response of wheat prices to Edward's monetary reforms. The bad harvests of 1281 to 1286, with the exception of the harvest of 1283, were no worse than those of the 1270s. But wheat prices rose as sharply and very nearly as far, as a result of bad harvests during the recoinage years, as they had done before. No doubt we should make some allowance, in interpreting these figures, for the fact that Dr Farmer's price material derives from a wider range of sources than his crop yields do. Nevertheless this is not how prices should have responded to what looks like a fairly normal run of poor harvests at a time when the volume of currency circulating ought to have been seriously diminished as a result of the terms upon which Edward I had authorized his recoinage. We cannot expect a recoinage to eliminate fluctuations caused by real factors; but we have every right to expect a successful recoinage to lower the levels at which prices fluctuate and perhaps to diminish the amplitude of such fluctuations. Evidently the grain prices of these years had not been damped down as they should have been if the recoinage had had the success so often claimed for it.

If these price fluctuations suggest that Edward's recoinage was not a conspicuous success, there is another factor, with no connection with monetary policy, which reinforces their testimony. And that is the harvest record of the years immediately preceding the recoinage. The wheat harvests of 1275 and 1278 were not merely successful: they exceeded by an enormous margin the yields achieved by every other successful harvest in Dr Farmer's series. This was in fact a period of good harvests; for between 1275 and 1280 only the harvest of 1276 was disappointing; and the third-best harvest of the period, that of 1279, would have held the yield record but for the unparalleled

achievements of 1275 and 1278. These harvests certainly brought prices down. But when we consider how good three of them were, what is most surprising is how little effect upon prices these harvests had.

In an economy as stretched as England's was, in the later decades of the thirteenth century, exceptionally abundant harvests ought to have produced a very much sharper response than the harvests of those years actually did, if only because there were, comparatively speaking, so few buyers with enough cash to be able to clear such copious stocks of wheat without a bigger adjustment of prices than we find. Wheat prices fell farther in 1287, 1296 and 1303, when harvests, though good, were nothing like as good as the best ones had been between 1275 and 1280. When prices fail to adjust to changes in supply as they should we are bound to suspect that those who can afford to do so are storing rather than selling their surpluses. If that is what these wheat prices mean, then presumably the stocks accumulated during the good years were released subsequently when harvests failed and better prices prevailed. What then are we to think of the high wheat prices that we find on the morrow of Edward's 1279 currency reform? Are we not entitled to conclude that Edward achieved very little with his recoinage because wheat prices rose far more in those years of reform than they should have done when we recollect that the bad harvests of those years were likely to have been offset to some extent by sales of stocks of grain held in reserve as a result of the exceptionally abundant harvests of the years immediately preceding them?

These disparities between what we expect and what we find are not confined to the years following upon the inauguration of a period of currency reform in 1279. As we have seen, they occur later. Currency history with its theme of comprehensive cleansing and renewal is evidently irreconcilable with the results of price history. Nor do these results offer any comfort to those who

attempt to show that mint issues and coin movements between England and the Continent regularly and as a matter of course exercised either an important independent influence or a powerful contributory influence upon thirteenth-century price levels. Whether we search early or late in the thirteenth century, we can correlate grain-price fluctuations with monetary changes only by straining the credulity of those we are trying to persuade and by conveniently ignoring similar fluctuations which occurred at other times and in quite different monetary conditions.

If, however, the king's issue of coins and the king's transfer abroad of subventions of coin in pursuit of his foreign ambitions had no readily perceptible effect upon grain prices, then we must surely conclude that however impressive the king's monetary activities may look they were, nevertheless, upon too small a scale to impress themselves upon the money supply. And if the volume of money in circulation were so great that it was beyond the king's powers of control, then we must expect to find that there was a great deal more foreign money or unauthorized English money in the form of counterfeit or token money circulating than we had thought possible; and we must also expect to find that the stock of money accumulated in the economic system as a result of previous mint issues was very much larger than we have been given to understand that it could have been.³²

We know that foreign coins circulated freely in England, and we know that these coins were popular because the king was forever exercised by the need to eradicate them from the system. We also know that token and counterfeit coins circulated; and we know what the king did to counterfeiters when he caught them. But we cannot take his

word for it that these intrusions into his money supply were as pernicious as he said they were, because we know what vital interests of prestige and profit impelled him to take measures to rid his mint of the competition of rivals. Ordinary currency users did not share the king's repugnance because they did not share his interests and evidently trusted a whole range of unauthorized coins well enough to be content to pass such coins from hand to hand whenever they could do so with impunity. How they did so we do not know. Obviously people got used to handling many different sorts and conditions of coin. We come across so little comment upon the quality or provenance of the coin in which debts were paid or obligations discharged that we are surely justified in assuming that, for most purposes, coins circulated at face value unless they were outstandingly fine or obviously inadequate. Presumably in making payments, particularly tax payments, you paid with the worst coins that would pass muster; and in saving you picked out the best you could find. Cautious creditors did sometimes specify the quality of the coin in which they required payment to be made; and the Exchequer had its own ways of compensating itself for the deficiencies of the poor coin it was offered. Coins certainly deteriorated in use; but if there were many more of them in circulation than we had suspected they presumably deteriorated more slowly than we have been told they did.³³ Moreover the worst ones were probably demoted, so that effectively they were turned into the small change for which there was always such insistent demand and which the mint was always reluctant to supply because small change was so expensive to produce.

But if the spectacular intervention of the king in monetary affairs, whether as the guardian of the purity of the coinage or as the

³² Tallies were universally employed for the registration of debt. They were therefore available as a form of currency, and doubtless passed from hand to hand suitably discounted. Debts, however, were usually repaid; so that tallies which swelled the money supply during their span of life then diminished it on being retired at redemption.

³³ C C Patterson, 'Silver Stocks and Losses in Ancient and Medieval Times', *Econ Hist Rev*, 2nd ser. XXV (1972).

paymaster of Europe, shipping abroad thousands upon thousands of the coins whose integrity he had so scrupulously preserved, cannot explain the lesser fluctuations of thirteenth-century grain prices, how can we hope to explain in political terms the far more profound changes that took place in the late twelfth and again in the late thirteenth century as a result of which prices jumped to new levels which they then maintained for decades together?

We are surely entitled, in such circumstances, to look for an explanation of this recurrent phenomenon in terms of changes affecting the entire region which depended upon the import of silver for the maintenance of its stocks. For none of the countries of western Europe possessed indigenous resources of silver. Consequently each of them depended upon a favourable balance of trade in order to attract silver to itself. But a favourable balance of trade is not something that all countries can enjoy at the same time; and measures taken by any one of them with the object of putting the rest at a disadvantage could always be met by retaliatory measures taken by those which were losing silver with the object of reversing the flow. In normal circumstances, therefore, the countries of western Europe found themselves by turns gaining currency and then losing it. These were, however, strictly temporary gains and losses; and the English evidence strongly suggests that even when international flows of silver were as big as political authorities could make them, they were never big enough to make serious inroads upon domestic currency supply. It is of course true to say that western Europe as a whole somehow maintained a favourable trade balance with the mining communities that supplied it with its silver. But to say that does not help to explain why the terms upon which silver was supplied suddenly changed for England in the twelfth and thirteenth centuries, and changed so decisively that we may confidently assume that they changed for all the other countries of western Europe

which lay within the same silver-deficient region.

These, however, are not problems which can be pursued here. So far as English estate management was concerned, sudden changes in the level about which grain prices fluctuated made for trouble rather than for easy profits. Generally speaking, as we have seen, the market for grains, particularly for wheat, was extraordinarily volatile in the thirteenth century without ever compensating the farmer with a rising trend. In this far from auspicious environment it was much harder for estate management to increase the profits of farming by investing in the land than by reducing the remuneration of labour, and where possible increasing the usage of labour or employing more suitable or more skilled labour than hitherto; for the labour market was the only important market that may have improved in the course of the thirteenth century from the point of view of the demesne farmer. Population pressure which, to judge by grain prices, was no longer capable of raising the effective demand for arable products, may not yet have reached the point at which it was no longer capable of lowering the real wages of labour. At any rate that is what the evidence of peasant hardship seems to tell us.

In such circumstances, with high profits being constantly offset by low ones, the inflation of prices that occurred twice in this period, by reducing the real burden of the fixed charges paid by tenants, threatened to turn real profits into paper profits. Demesne farmers could only restore real incomes by revising every charge and obligation within reach, with the result that money incomes rose on many big estates by the end of the thirteenth century. Painter's sample of 272 baronial estates whose manorial revenues rose prodigiously between Domesday and 1250 and significantly but not spectacularly thereafter, whatever its shortcomings, does seem to reflect the greater severity of the earlier inflation as we see it in the grain prices and the comparative mildness of the later

one.³⁴ It also, perhaps, reflects the sense of urgency with which demesne farmers responded to inflation; for these higher incomes are not the evidence of farming prosperity, or the vindication of improved management techniques, that they are often

³⁴ S Painter, *Studies in the History of the English Feudal Barony*, Johns Hopkins, 1943, p 160.

taken to be. Essentially they reflected the efforts made by demesne farmers to compensate themselves for the losses they had incurred when inflation miraculously and fleetingly improved the terms upon which whole sections of the peasantry could hold their land.

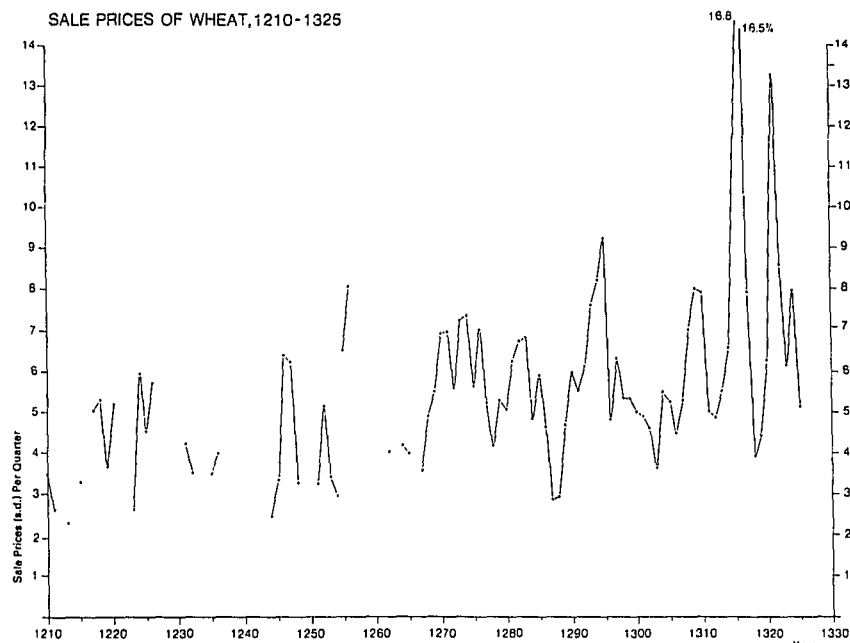


FIGURE 1

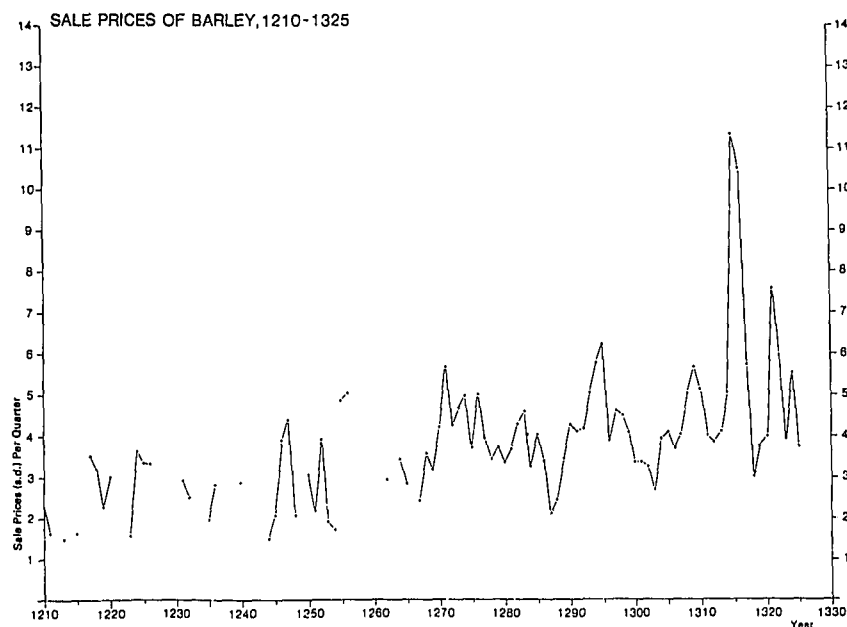


FIGURE 2

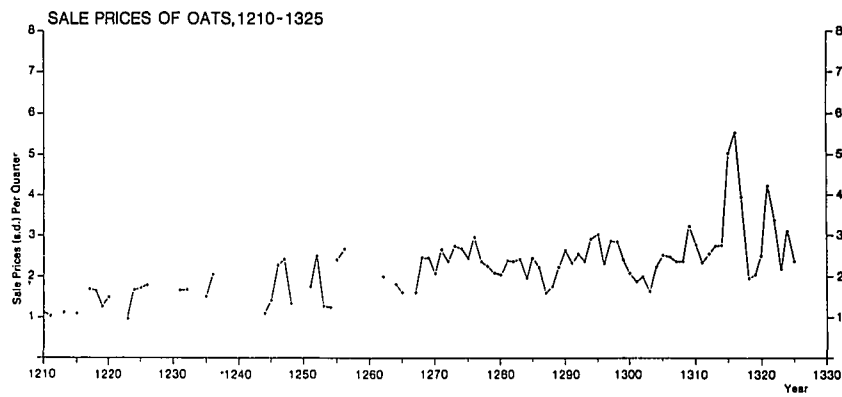


FIGURE 3

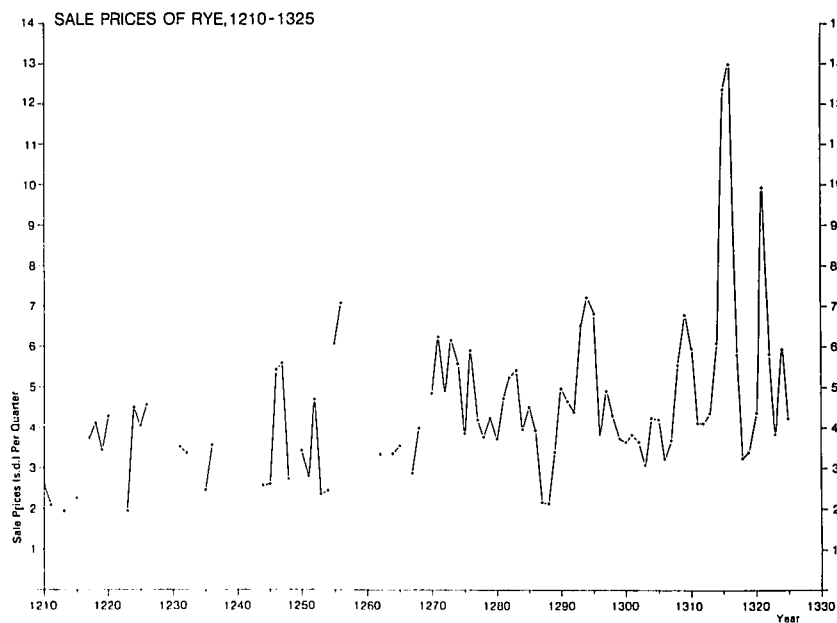


FIGURE 4

Medieval Agrarian Practices: The Determining Factors?

By MAVIS MATE

IN the heyday of high farming several treatises were written giving advice on husbandry, estate management and accounting.¹ While such manuals gave detailed instructions on how to improve the soil, how to manage stock and how to prevent reeves from cheating, there were a number of topics that were not discussed. No advice was given on the best rate to sow seed, on whether or not to sow legumes or how to keep pasture in good shape. Agrarian practices on matters such as seeding rates, cropping patterns and convertible husbandry varied considerably from one part of the country to another. How did landlords make up their minds what policies to adopt? Did they follow the books of advice? Did great lords adopt common policies for all their estates or did farmers, both large and small, within a neighbourhood, follow policies that best suited local conditions?

I

The didactic literature stressed the importance of improving the soil through the use of manure and marl. Walter of Henley, for example, believed that dung and earth mixed together made the best compost and that it should be laid upon the fallow after the first ploughing. He also advised that when sheep were folded on the land 'the nearer it is to the sowing time the better it is'.² Such practices appear to have been quite common. Manure was carried from the cattle and sheep barns onto the wheat fields in the summer or

early autumn and animals who had been pastured elsewhere during the day were folded onto the fallow at night. Where lords were able to take advantage of the sheep of their tenants as well as their own, the tenants were aware of the value of the manure they were losing. On two of the manors belonging to the cathedral priory of Christ Church, Canterbury, the tenants, after the Black Death, paid thirteen quarters of barley a year rather than continue to put their animals into the sheepfold of the priory.³

The addition of marl was generally seen as one of the best ways to fertilize the land. Canterbury Cathedral Priory, in the early fourteenth century, passed an ordinance that on all manors in which marl could easily be found marlators were to be provided and as much land as possible was to be marled in the summer.⁴ In this instance the monks followed a common policy for all their estates and made no distinction between their manors inside and outside Kent. Marling was carried out as vigorously in Essex and Surrey as it was on manors closer to the house. The real problem was that very few manors actually had marl readily available, and, when they did, the marl lasted only for a limited amount of time. On their manor of West Farleigh, for example, small amounts of land were marled in the late thirteenth and early fourteenth century, but, finally, in 1338, a man was hired to fill in a great marl-pit that was now fallowed. Furthermore marling could be very expensive, especially where customary labour was not available. Men were needed to dig

¹ I am grateful to the American Council of Learned Societies for providing a grant that made possible the research on which this article is based. I have also benefited a great deal from discussing the subject matter with Mr A F Butcher at the University of Kent. *Walter of Henley and other Treatises on Estate Management and Accounting* ed. Dorothea Oschinsky, Oxford 1971.

² c 73-4 *ibid*, p 329.

³ Cathedral Archives and Library, Canterbury (hereafter referred to as CALC) Register K fo 167v: Register J fo 92.

⁴ Chapter ordinance printed in R A L Smith, *Canterbury Cathedral Priory*, Cambridge 1943, p 215.

the marl, load it onto carts, and then spread it on the land. The total cost on the Christ Church estates ranged from 8s to 20s 6d an acre, depending on how accessible the marl-pit was, how much marl was spread on the land and whether or not it was necessary to rent extra carts.⁵

Did the Christ Church monks ever ask whether the results justified the expenses? In some areas they did not and the local serjeant did not specify which area was being marled, or if he did, the yield from that particular piece of land. But, at Ebony, where between 1303 and 1311 £56 5s 8d was spent applying manure, marl and lime to the land, more systematic records were kept.⁶ Before 1303, wheat, which was seeded at the rate of four bushels an acre, produced an average yield of 11.69 bushels an acre ($2.92 \times \text{seed}$) and oats, which was seeded at eight bushels an acre, yielded an average of 29.06 bushels an acre ($3.63 \times \text{seed}$). Land that had been treated did produce higher yields. In 1309 oats grown on non-marled land yielded 22.22 bushels an acre ($2.77 \times \text{seed}$) whereas those growing on marled land produced 34.58 bushels an acre ($4.32 \times \text{seed}$). Wheat, which was only grown on marled land, yielded 16 bushels an acre ($4 \times \text{seed}$). While grain prices were high, the Priory clearly felt that such results justified the high cost of marling. But, although Walter of Henley argued that marl lasted longer than dung,⁷ the monks had no way of proving this. In fact Henley was right and at Ebony the effect of the marl and the lime lasted long after it had been applied, for the average yield of wheat for the whole period, 1304-44, was 13.05 bushels an acre ($3.26 \times \text{seed}$), well above the late-thirteenth-century level. Priory officials, however, did not make this calculation and when grain prices fell in the late 1320s and 1330s

expenditure on marling virtually disappeared.

Few fields, however, could be supplied with manure or marl and farmers had to keep their land in good shape in ways not mentioned in the treatises. In eastern Norfolk an average of twenty-four to twenty-six acres were folded with sheep each year, depending on the manor, and on no demesne for which account rolls survive did the area folded ever exceed thirty-five acres. But, on manors within a five-mile radius of Norwich farmyard manure was supplemented by nightsoil purchased from the town.⁸ On the Chiltern farm of Berkhamstead, in 1349, eighteen acres had been manured by the sheepfold, but the arable land there was also improved by the addition of dead leaves and deer droppings gathered from parkland.⁹ Similarly, in Kent, just a small fraction of the total acreage could be manured in any one year. On the archiepiscopal manor of Otford, for example, in 1323/4, thirteen acres were composted with carts and sixteen acres with the sheepfold, the two areas together comprising 10 per cent of the total acreage sown.¹⁰ On the Christ Church manor of Orpington, in north Kent, in 1303/4, the serjeant was able to compost thirteen acres with manure and seventeen acres with the sheepfold, just under 15 per cent of the total acreage sown. The Christ Church monks, however, during the inflationary period of the early fourteenth century, displayed considerable ingenuity when it came to ways of keeping their land in good shape. At Loose a man was hired to take out and cart away large stones from one field and eight hundred heaps of earth were spread over another field. At West Farleigh sixty-four perches of gutter in the Westfield were lined with stone

⁵In 1296 the serjeant at Merstham, in Surrey, marled nine acres for a total cost of £9 5s i.e. for each acre 20s 6d. 188 cartloads of marl were spread on each acre. The major item of expenditure was the cost of carrying the marl at 1d or 1½d a cartload. CALC Beadle's rolls, Merstham.

⁶CALC Beadle's rolls, Ebony.

⁷c 70 Walter of Henley ed. Oschinsky, p 329.

⁸B M S Campbell, 'The Regional Uniqueness of English Field-systems: Some Evidence from Eastern Norfolk', *Ag Hist Rev* XXIX, 1981, pp 22-4; B M S Campbell, 'Agricultural Progress in Medieval England: Some Evidence from Eastern Norfolk', *Econ Hist Rev*, 2nd ser, XXXVI, 1983, p 34.

⁹David Roden, 'Demesne Farming in the Chiltern Hills', *Ag Hist Rev*, XVII, 1969, pp 16-17.

¹⁰Lambeth Palace Library MS ED 830.

to dry out the land.¹¹ But, as was the case with marling, these efforts dropped off when prices fell.

Much advice was also given about the best methods of taking care of stock. Each year the reeve or bailiff was expected to examine the flocks and herds and discard all weak and sickly animals. In addition the author of the *Seneschaucy* suggested that these animals should be put in good pasture for fattening (en bone pasture pur engresir) and when the better ones have improved they ought to be sold to the butchers.¹² Such advice was heeded and, in 1314, the chapter of Canterbury Cathedral Priory reminded the local serjeants that while the ordinary stock was to be kept in good pasture, all the animals not to be retained were to be put in better pasture, fattened and not worked but sold when they were fat.¹³ At the same time the Christ Church officials were raising healthy animals for sale and their own table. In the late thirteenth century, before most of the cows were farmed out, a half to two-thirds of the young calves were sold, either to the cellarer or in the neighbourhood.¹⁴ Similarly some manors regularly sold newborn lambs, while others kept all the stock in order to replenish or expand the priory's flocks. Large sales were most common on the Essex manors of Milton and Lawling and on the two north Kent manors of Barksore and Cliffe, all of which were within easy reach of the London market.¹⁵ Lambs, calves, pigs and wethers were also supplied to the cellarer on a regular basis. These were generally good, healthy animals and in 1333 it was expressly ordained that

animals earmarked for the larder were to be put in good pasture for safekeeping 'so that they may be sound, fit and fat' when needed.¹⁶ The allocation of good pasture for the purpose of fattening stock shows the importance of meat in the medieval diet, but also suggests that there was a ready clientele of butchers and breeders.

Sheep-flocks, of course, were always subject to disease and at times of severe murrain a third or a half of a flock could easily be wiped out. To prevent such a disaster shepherds were advised to watch over their sheep well 'that they are not killed or tormented by dogs . . . and that they do not pasture in forbidden moors, ditches and bogs, thereby contracting illness and rot through lack of supervision'. Furthermore when the lambs were young, the shepherd should pull away the wool from between the teats of the ewes to prevent it from getting into the mouths of the lambs, who might swallow it down.¹⁷ Some estates seem to have followed such advice and when a fairly long series of accounts is available, the death-rate of both adult sheep and newborn lambs appears quite low. In the early fourteenth century, for example, substantial numbers of ewes and wethers were kept on the royal manor of Keyingham in Yorkshire. Although some years as much as 23 per cent of the newborn lambs died, other years as few as 4.4 per cent died. The average death-rate for the lambs (with eleven accounts) was 14.6 per cent.¹⁸ Similar percentages can be found on a number of estates belonging to Canterbury Cathedral Priory. At Meopham, in north Kent, there were a few disastrous years: in 1305 35 out of 55 newborn lambs died, in 1322 46 died out of 60, and in 1333 35 died out of 64. But in good years, out of the average 59 lambs produced each Spring, only eight had died

¹¹ CALC Beadle's rolls, Orpington, Loose, West Farleigh.

¹² c 31-2 *Walter of Henley* ed. Oschinsky, pp 274-5. See also the treatise of Walter of Henley c 76 and 97 (*ibid.* pp 330-1, 336-7).

¹³ 'omnia animalia quae non sunt retinenda in annum futurum ponantur in meliori pastura et impinguantur' Chapter ordinance printed in Smith, *Canterbury Cathedral Priory*, p 214.

¹⁴ At Battle Abbey about a quarter of the calves each year were slaughtered for food: Eleanor Searle, *Lordship and Community: Battle Abbey and its Banlieu, 1066-1538*, Toronto, 1974.

¹⁵ Before 1348 Barksore and Cliffe were selling an average of 55 lambs a year and the two Essex manors of Milton and Lawling were selling respectively an average of 65 and 107 lambs a year. CALC Beadle's rolls, Barksore, Cliffe, Milton and Lawling.

¹⁶ *Litterae Cantuarienses* ed. J B Shepherd, 3 vols. (Rolls Series, 1887-9) II, 35-7.

¹⁷ *Seneschaucy* c 62 and *Walter of Henley* c 105. *Walter of Henley*, ed. Oschinsky, pp 287, 339.

¹⁸ PRO SC6/1079/12: 1079/16-18: 1080/9: 1081/7-9: 1082/3: 1082/5.

by Michaelmas and not one of the lambs was sold. If all the bad years are included, the average death-rate for the lambs at Meopham from 1283 to 1356 was 19.6 per cent.¹⁹ Where significant numbers of lambs were sold regularly, thus reducing their risk of death on the manor, the rate of loss was even lower — 13 per cent at Milton in Essex. So far as stock-raising was concerned, the Priory made no distinction between its manors and seems to have followed common policies, exercising the same care in Essex as in Kent.

II

Where the husbandry manuals were silent, however, practices differed widely. No optimum rates were suggested for the sowing of grain. Indeed the author of the *Husbandry* specifically recognized that 'some lands may be sown more sparsely than others', although he did indicate that in many places wheat, rye and peas might be sown with two bushels an acre, and barley, beans and oats with four bushels an acre.²⁰ Lay and ecclesiastical lords, with estates scattered in different parts of the country, adopted different seeding rates in each area. Battle Abbey, for example, used a much lower seeding rate on its manors in Berkshire, Wiltshire and Oxfordshire than it did in Kent and Sussex.²¹ The Priory of Christ Church, Canterbury, also sowed at higher rates on its manors within Kent than on those outside. Wheat, for example, in Kent was sown at three to four bushels an acre, the same rate as on the Battle estates, whereas on estates outside Kent, it was sown at two or two-and-a-half bushels an acre, the rate suggested in the *Husbandry*. Barley was sown at five to six bushels an acre on the Priory estates in Kent and Surrey, and at three, three-and-a-half or four bushels an acre on its estates elsewhere. Oats were sown at a wider variety of rates, but still with

higher rates prevailing throughout much of Kent. On the Christ Church estates there oats were sown at eight bushels per acre on the Romney Marsh manors, six to seven bushels on the east Kent and Medway valley manors, and four to five bushels on its two northern manors of Meopham and Orpington. In contrast, on most of its Essex and Suffolk manors, two-and-a-half or three bushels per acre were sown, but at Milton and Hadleigh four bushels were used. Its Surrey manors sowed oats at five bushels an acre, the same rate as on the Archbishop of Canterbury's Surrey manors.²² Some of this variation can probably best be explained by differences in soil type, but the prevalence of high or low seeding rates within an area is quite obvious. Oats were also sown at six bushels an acre on the Battle Abbey manor of Marley in the late fourteenth century and when Arthur Young visited the area four centuries later he commented on the heavy sowing he found. One cannot but agree with the observation of Professor Eleanor Searle that 'locally such heavy sowing was probably the custom'.²³

High rates of seed generally produced high yields per acre. With the poor quality of most medieval beasts and tools, it was hard to break up the soil sufficiently to eliminate all the weeds. Over and over again local officials report that more was spent on weeding or the harvests were poor because of an abundance of thistle, or poppy, or noxious herbs. Thus, especially in the Spring, when all vegetation tends to grow more rapidly and vigorously in the wet ground, it made good sense to cover the land with a heavy sowing, so as to fill up the ground with desirable, rather than undesirable plants.²⁴ On demesne land in eastern

¹⁹ A series of 41 accounts. CALC Beadle's rolls, Meopham.

²⁰ c 58 *Walter of Henley*, ed. Oschinsky, pp 442-3.

²¹ P F Brandon, 'Cereal Yields on the Sussex Estates of Battle Abbey during the Later Middle Ages', *Econ Hist Rev*, 2nd ser, XXV, 1972, Table 2, p 408.

²² Lambeth Palace Library ED 831: British Library Addit. MS 29,794 fo 1.

²³ Searle, *Lordship and Community*, p 287.

²⁴ These ideas are more fully developed by W Harwood Long, 'The Low Yields of Corn in Medieval England', *Econ Hist Rev*, 2nd ser, XXXII, 1979, pp 459-69. He is convinced that low yields were not the result of soil exhaustion, but rather the fault of poor farming techniques, which were not adequate to clear the land of weeds.

TABLE I

A Comparison of Seed and Yield Ratios, 1300-1348 on Some Estates of Christ Church Priory

Manor	Seeding rate (bushels)	Average yield per seed	Average yield per acre (bushels)	Available after seed (bushels) if 100 acres sown
<i>Wheat</i>				
Eleigh	2½	3.50	8.75	625
Adisham	4	3.50	14.00	1000
<i>Oats</i>				
Bocking	2½	2.37	5.92	342
Eleigh	3½	2.53	8.85	535
Milton	4	2.69	10.76	676
Ebony	8	2.75	22	1400

Norfolk, in the first half of the fourteenth century, wheat, sown at four bushels per acre, yielded an average of fifteen bushels per acre and on the most productive estates reached thirty bushels or more in a good year.²⁵ On the Sussex estates of Battle Abbey, in the late fourteenth century, the average net yields for wheat, after allowance for tithe and reaping had been subtracted, ranged from nine to just over thirteen bushels an acre.²⁶ Average oat yields ranged from eleven to sixteen bushels per acre, depending on the manor. Similar average yields can be found on the Kentish estates of Christ Church Priory, but, when the new marsh at Appledore was first brought into cultivation in the 1350, oats, seeded at eight bushels per acre, produced harvests of thirty-three and thirty-four bushels an acre.²⁷ Even though a large quantity of grain was required for seed, there was still plenty left over for sale and other purposes. When some Christ Church manors that employed low seed-rates are compared with the higher

seeding ones, the greater profitability of the larger seed-ratio becomes apparent.

Whatever differences may have existed in the size of the bushels,²⁸ the amount of oats available at Ebony in Kent was far greater than that available at Bocking in Essex.

Were Priory officials aware of the advantages of sowing more intensively? They never made the exact calculation made above. But when they did calculate yields, it was usually done on a 'per acre' basis. They should, therefore, have realized that more was being produced on each acre in Kent than Essex, yet they made no effort to increase seeding rates outside Kent. The books of husbandry, however, in discussing yields focused on the yield per seed, not the yield per acre. Walter of Henley pointed out that if the grain did not yield three times as much as the seed, the farmer gained nothing unless the corn bore a good price. The author of the *Husbandry* believed that, by rights, 'barley ought to yield to the eighth grain . . . wheat ought to yield to the fifth

²⁵ Campbell, 'Regional Uniqueness', p. 21: see also Campbell, 'Agricultural Progress', p. 31.

²⁶ Brandon, 'Cereal Yields', p. 417.

²⁷ CALC Beadle's rolls, Appledore, 1353-4.

²⁸ In the early fourteenth century the Kentish measure for oats was the large seam, which contained sixteen bushels, and it is not clear whether these bushels were the same size as those in a quarter or eight-bushel seam. But when the Priory switched over to using the standard measure of the quarter, it still seeded at the same rate of bushels, which suggests that the bushel was the same size.

grain and oats to the fourth grain'.²⁹ On the Christ Church estates the yields per seed, as Table 1 indicates, were frequently the same inside and outside Kent. The monks may have thought that their crops were producing as much as could be expected. Moreover the seeding rates used at Bocking (2½ bushels per acre for both wheat and oats) can be found on other estates in northern Essex.³⁰ If, according to the wisdom of the neighbourhood, such rates were best suited to local soils, why should the monks make any changes?

The books of husbandry were also silent about the fertilizing properties of legumes. Yet in many parts of the country substantial amounts of legumes were being grown. On the manors of Isabella de Forz in the Isle of Wight between 16 and 23 per cent of the total acreage was sown with peas, and vetch and beans covered a considerable acreage on some of her lands in Holderness. When these manors came into royal hands, the sowing of legumes continued on the Isle of Wight and increased in Holderness. At Brustwick, for example, before the 1330s, 95½ acres on an average were planted with oats and 28 acres with beans and peas. Thereafter the area under oats steadily declined and, concomitantly, the area under legumes increased until in the early 1340s 14½ acres were being sown with oats and 133 acres with legumes.³¹ In east Kent and coastal Sussex many lords sowed a quarter to a third of their total acreage with legumes and these crops were generally not grown at the expense of the Spring crop, but were an alternative to fallow. The value of such practices shows up very clearly in eastern Norfolk, where those demesnes which cultivated above-average

quantities of legumes sustained above-average levels of productivity.³²

Did medieval farmers, however, know that legumes added nitrogen to the soil and sow them in order to enrich the land? Vetch or peas also provided useful forage for animals, and on the estates of Canterbury Cathedral Priory were almost always consumed in the fields by the beasts, usually the carthorses or the stots. Indeed on some manors, none of the crop was saved for seed, and the serjeant spent £4 or £5 a year purchasing new legume seed. Yet this expenditure was presumably worth it, since it allowed him to reduce the area under oats, which would otherwise be needed for forage, in favour of barley that was needed to make ale for the house. Thus the main purpose behind the large sowing of legumes on the Priory's east Kent estates may not have been to improve the quality of the soil, but simply to provide sustenance for the stock. For the Christ Church monks, on their Essex manors, sowed between 2 and 5 per cent of the total acreage with legumes. On their Suffolk and Surrey manors the percentage was somewhat higher, 5 to 10 per cent, but still below the 25 per cent so common on their east Kent manors. Since legumes were so useful, both in enriching the soil and providing needed forage, why did the Priory not increase the acreage under legumes outside Kent? One reason may have been that the average yield per seed on these manors was already on a level with those in Kent, just over three times the seed with wheat and two-and-a-half times with oats. As was suggested for seeding rates, Priory officials may have believed that the land was already producing to capacity. On the other hand they may have been totally unaware that legumes added to the fertility of the soil, especially since the books of husbandry did not mention it. Crops were often sown to supply a specific need, whether it was food for the animals, for the *famuli* or the

²⁹ Walter of Henley c 59; Husbandry c 3. *Walter of Henley*, ed. Oschinsky, pp 324-5, 418-9.

³⁰ R H Britnell, 'Agricultural Technology and the Margin of Cultivation in the Fourteenth Century', *Econ Hist Rev*, 2nd ser, XXX, 1977, p 60.

³¹ M Mate, 'Profit and Productivity on the Estates of Isabella de Forz, 1260-92', *Econ Hist Rev*, 2nd ser, XXXIII, 1980, pp 331-3; PRO SC6/1079/12 m. 12: 1080/9 m. 8d., 11d., 14d., 18d.: 1082/4 m. 1: 1082/5 m. 3.

³² Campbell, 'Agricultural Progress', p 32.

TABLE 2
Cropping pattern of Wellesfield, 1309-1318³⁴

Years	Crops sown in acres	Total acreage sown
1309	fallow	0
1310	13 wheat, 39 barley, 18 peas, 12 vetch, 33 oats	115
1311	34 vetch	34
1314	36 wheat, 6½ winter barley, 8 spring barley, 30 peas, 33 vetch	113½
1315	54 wheat, 9 winter barley, 25 spring barley, 16 oats	104
1316	18 spring barley, 6 peas, 2 vetch, 50 oats	76
1317	35½ wheat, 13 peas, 13 vetch, 22 oats	83½
1318	fallow	0

household. The more distant estates of the Priory were not expected to supply the house with barley, so local officials could take care of the needs of the stock by planting a substantial acreage under oats. Furthermore other north Essex lords, in the first half of the fourteenth century, were also sowing primarily wheat and oats. Even so, what was to prevent the monks from introducing the east Kent rotation system — wheat/barley plus oats/legumes or fallow — on their estates in Essex and selling the barley locally, like they did their wheat? Land in that area was clearly suitable for barley, since it was grown there successfully in the fifteenth century.³³ Again one can only hazard a guess. The market for barley may not have been as developed in the fourteenth century as it became later. Moreover since farmers in the neighbourhood clearly felt that the land was best suited for the growing of wheat and oats, and nothing else, the monks of Christ Church may have decided not to challenge that local wisdom.

Cropping patterns also varied a great deal from one part of the country to the next. In Kent it was quite common to scatter the main crop over a wide area and not sow it all in one field. On the manors of Canterbury Cathedral Priory the large demesne fields were frequently sown with more than one kind of crop in a field in any given year,

including a mixture of winter and spring grains. A clear example is the use of Wellesfield in the manor of Welles. Where the fields were slightly smaller, it was customary to sow one main crop, plus a small admixture of different grains. The field before the gate at Loose, for example, was sown, in 1311, with thirty-five acres of wheat, four acres of rye, three acres of vetch and one acre of peas, and in 1320, with three acres of oats and thirty-nine acres of wheat. As elsewhere, the whole field was not sown every year and when just legumes were sown, two-thirds of the land was usually planted and the rest was left fallow.

All the evidence indicates this scattering of crops was practised on other Kentish estates as well. Writing of Otford, one of the manors of the Archbishop of Canterbury, Du Boulay says, 'The most striking fact is the way in which the larger fields were themselves divided among the different crops in any one year and also were liable to have only a small proportion of their area cropped in any particular year.'³⁵ Less evidence is available for what was done on tenant land, but there appears to have been no common rotation system and each individual was free to plant whatever he wished on any of his strips. Thus even when

³³ Britnell, 'Agricultural Technology', pp 58-64.

³⁴ CALC Beadle's rolls, Welles.

³⁵ F R H Du Boulay, 'Late continued demesne farming at Otford', *Archaeologia Cantiana*, LXXVII, 1959, p 120. See also *The Lordship of Canterbury*, 1966, p 48.

demesne land was mixed in with tenant land, there was no obligation to plant the same crops as one's neighbour. As Christ Church Priory picked up more and more tenant land, it sought to consolidate its holdings, purchasing the land of its neighbours and exchanging parcels in one field for another. Where it was not possible, however, the convent might well be left with a parcel of a few acres at the edge of a field or surrounded by tenant land. In such a case, there would be no reason why the local serjeant should not sow a different crop there from the main crop sown in a larger parcel in a different part of the field.

But scattering appears to have had advantages in and of itself and cannot be explained solely in terms of the wide dispersion of demesne land. At Welles, between 1314 and 1318, an average of 83 acres of wheat was sown a year. They could easily have all been sown in Wellesfield. They never were. Instead they were always scattered among two or three fields. The most logical explanation is the idea put forward by Professor Donald McCloskey that scattering reduced the risk of having all one's crops destroyed.³⁶ Both fungoid diseases and insect attacks tended to be spotty in their incidence. Other risks — flood, fire, birds, rabbits, moles, hail and wandering armies — could all attack one field and leave its neighbour unmolested. One way to reduce the risk of total loss was to scatter crops over different locations. Another advantage of scattering was great flexibility. Acreages under the different grains were not tied to a fixed field system and could be changed easily from year to year.

Scattering can be found outside of Kent. The author of the *Husbandry* recognized that

winter and summer corn might be sown in the same field, for he advised the reeve, when that happened, to account for each furlong separately.³⁷ In some parts of Yorkshire cropping patterns approximated those of Kent. On the royal manor of Brustwick, for example, in 1344, the Eastfield was sown with 65 acres of wheat, 2½ acres of rye, 30 acres of barley and 34 acres were left to lie waste.³⁸ On the Dorset lands of Glastonbury Abbey, the greater part of a field was sown with one main crop, such as wheat, but a few small patches were sown with oats and barley.³⁹ Elsewhere sown fields frequently contained some fallow land and it was quite common to bunch together different crops of the same season. On the Christ Church Essex estates, however, such practices rarely occurred. The monks, on their fields there, never sowed a mixture of winter and spring grains and, in general, fully utilized each main field each time around.

In Kent, Sussex, and Norfolk as well as in Flanders, some form of convertible husbandry was practised. The plough was taken round the pasture for the express purpose of improving the pasture, and not to increase the area under cultivation.⁴⁰ Instead of the land being divided into permanent grass and permanent arable, pasture and arable became almost interchangeable. On the Christ Church Kentish manor of Mersham, for example, the main demesne fields were frequently listed in the pasture accounts with the notation 'nothing because sown this year'. Some patches of land there continuously switched back and forth. In 1289 the pasture of Rydale was sold for 9s 6d and in 1290 it was sown with twelve acres of oats. Then it reverted to pasture. In the late 1330s,

³⁷ c 60, *Walter of Henley*, ed. Oschinsky, p 443.

³⁸ PRO SC6/1082/5 m. 3.

³⁹ I Keil, 'Farming on the Dorset estates of Glastonbury Abbey', *Proc Dorset Natural History and Archaeology Soc*, LXXVII, 1965, p 239.

⁴⁰ P F Brandon, 'Demesne Arable Farming in Coastal Sussex during the later Middle Ages', *Ag Hist Rev*, XIX, 2, 1969, pp 132-4; Searle, *Lordship and Community*, pp 272-86; Campbell, 'Agricultural Progress', p 43; for practices in Flanders and Brabant see Marie-Jeanne Tits-Dieuaide, 'L'évolution des techniques agricoles en Flandre et en Brabant du xiv^e au xvi^e siècle', *Annales, Et Soc Civ*, May-June 1981, p 372.

³⁶ D McCloskey, 'The persistence of the English open fields' in W N Parker and E C Jones, eds, *European Peasants and their Markets* (Princeton, 1975) and 'English Open Fields as a Behaviour towards Risk' in *Research in Economic History*, I, 1976. Charles Wilson in 'A Letter to Professor McCloskey' asks why the lords failed to notice the risk aversion benefits that were open to them by scattering (*Journal of European Economic History* 8, 1979), but clearly some lords were aware of these benefits.

however, it was being sown heavily with wheat in 1337, 1339 and 1343 but after the Black Death it returned to being pasture and sold for 15s in 1350. This practice of improving pasture through cultivation may well have been followed by the peasants as well as the lords, for when, in 1299, the Priory drew up a list of acres that had been sown on the manor of Westcliff, it specifically noted that 'twenty acres of weak pasture had been sown with oats to improve the pasture *according to the custom of the neighbourhood*' [italics mine].⁴¹ This occasional ploughing under of the pasture helped to prevent the grass from becoming waterlogged and allowed crops to be sown on ground that had been well-manured for long periods of time. In many other parts of the country poor land, used primarily for pasture, was sown with oats occasionally, but not on a regular basis, as was usual with full-fledged convertible husbandry.

Some of these variations in agrarian practices can be explained by differences in soil fertility. Where land was particularly fertile, such as in coastal Sussex and eastern Norfolk, lords were able to crop it with considerable intensity. The monks of Battle Abbey, by using high seeding rates to smother the weeds and sowing 20 to 30 per cent of the total acreage with legumes, were able to reduce or eliminate the fallow on many of their estates in the late Middle Ages and still produce harvests that were superior to those on the estates of the Bishop of Winchester.⁴² Their lay neighbours pursued similar policies. In eastern Norfolk, land, in the first half of the fourteenth century, was often left fallow only once every ten or twelve years and still produced good yields.⁴³ Conversely when lords tried to grow wheat on poor land, they were often forced to leave it fallow for long periods of time. On the Christ Church marsh manor of

Ebony the most usual rotation for a wheat field was wheat/fallow/fallow/legume. Just once in a while would they be sown with oats. Similarly on its Medway valley manor of Great Chart many of the small wheat fields were sown only occasionally with oats and left fallow more times than they were sown. Even poor land that had been marled could not be cultivated for a sustained period. Twenty-six acres at Great Chart, called Roughwood, were marled in 1311 and sown with wheat in 1313. Thereafter there are only two references in 1321 and 1325 when they were sown with oats. The land appears to have reverted to grass. Even the main field, Westfield, which followed a fairly regular three course rotation, could not be cultivated indefinitely. In the early fourteenth century around eighty acres were sown most years; by the 1340s just over half that amount was sown and by the 1360s and 1370s Westfield was virtually abandoned and just used for growing occasional vetch and peas. In its place the serjeant was using areas for wheat that had not been cultivated earlier. In the Chiltern Hills, some fields followed a path similar to that of the fields of Great Chart, ie, they were ploughed regularly before the 1330s, then cropped intermittently and finally abandoned.⁴⁴

III

When landlords, like the monks of Battle Abbey and Christ Church Priory, had manors in different parts of the country, they made no distinction between their estates in matters such as manuring and marling. Furthermore stock-raising, on the Christ Church estates, was carried out with the same care in Essex as in Kent. In contrast, practices such as seeding rates, the use of legumes and the widespread scattering of crops varied on the manors in different parts of the country. Within Kent, Christ Church Priory managed its estates with remarkable

⁴¹ CALC Register I, fos. 144v.-145v.

⁴² Brandon, 'Demesne Arable Farming', pp 113-34; Brandon, 'Cereal Yields', pp 403-20.

⁴³ Campbell, 'Regional Uniqueness', p 21; 'Agricultural Progress', p 43.

⁴⁴ Roden, 'Demesne Farming', pp 20-21.

efficiency. By using legumes for fodder, it cut back the area under oats in east Kent and replaced it with barley. It minimized the risk of loss through disease and other hazards by scattering the crops over different locations and it sowed at a high rate of seed. It also maintained its pasture in good shape with regular ploughing, and where poor land was sown with wheat, the Priory was content to let it lie fallow for long periods of time. Outside Kent, it did not follow similar policies. Large quantities of oats were grown to feed the stock. Little attempt was made to scatter the crops and seed was sown at a lower rate. Consequently although the basic fertility of the soil was approximately the same, the returns available for the Priory were less. Yet it was never acting in isolation. The policies it pursued so successfully in Kent were also followed on the Kentish estates of Battle Abbey, on the archiepiscopal estates and as far as can be ascertained on the lands of the peasants themselves. Similarly in northern Essex the low seeding rates and lack of legumes can be found on the Bouchier estates.

What lay behind these marked differences in practice? The areas in which farmers generally used a high seeding rate and high percentage of legumes were all strung round the east and south coasts of England — Holderness, Huntingdonshire and parts of Cambridgeshire, eastern Norfolk, northern

and eastern Kent and coastal Sussex. As B M S Campbell has pointed out, they 'all possessed naturally fertile and easily cultivated soils, all enjoyed coastal and/or riverine access to major urban markets, both at home and overseas, and all supported above-average population densities'.⁴⁵ But can this be a sufficient explanation? Certainly on the Christ Church estates the fertility of many of its Essex and Suffolk manors was as great as those in east Kent. Moreover Milton, on the south Essex coast, had easy access to London, and successfully utilized this advantage in the marketing of its stock. Yet very few legumes were grown there.⁴⁶ The best explanation, to my mind, is that most landlords did not realize that sowing at a higher rate of seed would produce higher yields per acre or that legumes fertilized the soil. Here the silence of the books of husbandry is surely significant. The techniques advocated by Walter of Henley and others — manuring, marling and folding sheep — were applied uniformly. Where no advice was given, lords seem to have relied on what can best be described as the local wisdom of the neighbourhood, in deciding what crops to grow and at what rate to sow seed. That wisdom naturally varied from one part of the country to another.

⁴⁵ Campbell, 'Agricultural Progress', p 43.

⁴⁶ 3-5 per cent in the late thirteenth and early fourteenth century, CALC Beadle's rolls, Milton.

The Size of Open Field Strips: A Reinterpretation

By ALAN NASH

SINCE the pioneer work of Gray, a large number of scholars have examined the operation of the open field system, but have until recently paid little interest to a fundamental aspect, the dimensions of the component selions.¹ This is surprising because there has been a long-standing requirement to resolve a dispute concerning the cause for the variation in their dimensions, and a more recent need to consider strip size and the development of planned medieval fields. Thus, it is argued here that an analysis of selion dimension is not the arcane pursuit that it appears, but rather is an integral part of the continuing investigation of land measures and field system origins which Maitland called for in 1897.²

I

In order to examine these problems, the open field systems of Sussex were selected for analysis. This county was chosen because its range of environments and history of settlement provide an adequate scope for investigation of the variation in strip size, and because the work of previous scholars has indicated that this would be a fruitful area for research.³

Sussex lacks sufficient extant physical evidence for strip size so it becomes necessary to use estate maps, dating from the seventeenth to the nineteenth centuries, which depict open field cultivation and the constituent selions of such fields. This assumes that a boundary continuity exists between these strips and those of the Middle Ages. The proof for this must be circumstantial, given the lack of early map material, but the burden of evidence is such that this assumption can probably be made. Thus, Conzen and Harvey have demonstrated that estate maps can be used for this type of work, while Beresford has shown that such map evidence accurately reflects strip relicts and their medieval counterparts, and so must be considered a legitimate tool of investigation.⁴ In terms of physical evidence, while ridge and furrow is unknown in Sussex, strip lynchets shown on estate maps at Petworth and Upper Beeding from field investigation appear to be medieval, if their angle of slope is diagnostic. Thus, these give some indication that strip boundaries may persist through time, a phenomenon also noted for medieval burgage plots.⁵ The fossilization of medieval arable strips in the town plans of New Winchelsea, Brighton, and East Grinstead provides a further demonstration from relict features that the size of the medieval Sussex selion was comparable to

¹ H. L. Gray, *English Field Systems*, Cambridge, Mass., 1915; R A Dodgshon, 'The origin of the two- and three-field system in England: a new perspective', *Geographia Polonica*, 38, 1978, pp 149-64; A R H Baker, 'Observations on the open fields: the present position of studies in British field systems', *J Hist Geog*, 5, 1979, pp 315-26; T Rowley (ed), *The origins of open-field agriculture*, 1981.

² F W Maitland, *Domesday Book and Beyond*, Cambridge, 1897 (1960 edn.), p 596.

³ W D Peckham, 'Customary acres in South-west Sussex', *Sx Arch Coll*, 66, 1925, pp 148-62; S. Göransson, 'Regular open-field pattern in England and Scandinavian sölksifte', *Geografiska Annaler*, 43B, 1961, pp 100, 102; G R J Jones, 'Multiple estates and early settlement', in P H Sawyer (ed.), *Medieval Settlement: Continuity and Change*, 1976, pp 26-35.

⁴ M R G Conzen, 'Alnwick: a study in town-plan analysis', *Trans. Inst Brit Geog* 27, 1960; M Harvey, 'Regular field and tenorial arrangements in Holderness, Yorkshire', *J Hist Geog* 6, 1980, pp 3, 8; M W Beresford, 'Ridge and furrow and the open fields', *Econ Hist Rev*, 2nd ser., 1, 1948, p 39.

⁵ Institute of Archaeology, *Rescue Archaeology in Sussex*, 1974; P F Brandon, *The Sussex Landscape*, 1974, p 27; M G Whittington, 'The distribution of strip lynchets', *Trans Inst Brit Geog*, 31, 1962, pp 115-30; West Sussex Record Office Add Ms 2025; T R Slater, 'The analysis of burgages in medieval towns', Dept. of Geog., Univ. of Birmingham, *Working paper series*, 4, 1980, p 1.

those derived from much later estate plans for nearby areas.⁶

In terms of documentary evidence for continuity, at Portfield, near Chichester, data from a thirteenth-century cartulary indicates that the area of strips remained the same as those cultivated in the same fields centuries later, while at Strettington detailed archival and morphometric analysis has demonstrated the probable continuity of field boundaries from the thirteenth century, and given the layout of the system, the continuity of its component strips.⁷ Clearly, it is impossible to demonstrate continuity for each selion, but since systems with manifest signs of alteration were omitted from analysis, it is likely that there would be few cases violating the assumption, and they could have very little effect on the statistics used in this study which are based on a large data set. Thus, it is argued that those strips available for study should provide sufficient insight into the shape of medieval selions, and it becomes necessary next to pay attention to the accuracy of the maps themselves.

The criteria a map must meet here are those of precision and widespread coverage. These the Sussex estate maps do. The earliest ones date from Treswell's maps of 1608, and from then their number markedly increases. The majority can be shown to be remarkably accurate, a fact consistent with other counties, and with the involvement of their surveyors in the early work of the English Ordnance Survey.⁸ Nevertheless, all maps used here have been checked against modern Ordnance Survey maps. County maps, beginning with Saxton's of 1575, have also

been used to corroborate the regional picture and to examine the continuity of field boundaries. Finally, later evidence from tithe and enclosure maps has been used to check estate material.

From the forty-six Sussex estate maps, which showed open field strips, a sample of twenty-eight field systems was chosen.⁹ Selection was designed to avoid systems that exhibited interference or enclosure and to ensure countywide coverage (Fig 1). These systems ranged from less than 100 strips, as at Littlehampton, to 984 at Brighton and comprise a data set of over 10,000 strips.¹⁰ Each one was individually measured by ruler to the nearest millimetre. On a scale of twenty inches to one mile this represents a maximum possible error of 5.197 feet, a figure comparable to that accepted by Sheppard.¹¹ It is unlikely this error could be reduced due to the thickness of the draughtsman's lines, the creased and faded condition of many maps, error in the original survey, and expansion and contraction in map, ruler, and the surveyor's chain or rope due to weather conditions.¹²

The majority of strips measured were rectangular and posed little difficulty when measuring width and length, but where irregular shapes were encountered an element of subjectivity was necessary to determine the principal axes, while irregular strips could not be usefully measured and were omitted from the study. However, this only occurred in a very few cases and typically the strip was on the periphery of a field system.

Only the minority of maps recorded strip acreage. Consequently, this information is derived here by multiplication of strip width and length. Since both these dimensions

⁶ W M Homan, 'The founding of New Winchelsea', *Sx Arch Coll*, 88, 1949; P D Wood, 'The topography of East Grinstead borough', *Sx Arch Coll*, 106, 1968; S and J Farrant, 'Brighton 1520-1820: From Tudor town to Regency resort', *Sx Arch Coll*, 118, 1980, p 346.

⁷ L Fleming (ed), *The Cartulary of the Priory of Boxgrove*, Sussex Record Society, Lewes, vol 59, 1960, appendix 2; A E Nash, 'The medieval fields of Strettington, West Sussex, and the evolution of land division', *Geog Annaler*, 64B, 1982, pp 41-9.

⁸ Lord Leconfield, *Sutton and Duncton Manors*, 1956; T R Holland, 'The Yeakelland Gardner maps of Sussex', *Sx Arch Coll*, 95, 1957, pp 95-104.

⁹ F W Steer, *A Catalogue of Sussex estate and tithe award maps*, 2 vols, Sussex Record Society, Lewes, 1962 and 1968.

¹⁰ Manuscript references for the field systems analysed are given in the appendix below.

¹¹ J Sheppard, 'Metrological analysis of regular village plans in Yorkshire', *Ag Hist Rev*, 22, 1974, p 121.

¹² B K Roberts, 'Village plans in County Durham. A preliminary statement', *Med Arch*, 16, 1972, pp 33-56.

contain error, this calculation must consequently compound that inaccuracy. However, where comparison between surveyed and computed areas is possible, as in an Oving map of 1758, it appears that the results are almost identical.¹³ This suggests the method used here introduces little additional error into the final results, either for area or, by implication, for the width and length dimensions from which it is calculated.

The mode, or most commonly occurring size, for each of the three dimensions for each field system in the sample is given in Table 1, being the most representative single statistic for each system. Using these data, it is now possible to examine the rival hypotheses concerning the origin of strip size variation, and then to consider its wider significance.

II

Seeböhm and Curwen suggested the typical strip in an open field would be ten times as long as it was broad and its dimensions were 22 yards wide and 220 yards long, producing an area of one statute acre, or 4840 square yards. Shape was determined by the convenience of ploughing a furrow as long as possible before turning back, hence the word 'furlong', while area was governed by the amount of land which a man and his team could plough in one day, or, more strictly, the forenoon.¹⁴ This is still a definition found for the term 'acre', and others suggest the width of such a strip determined the length of the modern cricket pitch.¹⁵

It is possible to test this view with the Sussex evidence by dividing strip length by strip width. As can be seen from Table 1, however, the ratio 10:1 is found in only six cases, even if measurement error is con-

sidered. Width ranged from 15.6 to 181.8 feet, length from 273.5 to 1078 feet and area from 21.0 square statute perches to 557.2. Moreover, only one case conformed to the strip dimensions of 22 yards wide and 220 yards long, and only one even approached the expected acreage of 160 square perches. It seems clear therefore on the basis of this evidence that the 'traditional' strip size model cannot be found in Sussex, and this concurs with results elsewhere.¹⁶

It is possible that if the key factor determining selion size was the amount of land that could be ploughed in a day, then the size of a strip must vary with local conditions such as terrain and soil quality. An easily-worked and well-drained sandy soil would permit a strip to be larger than a statute acre, a heavy clay might compel its size to be smaller. In view of the variety of environments encountered, no typical size for a strip would be apparent, but despite this seeming lack of conformity, an underlying common factor would be present. The Orwins suggest that strip width in particular is controlled in this way.¹⁷ Moreover, since strip width limits strip length in abutting furlongs, it can be argued that length also must be affected, even if it is not directly related to the environmental controls which alter width; it follows also that strip area must be so influenced.

This view can be tested by grouping the Sussex data according to land quality, although it must be recognized that this procedure is not easy. Modern soil maps are inappropriate for this task since they do not reflect soil texture, previous conditions, or past perceptions. Consequently, Young's 1813 map of the county was used here (Fig 1). This was supplemented by Topley's 1874 geological map, and by modern rainfall and geological distribution maps as other

¹³ WSR0 Add Ms 2036.

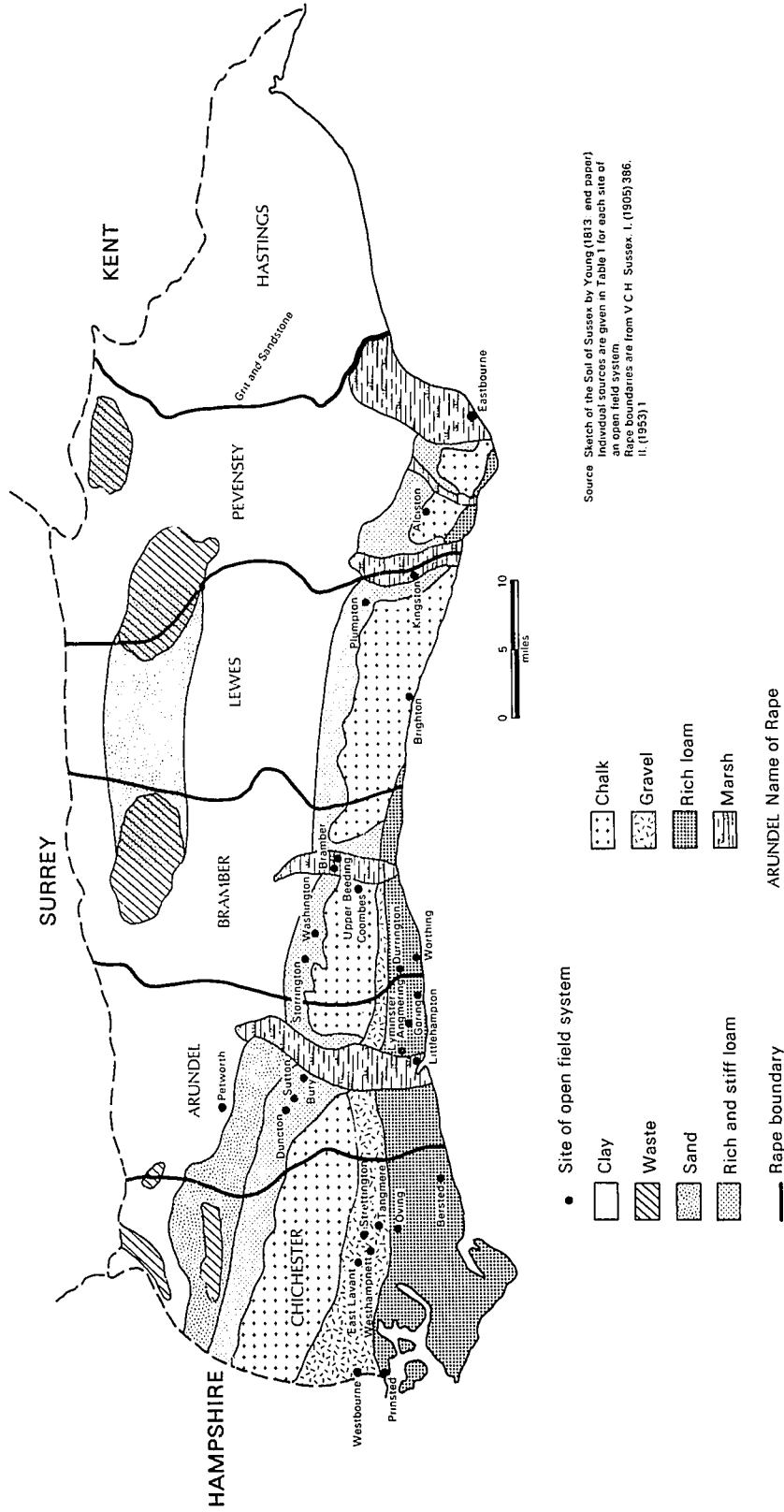
¹⁴ F Seeböhm, *The English Village Community*, 1883, pp 2-5, 381; E Curwen and E C Curwen, 'Sussex lynchets and fieldways', *Sx Arch Coll*, 64, 1923, pp 1-66; E C Curwen, *Prehistoric Sussex*, 1929, pp 78-81; Maitland, *op cit*, pp 432-42.

¹⁵ *Webster's New World Dictionary*, (College edition), New York, 1960, p 13; H S Altham and E W Swanton, *A history of cricket*, 1926, pp 26-8.

¹⁶ B K Roberts, 'Field systems of the West Midlands', in A R H Baker and R A Butlin (eds), *Studies of field systems in the British Isles*, Cambridge, 1973, pp 197, 223; Harvey, *op cit*, pp 15-16.

¹⁷ C S Orwin and C S Orwin, *The Open Fields*, 3rd edn., Oxford, 1967, pp 43, 101; W O Ault, *Open-field farming in medieval England*, 1972, p 22.

SUSSEX OPEN FIELD SYSTEMS: THE LOCATION OF THE SAMPLE



indicators of environmental controls.¹⁸ It should be noted that even if the medieval climate was wetter than at present this would not alter the result since relative differences between land qualities would remain unaltered.¹⁹

If the evidence for selion area is divided by soil type, geological region, or climatic zone, it can be shown by a series of t-tests that no significant statistical difference exists between any of the categories.²⁰ Consequently, the environmental factors considered cannot be shown to control strip area. This can be seen in Table 1, for strips situated on clays are not necessarily smaller in area than those on loamy soils. Thus the view that strip size varies with land quality cannot be demonstrated in Sussex, and this confirms the limited findings made elsewhere. Moreover, such a conclusion is implied by work which has suggested that the size of the customary acre in Sussex was not controlled by soil type or geology.²¹

Two other explanations pose intriguing solutions to the problem. There remains the possibility that alterations in medieval farming technology across a region, rather than any change in soil, might cause variations in strip size. Knowledge of regional agrarian practice in medieval Sussex is scanty, but clearly the broad divisions of coastal lowland, Downland, and Weald would be important for environmental reasons.²² However, the available strip evidence does not compare either with such a

pattern, or with any other obvious distribution of techniques across the county. Moreover, the Sussex turnwrest plough is known not to affect field shape, and the substitution of horses for oxen as draught animals has been shown to be unimportant.²³ Thus this notion must be rejected. A further hypothesis is that strip size may have altered over time as the county was settled. This can be examined ergodically, that is to assume that the further a field system lies away from the coast or a river system, the more recent it must be. In doing so, this broadly replicates the presumed chronology of Sussex colonization and the importance of water routes for access to the interior.²⁴ However, if the data are considered in this way, no such relationship seems to emerge and thus this mechanism must be dismissed, at least until such time as the evidence concerning settlement chronology is refined.

The final suggestion that has been made is that selion sizes may have been influenced by earlier measures. Authorities have pointed to the possibility of centuriation at Bosham, Polegate and Ripe, while the Roman unit of area, the *iugum*, is believed to be the predecessor of the yoke, a medieval unit of land measurement found principally in Kent, but also known in Surrey and Sussex.²⁵ To examine this hypothesis the data in Table 1 were examined for any indications of Roman influence. Only at Petworth, Duncton, and Rustington did strip width, area, and length approach Roman units, but in no case was the relationship between them one that indicated centuriation. Moreover, despite the presence of nearby villas in two of these

¹⁸ A Young, *General view of the agriculture of Sussex*, 1813, endpiece; W Topley, 'The geology of the Weald', *J Roy Ag Soc Eng*, 8, 1872; R W Gallois, *British regional geology*, 4th edn, 1965; HMSO, *British Rainfall 1968*, 1969.

¹⁹ P F Brandon, 'Late medieval weather in Sussex and its agricultural significance', *Trans Inst Brit Geog*, 54, 1971, pp 1-17.

²⁰ S Siegel, *Non-parametric statistics*, New York, 1956.

²¹ H M Clark, 'Selion size and soil type', *Ag Hist Rev*, 8, 1960, pp 91-8; J Thirsk, 'Preface to the Third Edition' in C S and C S Orwin, *op cit*, 1967, p xiii; A E Nash, 'Perch and acre sizes in medieval Sussex', *Sx Arch Coll*, 116, 1978, p 61; A E Nash, 'Morphometric analysis: its relevance to historical geography. A case study of field sizes in Sussex', unpub. BA dissertation, Univ. of Cambridge, 1976, p 36.

²² A E Wilson, 'Farming in Sussex in the Middle Ages', *Sx Arch Coll*, 97, 1959, pp 98-118; A R H Baker, 'Field systems in medieval Surrey and Sussex', in A R H Baker and R A Butlin (eds), *op cit*, pp 419-29.

²³ M D Nightingale, 'Ploughing and field shape', *Antiquity*, 27, 1953, pp 20-6; J Langdon, 'The economics of horses and oxen in medieval England', *Ag Hist Rev*, XXX, 1982, pp 31, 40.

²⁴ A Mutton, 'The process and pattern of the Saxon settlement of West Sussex', *Sx Arch Coll*, 78, 1937; P F Brandon (ed), *The South Saxons*, Chichester, 1978.

²⁵ A H Allcroft, *Downland Pathways*, 2nd edn, 1924, pp 70, 268; I D Margary, *Roman Ways in the Weald*, 1949, pp 204-7; K A Bailey and I G Galbraith, 'Field systems in Surrey', *Surrey Arch Coll*, 69, 1973.

TABLE I
Modal dimensions of Sussex open field strips

Location	Width ¹	Length ¹	Area ²	L/W ³	Area(S) ⁴	Area(C) ⁵
<i>Chalk</i> ⁶						
Alciston	51.97	506.69	50.22	9.75	0.31	0.42
Brighton	20.79	498.91	37.30	23.99	0.23	0.31
Coombes	31.18	623.18	20.95	19.99	0.13	0.18
Mean:	34.67	542.93	36.12	17.91	0.23	0.30
<i>Gravel</i>						
East Lavant	15.63	507.98	29.16	32.50	0.18	0.24
Strettington	31.18	530.09	40.48	17.00	0.25	0.34
Tangmere	34.65	606.31	48.01	17.50	0.30	0.40
Westbourne	51.97	476.36	121.23	9.17	0.76	1.01
Westhampnett	32.33	309.47	72.00	9.57	0.45	0.60
Mean:	33.15	486.04	62.18	17.15	0.39	0.52
<i>Clay</i>						
Bramber	31.26	586.16	50.47	18.75	0.32	0.42
Eastbourne	21.70	489.98	80.17	22.58	0.50	0.67
Kingston	20.79	446.94	35.71	21.50	0.23	0.30
Littlehampton	140.67	1078.47	557.24	7.67	3.45	4.64
Petworth	181.89	701.57	317.19	3.86	1.98	2.64
Upper Beeding	23.32	303.19	46.74	13.00	0.29	0.39
Mean:	69.94	601.05	181.25	14.56	1.13	1.51
<i>Loam</i>						
Angmering	168.26	627.14	378.13	3.73	2.36	3.15
Bersted	91.47	748.35	241.28	8.18	1.51	2.01
Bury	113.94	1039.40	31.75	9.12	0.20	0.26
Duncton	77.95	402.75	75.95	5.17	0.47	0.63
Durrington	20.06	451.06	33.25	22.50	0.21	0.28
Goring	46.74	273.53	23.56	5.85	0.15	0.20
Lyminster	31.18	644.43	41.67	20.67	0.26	0.35
Oving	62.52	320.42	74.00	5.13	0.46	0.62
Plumpton	63.88	665.18	50.79	10.41	0.32	0.42
Prinsted	145.52	561.28	261.90	3.86	1.64	2.18
Storrington	137.67	749.50	463.21	5.44	2.90	3.86
Sutton	38.98	571.65	84.00	14.67	0.53	0.70
Washington	54.71	664.26	76.27	12.14	0.48	0.64
Worthing	23.45	437.64	33.65	18.66	0.21	0.28
Mean:	76.88	582.61	133.53	10.40	0.83	1.11

Notes:

1. Width and length dimensions are given in statute feet, each comprised of 12 statute inches.
2. Area: modal strip area in square statute perches, each statute perch being 16.5 statute feet long.
3. L/W: modal strip length divided by modal strip width.
4. Area(S): modal strip area as a proportion of the statute acre containing 160 square statute perches.
5. Area(C): modal strip area as a proportion of the customary acre containing 120 square statute perches.
6. Soil categories are derived from Young (1813). 'Clay' here includes his 'clay' and 'marsh' divisions, 'loam' his 'rich stiff loam' and 'rich loam' types.

Sources: Data were drawn from computer analysis of approximately 10,000 strips, using modified SPSS, Version 6, package programs (N H Nie *et al*, *Statistical Package for the Social Sciences*, 2nd edn, New York, 1975). The twenty-eight maps used are listed in Appendix 1.

TABLE 2
Strip size analysed by local perch length

Location	Modal dimension (size in feet)		Local perch (in feet)	Modal dimension (local perches)	
	Width	Length		Width	Length
Bramber	31	586	15.0	2	39
N. Westbourne	144	560	16.0	9	35
Westbourne	52	476	17.0	4	28
Alciston	52	507	17.5	3	29
Petworth	182	702	17.5	10	40
N. Westbourne	14	558	17.5	8	32
Durrington	20	451	18.0	1	25
Sutton	39	572	18.5	2	30
Petworth	182	702	20.0	9	35

Note: All feet dimensions are given as statute feet units. Source: Data from Table 1; local perch sizes from Nash, *op cit.*, 1978, pp 63-7.

cases, this cannot demonstrate that Roman influence extended to all of the systems examined, and some scholars discount all such suggestions.²⁶

It is possible that influences were not inherited from the Roman, but from the medieval period. Evidence has been advanced which perhaps indicates that planned field systems were developed in Sussex during the early Middle Ages at Angmering, Apuldram, Icklesham, Maresfield, Strettington, Willingdon and Yapton.²⁷ Certainly it is not surprising that an area as agriculturally developed as the Sussex coastal plain might share in innovations noted in northern England and Sweden.²⁸ If this is so, the measures used in such planning need to be known before investigation can proceed.

The perch, perhaps originating from the width of four oxen yoked abreast, was fixed at 16.5 statute feet by law, but locally varied. Indeed, the observed inconsistency in early cricket pitch lengths was probably so caused.

Across Sussex, local perch size ranged from fifteen to twenty statute feet.²⁹ However, since it is difficult to know which local perch was used in any field system it is necessary to analyse the data in Table 1 using seven possible perch sizes for strip length and width. If it is assumed that the only results which can be signs of planning are integer multiples of each local perch in both width and length dimensions, then seven places qualify (Table 2). However, some results may be numerical coincidences, and it is difficult to be sure that all possible perch sizes have been examined. Thus, while suggesting the possibility exists that the field systems at Alciston, Bramber, Durrington, North Westbourne, Petworth, Sutton, and Westbourne may be the outcome of medieval planning, it is impossible to prove this.

However, if the rigid notion of planning via width and length is replaced by the concept that area alone was regulated using the customary acre, it might be possible to demonstrate that strip area had a relationship with locally used acre size. This itself varied considerably from statute requirements across the county. Thus, if the data in Table 1 are reconsidered in relation to the most

²⁶ S E Winbolt, 'Romano-British Sussex', in L F Salzman (ed), *Victoria County History of the County of Sussex*, vol 3, 1935, pp 20, 24, 65; A L Rivet, *Town and country in Roman Britain*, 1958, p 101.

²⁷ G C Homans, 'Terroirs ordonnés et champs orientés: une hypothèse sur le village anglais', *Annales d'histoire, économique et sociale*, 8, 1936, p 447; S Göransson, *op cit.*, pp 100, 102; A E Nash, *op cit.*, 1982, pp 46-7; Peckham, *op cit.*, p 159.

²⁸ J A Sheppard, 'Pre-enclosure field and settlement patterns in an English township', *Geog Annaler*, 48B, 1966, pp 59-77; S Göransson, 'Regular settlements in Scandinavia: the metrological approach', *Landscape History*, 1, 1979, pp 76-83.

²⁹ J R Wigfull, 'The bay as a unit of measurement', *Trans Hunterian Arch Soc*, 3, 1929, pp 154-8; Maitland, *op cit.*, pp 435-8; R Bowen, *Cricket: a history of its growth and development throughout the world*, 1970, p 43; Nash, *op cit.*, 1978, pp 63-7.

common Sussex customary acre size, 120 square statute perches, 32 per cent of the systems' strips lie between 30 and 50 square statute perches, approximating one-third of such an acre, a fraction favoured in customary measure. Larger strip sizes can be interpreted as integer multiples of this unit. Indeed, the average of all the field systems' most common sized strips is itself, at 120.5 square statute perches, almost exactly a customary acre.³⁰

If local acre size was the controlling factor, then it should also be possible to demonstrate this in those cases where the local acre was larger or smaller than two-thirds of a statute acre, and this the Sussex data seem to show. Thus, at Worthing, where the local acre was 106.6 square statute perches, and at Sutton, where it was 180, strip area can be seen to represent respectively one-third and one-half of the local acre's size. At Brighton, with a customary acre of 35 square statute perches, and at Westbourne with one of 109, strip size approximated a complete local customary acre. Moreover, seemingly anomalous sizes at Petworth and Littlehampton can be seen as products of larger local acres in the Weald and smaller ones on the coastal plain.³¹

III

Obviously it is possible to demonstrate that any measure influenced strip size with sufficient manipulation, but this has not been attempted here. Rather, it has been shown that previously accepted hypotheses are either poor or irrelevant explanations for selion size in Sussex, and an alternative view, that local customary acres were involved, appears a more fruitful approach. It is not being argued that this constitutes the sole

explanation since the exigencies of terrain must always have played a part in shaping the detail of some strip sizes. Nevertheless, in a large number of cases, the importance of local tradition in field system layout appears a strong possibility.

What remains for examination in future research is the reason for variation in local acre measurement practice itself. The suggestion has been made that the size of customary acres was determined by feudal lords, and was not evolved by the community. Thus, the pattern of local acre sizes reflected the distribution of lordship.³² In Sussex, this appears to have been partly influenced by rape divisions found in Domesday Book.³³ Certainly, the general pattern of local acre sizes in the county seems to fit such a suggestion, and crude t-tests of strip width divided by rape produces encouraging results.³⁴ Moreover, while much more detailed work is required to demonstrate that manorial lords introduced their own specific measures, the monarch as a local lord can be seen imposing the "king's measure" at Winchelsea before it became the national standard.³⁵

What should be noticed is that lordship provides a powerful rationale for zoning the county along north-south lines, a system which cuts across natural regions and fits closest with the demonstrated spatial variation in local acre size. Moreover, there is accumulating evidence to suggest the rape system pre-dated Norman and even Saxon occupation of the county, so that the origin of local acres may lie with the Celtic Sussex multiple estate.³⁶

Thus, it would seem that a mechanism for variation, based upon local practice con-

³⁰ E Sayers, 'The acre equivalent of the Domesday hide', *Sx Arch Coll.*, 62, 1921, p 202; J F Morgan, *England under the Norman occupation*, 1858, p 19; R Dilley, 'The customary acre: an indeterminate measure', *Ag Hist Rev*, XXIII, 1975, pp 173-6. (Note, however, customary acres did not always comprise 160 customary perches as Morgan and Dilley assert.)

³¹ Maitland, *op cit*, p 435; F Seebohm, *Customary acres and their historical importance*, 1914; Peckham, *op cit*, p 152.

³² B E Howells, 'The distribution of customary acres in South Wales', *J Nat Lib Wales*, 15, 1967, p 230.

³³ J H Round and L F Salzman, 'Introduction to the Sussex Domesday', in W Page (ed), *Victoria County History of the County of Sussex*, vol 1, 1905, pp 351-4, and map between pp 386-7.

³⁴ Nash, *op cit*, 1976, pp 39-42; 1978, p 65.

³⁵ A King, 'German Street, Winchelsea', *Sx Arch Coll.*, 118, 1980, p 369.

³⁶ Jones, *op cit*, 1976, pp 26-35.

cerning the size of customary measures used, has a firm basis and a number of interesting implications. Furthermore, it appears that such an explanation is more important in determining open field strip size than has

previously been hypothesized, or than the rival theories considered. Consequently, it is clear that the role of strip size variations must be carefully considered in future studies of field systems at the county and national level.

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Appendix 1: Sources for Table 1

Alciston: Sussex Archaeological Society G45/25 (1758); *Angmering*: West Sussex Record Office Add Ms 5168 (1805); *Bersted*: WSRO Add Ms 227 (1840); *Bramber*: WSRO Add Ms 9474 (1729); *Brighton*: East Sussex Record Office Danny Ms 2105; *Bury*: Arundel Castle Ms LM1 (1634); *Coombes*: WSRO Petworth House Archives 3216 (19th C); *Duncton*: WSRO Petworth House Archives 3568 (1608); *Durrington*: Arundel Castle Archives HC2 (1768), WSRO Add Ms 1991 (1800); *Eastbourne*: ESRO Gilbert Ms XC/14 (1816); *East Lavant*: WSRO Goodwood Ms E5030 (1831); *Goring*: Worthing Public Library (19th C); *Kingston*: WSRO Wiston Ms 5595 (1773); *Littlehampton*: WSRO Add Ms 5170 (1841); *Lyminster*: WSRO Add Ms 9482 (1724); *Oving*: WSRO Add Ms 2035 (1725), WSRO Add Ms 4656 (1838-42); *Petworth*: WSRO Petworth House Archives 3574 (1610), 3232 (1796), 3633 (1824); *Plumpton*: ESRO Add Ms 4952, number 6 (1819); *Prinsted*: WSRO Add Ms 2857 (1640); *Selham*: WSRO Cowdray Ms 1699 (1812); *Storrington*: WSRO Petworth House Archives 3384 (1788, copy 1809); *Strettington*: WSRO CAP 1/29/7.26 (1768); *Sutton*: WSRO Petworth House Archives 3570 (1608), 3630 (1820); *Tangmere*: WSRO Goodwood Ms E137 (1760); *Upper Beeding*: WSRO Add Ms 2025 (1775); *Washington*: WSRO Wiston Ms 5592 (1739), Wiston Ms (1825); *Westbourne*: WSRO Add Ms 2856 (1640), WSRO QDD/6/W31 (1858); *Westhampnett*: WSRO Goodwood Ms E4993 (1775); *Worthing*: WSRO Petworth House Archives 3214 (1807).

The Social and Economic Origins of the Vale of Evesham Market Gardening Industry

By J M MARTIN

NEW importance has been given by the writings of Dr Thirsk to the cultivation of 'special' crops in early Modern England. Her fresh appraisal has bestowed on them an important role within the English economy.¹ Nevertheless, except for tobacco, little is known in detail about such crops. The present piece looks therefore at the origins of the gardening industry in one of its principal locations, the Vale of Evesham. Here the peasantry of the adjoining Vales of Tewkesbury and Evesham, freed from the constraining influence of watchful landlords, sought their livelihood, says Dr Thirsk, in pursuits which exploited their main asset — their own hands. Labour-intensive crops of fruit and vegetables as well as of tobacco enabled them to hold their own, and to survive into the present century. Nevertheless, the rise of such vigorous peasant communities has attracted little attention from the outside world.² Only one article on the local market gardening industry has appeared in recent times.³ This piece outlined its main phases of growth, giving prominent attention to the town of Evesham. Virtually no use was made by this writer, however, of probate, parish register, taxation, or census records which cast interesting light on individual Vale communities. A piece which does exploit such sources is a recent article on

Bedfordshire gardening, here used as a source of comparative information on the infant industry.⁴

I

One aspect of the present work which calls for comment is the attention given to Pershore. This was a very modest country-town of only 2812 inhabitants in 1841, but was nevertheless destined to become one of the two principal centres of the Vale industry in the nineteenth century. Its occupational and social structure was less complex than that of Evesham, and it thus offers a better insight into the socio-economic climate in which the early industry laid down its roots in the century after 1750.

Some of the principal Pershore families connected with the post-1850 expansion of gardening activity can be shown to have been already working garden ground during the early eighteenth century. Of course here, as in Bedfordshire and South Staffordshire, the phase of more rapid growth got under way somewhat later.⁵ The period of the French Wars and their immediate aftermath was certainly a time of expansion. A stimulus was provided at that time by major road schemes connecting the Vale with growing centres of population (touched on below). Parish registers and other sources show that by the 1820s gardeners were widely spread throughout the neighbourhood of Pershore, as well as in the two main

¹ J Thirsk, *Economic Policy and Projects*, Oxford, 1978, pp 2-5; 'Projects for Gentlemen, Jobs for the Poor: Mutual Aid in the Vale of Tewkesbury 1600-1630' in P McGrath and J Cannon, eds, *Essays in Bristol and Gloucestershire History*, Bristol, 1976, p 159; 'New Crops and their Diffusion: Tobacco Growing in Seventeenth-Century England' in C W Chalklin and M A Havinden, eds, *Rural Change and Urban Growth 1500-1800*, 1974, pp 76-8.

² *Ibid.*, pp 90-1.

³ R Sidwell, 'A Short History of Commercial Horticulture in the Vale of Evesham', *Vale of Evesham Historical Society Research Paper*, II, 1969, pp 43-50.

⁴ F Beavington, 'The Development of Market Gardening in Bedfordshire 1799-1939', *Ag Hist Rev*, XXIII, 1, 1975, pp 23-47.

⁵ *Ibid.*, pp 27-8; for Staffs see produce of 41 acres of Fisherwick Park Gardens, 1809-13, *Elford Hall Collection*, Birmingham Reference Library, cat nos 771, 197, 820; also H Thorpe, 'Lichfield: Growth and Function', *Historical Collections for Staffordshire*, 1950-1, p 200.

towns.⁶ Other distinctive features showed themselves at an early date. Thus some of the earliest gardening parishes like Ripple and the two Pershore parishes were composed of numerous scattered hamlets and abundant commons.⁷ Both in Pershore and in certain adjoining parishes, all later gardening strongholds, the Dean and Chapter of Westminster owned large estates.⁸ Here the villager tended to be his own man, fortified by a striking fragmentation of land and property amongst a medley of Westminster tenants and under-tenants. The leasehold arrangements which overlay this minute division of property in Pershore finds frequent mention in the probate records. Early Vale gardeners were drawn, judging by their inventory wealth, largely from the ranks of the labouring and lesser trade sections of the community. Thus initially vegetables, like tobacco after 1620, were in Dr Thirsk's phrase 'a poor man's crop'.⁹ A key to this gardening activity appears to have been the large amount of house-property with garden ground and orchards attached which found its way in Pershore into the hands of the lowest strata of society (even today vegetable allotments continue to occupy a large area of land close to the centre of the town). The Vale's knitting and gardening pursuits must have sprung out of a need for employment locally during the eighteenth century.¹⁰ For while tobacco growing had ceased, population rose sharply in and around Pershore after 1750. At the same time the extensive tracts of heavy soils

were being put down to grass for sheep.¹¹ For humble men the attraction of gardening was that, like tobacco-growing, it utilized what lay to hand: access to garden property and commons, family labour, and time. The mid-nineteenth-century censuses serve to illuminate the dependence on family labour; and along with tithe schedules and directories yield information on the incidence of dual occupations, the size of holdings and the pace of expansion in the industry.

II

It might be useful to begin by taking a stand at around 1820, a time when records first became reasonably plentiful. The rising commercial importance of the Vale at that time is well illustrated by the new road construction schemes which established direct links with the principal urban centres of the region: with Cheltenham, a rising spa town in 1811; then via Telford's arch over the Severn at Tewkesbury, with the new industrial centres of South Wales; and finally in 1825 by a direct link across country (cutting out Worcester) with Birmingham and the Black Country.¹² By 1834 the Vale growers were said to serve six markets, 'all within easy reach'.

As a result of these improvements in communication the requirement for certain Vale products appears at first to have outrun supply. Local newspaper reports show that both potatoes and fruit fetched high prices in certain of the post-Napoleonic war years despite the large acreages given over to these two products in the Vale.¹³ It seems that production was expanded in response to this demand, and as a result the price of, for

⁶The registers of Holy Cross and St Andrew, Pershore, Birlingham, Eckington, Ripple, Welland, and Defford were consulted in Worcester and Hereford Joint Record Office (henceforth CRO), St Helens, Worcester; directories included: Anon, *The Worcestershire Directory*, Worcester, 1820; T Bentley, *History, Gazetteer and Directory for Worcestershire*, I, Birmingham, 1841; Hunt's *City of Gloucester and Cheltenham Directory*, Gloucester, 1847; one £10 freeholder list survives for each parish for year 1822, CRO Acc 201/180.

⁷Ripple for instance contained some eight villages and hamlets.

⁸The character of Westminster land was illustrated in numerous property notices: see for example the estate in hand of G Perrot, *Berrows Worcester Journal* (henceforth BWJ) 19 March 1807, spread over the villages of Eckington, Wick, Elmley and Bishampton.

⁹'Projects for Gentlemen', *op cit*, p 159.

¹⁰For the Pershore and Evesham woollen knitting industry in 1744 see: *HJCJ*, XXIV, pp 830, 842.

¹¹See: A Young, *A Six Months Tour Through the North of England*, III, 2nd ed 1771, p 307; Report of Select Committee on Agriculture, BPP 1833, V, pp 83, 90; J D Chambers, 'Enclosure and Labour Supply in the Industrial Revolution', *Econ Hist Rev*, 2nd ser, V, 1953, p 328.

¹²The 'new road from Evesham to Cheltenham' passed near an estate at Aston, *BWJ*, 2 May 1811; the notice for a farm at Kempsey commented on the 'projected new road from Pershore direct to Birmingham' coupled with the widening of the Worcester turnpike: *BWJ*, 12 August 1825.

¹³For the price of apples 1819-39, *BWJ*, 19 March 1840; for price of potatoes, *Gloucester Journal*, 15 May 1826, 11 May 1833.

example, Vale apples fell sharply from 10s to 2s 4d per bushel in the twenty years after 1819.

What effect did rising market demand have on land use? Both Young writing in the 1770s and Pitt forty years later commented on the spread of gardening in the town of Evesham, but the numbers springing up elsewhere have hitherto gone unrecorded. Numerous property advertisements illuminate the traditional popularity of fruit orchards in the Vale. Small farmers like J Checketts of Eckington, with only nine acres, would normally have an acre or two under fruit. Other small men like S Smith of Birlingham managed to combine, in his case three acres of fruit with crops of wheat and garden produce including potatoes, onions, cabbages, peas and turnip seed.¹⁴ Potatoes, onions and cabbages are the vegetables encountered most frequently in early-nineteenth-century advertisements. One six-acre garden at Ashchurch had storage space in 1813 for 100 pots of potatoes and 200 bushels of onions. Another garden at Upton contained 250 pots of potatoes, forty pots of onions, and some 300,000 early cabbage plants.¹⁵ As in Dorset, the emphasis on potato growing probably helped to compensate for the fall-off after 1815 in home-grown hemp and flax. Bounties paid from 1782 to encourage cultivation of the latter may well have also assisted the early spread of vegetable growing. They did after all require similar soils and dressing techniques. And gardening dynasties like the Andrews family of Pershore also figured prominently in the eighteenth century as flaxgrowers. Furthermore, the neighbourhood around Pershore formed the principal area of hemp and flax cultivation in the county.¹⁶

¹⁴ BWJ, 15 January 1806; 9 July 1801.

¹⁵ *Gloucester Journal*, 24 May 1813; 22 January 1848.

¹⁶ B Kerr, *Bound to the Soil: a Social History of Dorset 1750-1918*, 1968, p. 32; for the effect of the bounties in fostering cultivation around Pershore and Evesham see J Noakes, *Notes and Queries for Worcestershire*, 1856, pp. 102-3; for combination of horticultural pursuits with flaxgrowing see register of Holy Cross, Pershore and wills of W Cosnett 25 June 1808, S Andrews 5 April 1820.

Whatever the cause, the post-war decades were obviously significant for the development of gardening.¹⁷ The registers of the two Pershore parishes recorded fifty-two gardening households between 1813 and 1819, which compares with the fifty-five gardeners found in Sandy, the main Bedfordshire location in the years 1813-31.¹⁸ The same decade saw gardeners springing up in a number of riverside villages. For example the parishes of Birlingham, Eckington and Ripple all recorded upwards of five gardeners apiece by 1820. In 1841 gardeners were appearing in all the villages of the Avon valley below Pershore, and in the neighbouring Severnside parishes of Ripple, Upton and Kempsey. By that date all these parishes could boast between ten and twenty gardening households each.

Behind this expansion into the catchment area of the future industry lay a growing awareness of its profitability. This was reflected in an astronomical rise in the rental value of garden ground in the Vale. Young had noted in the 1770s that the Evesham gardens let for between 50s and £3. By 1807 Pitt was claiming that every country labourer in the Vale could afford to give as much, or more than the farmer in rent per acre (this was also true of allotments let out to labourers by philanthropic landlords). Later on in 1834 an advertisement claimed that the conversion of pasture to garden ground in the 'Golden Vale of Evesham' had served to raise the rental value from £5 to £10 per acre, a figure confirmed later by the Evesham historian, May, writing in 1845.¹⁹

The pattern of land occupation found here was also consistent with the spread of

¹⁷ In the Evesham neighbourhood the 300-400 acres of the 1770s had risen, by 1845, to 594 acres; Young, *op cit*, p. 314; May quoted by Sidwell, *op cit*, p. 46.

¹⁸ Some 12 per cent of infants baptized in Sandy were born to gardeners, 1813-19, compared to 6 and 4 per cent in the sprawling parishes of St Andrews and Holy Cross, Pershore; Beavington, *op cit*, p. 27.

¹⁹ Young, *op cit*, p. 314; W Pitt, *A General View of the Agriculture of the County of Worcester*, 1813, p. 147; Beavington quotes £2-£3 per acre for Beds in 1808, *op cit*, p. 24; for allotments see *Gloucestershire Journal*, 12 February 1831, 11 May 1833; estate of G Day, Esq, BWJ, 3 April 1834.

small-scale intensive cultivation. Thus the number of occupied units recorded in the land tax returns of a sample of twenty contiguous Avon valley villages was 354 in 1790, and 349 in 1825. But at the same time those units on which between 4s and £1 was paid rose from 117 (33 per cent) to 140 (40 per cent). Significantly this rise occurred between 1815 and 1825 rather than earlier. At the end of the period, in 1825, it also appeared that half (sixty-nine) of the occupied units were still owner-occupied.

III

It is clear from the above account that by the 1820s gardening was, as in Bedfordshire, already well advanced in the Vale. And by the 1840s there were in aggregate probably as many gardeners in the smaller Vale communities as in Evesham itself. At the same time it is clear that the industry pre-dated the nineteenth century. Here the town of Pershore is worth closer study since it casts useful light on the social and economic climate in which the infant industry flourished, and sprang to national importance after 1820.

For nearly a decade after 1698 the registers of St Andrew and Holy Cross (which between them cover the whole town) record the occupations of all male adults. The picture which emerges is of a very poor community. Some 143 (43 per cent) of 326 individuals were described as mere labourers, while only fifteen (4 per cent) were gentlemen, yeomen, or professionals; nearly one-third of the 107 trade and craftsmen were involved in the traditional wool and leather trades, a significant detail in the light of the general decline of the cloth industry.²⁰ A recent historian of the Vale found that the mean value of inventory wealth was substantially lower here, both for labourers and for the trade and craft

elements, than in the Diocese of Worcester as a whole, during the years 1702–8. He also noted that ‘underemployment was characteristic of the period’. The soil in the neighbourhood Young found to be ‘all of the heavy kind, either clay or loam’. Consequently there was much conversion of the heavier soils to permanent pasture. Later observers like Cobbett enthused over the large flocks and herds to be seen around Pershore.²¹

It was in such conditions as these that by-industries like stocking manufacture, in the words of Dr Thirsk, ‘took up the slack in the early eighteenth century [while] further employment was found in market gardening’. The historian of the hosiery industry also noticed a link between poor populous communities, perhaps attracted initially by abundant commons, and the spread of the knitting industry.²² Pershore, like other Midland towns, was surrounded by its common meadows where ‘open-tide extends over at least half of the year’. And by 1744 the Evesham and Pershore hosiery industry was said to employ many hundreds whose products were exported largely to Germany, a reflection perhaps of their inferior quality and precarious existence.²³

It was, as we show below, from the poorer section of the community that the early gardeners were apparently recruited. In order, therefore, to look more closely at this group, all Pershore inventories valued at under £25 were examined for the period 1695–1759. Such inventories related for the most part to labourers and to the lesser trades and crafts element.²⁴ It appeared that half of the total of forty-two testators disposed of house and garden property in Pershore. The

²⁰ The decline of the cloth industry in the contiguous vales of Tewkesbury and Evesham was specifically linked to the appearance there of new occupations in J Thirsk, ‘New Crops’, *op cit*, p 91.

²¹ J A Johnston, ‘The Vale of Evesham 1702–8: the Evidence from Probate Inventories and Wills’, *Vale of Evesham Historical Research Papers*, IV, 1973, p 88; Young, *op cit*, p 307.

²² Thirsk, ‘New Crops’, *op cit*, p 91; D M Smith, ‘The British Hosiery Industry at the Middle of the Nineteenth Century: An Historical Study in Economic Geography’, reprinted in A Baker, J Hamshire and J Langton, eds, *Geographical Interpretations of Historical Sources*, pp 363–9.

²³ *HCF*, XXIV, p 562; *ibid*, p 830.

²⁴ Diocesan probate records are classified under 008.7 in CRO.

volume of such property tended to increase over time. During the years 1730-59, for example, some twenty-two individuals left inventories valued at under £25. In aggregate the property these men disposed of amounted to twenty-seven houses and gardens, plus four additional parcels of garden ground. Few local inventories survive for the period after 1760. Nevertheless, eleven Pershore wills were made out in the years 1765-9. All of these disposed of some house property, amounting in aggregate to a further twenty-four houses and gardens.²⁵

The early gardeners, judging by their inventory wealth, were drawn largely from the ranks of this humble class of property owner. Six of seven local gardeners, for instance, left inventories in the range £3-£19. However, the amount of house property they transmitted to their heirs was frequently in contrast to this modest level of personal wealth. Thus T Powell, a gardener of Pershore, left only £3 11s 9d, but in his will bequeathed a parcel of garden ground 'bought of Mr Bullin of Evesham'. Another, J Blizzard, also of Pershore, left only £5 18s, but in his will passed on no less than three houses with their gardens at Newlands (near the centre of the town), along with various other parcels situated in the Binholme Fields (owned by the Chapter of Westminster) 'late purchased of T Ashfield, Gent'.²⁶ Altogether, six Pershore and Evesham gardeners disposed of eleven houses and gardens in wills drawn up in the years 1733-67, while four of them also left additional parcels of garden ground (a seventh gardener made no mention of property).

The widespread dispersal of house and garden property was accompanied by a

remarkable pattern of fragmented land occupation. The manor of Binholme, which extended over most of the town of Pershore, and was owned by the Chapter of Westminster, exemplified this tendency most strikingly. A survey of *circa* 1740 illuminates the prevailing pattern of leasehold tenure, with ownership under the Chapter widely dispersed amongst a large number of individuals.²⁷ This was a pattern which did not diminish over time. The land tax documents record the names of the leaseholders, their tenants and under-tenants. In the township of St Andrews in Pershore some sixty-eight of seventy-nine units of ownership under the Chapter (86 per cent) on which 5s or more was paid in the years 1787-96, contributed between 5s and £1. In the adjoining township of Holy Cross (covering the remainder of the town) this figure was forty-eight of sixty-three units (76 per cent). Owner occupation, as in the Avon valley villages mentioned earlier, was still significant in Pershore, accounting for 44 and 33 per cent respectively of all occupied units.

Later on, in the 1840s, tithe documents covering the whole of the principal township of St Andrews suggest that the earlier pattern of ownership prevailed still.²⁸ One sees here the effect of fruit and garden culture in shaping and perpetuating the patterns of a century earlier. Thus if Tidsley Wood (231 acres) is excluded from the total of 814 acres, then some thirty gardeners (half of the total of sixty occupiers) were in possession of 288 acres, or roughly half of the remaining acreage in St Andrews. The average size of their holdings was thus 9.6 acres. However, at the time of the survey only 134 acres were recorded as actually under garden cultivation of above half an acre in extent. The average size of the twenty-nine which fell into this category was a mere 4.6 acres

²⁵ In the principal gardening parish in Evesham (St Lawrence) houses were also 'in many different hands'; in the other inner parish (All Saints) the land was 'much divided'; in the outer parish of Bengworth there were 'many occupiers': *Report for Inquiring into the State of the Poor Laws* (1834): Answers to Rural Questions, appendix B I, BPP 1834, XXX, p 584.

²⁶ Wills dated 15 February 1748, 7 October 1757.

²⁷ Survey made by J West who leased the Manor under the Dean and Chapter: original in Warwick CRO Acc 1639/B/123/113.

²⁸ Land tax returns for Holy Cross, CRO, QS 823/1/152; St Andrews, QS 1631/3; St Andrews parish tithe schedule, CRO, APs/760/521/BA/1572.

(median 2.5 acres). This figure was much lower than that of 8.5 acres quoted by Professor Beavington for Sandy, the principal Bedfordshire location, in 1841. Some twenty-two of the thirty Pershore gardeners had the whole of their holdings under garden culture, and five of the remaining eight were in possession of only small additional acreages of orcharding or meadow-land. Five of the thirty gardeners worked their own land, and the rest were mere occupiers (often under-tenants). The acreage given over to garden ground in 1842 was apparently three times as much as that under fruit. Occasional glimpses of land-use patterns in the previous century leave the impression of many smallholdings in the manor of Binholme under cherry and apple orchards. It suggests that the balance as between fruit and vegetables may have been different in the earlier period, with more emphasis then on fruit growing.

Bound up with the pattern of fragmented occupancies were other features of landholding in Pershore which favoured the interests of the eighteenth-century gardener. The widely scattered Westminster estates, already referred to, perpetuated an archaic form of life-leasehold in Pershore which reminds one of the copyhold tenure prevalent in the town of Shipston-on-Stour (on the Warwickshire border) belonging to the Dean and Chapter of Worcester. In both towns this form of tenure was associated with a fragmentation of land and property which persisted into the nineteenth century. In Pershore it was also linked to a proliferation of tenancies and under-tenancies. The principal characteristics of this tenure are best illustrated by quoting examples. J Millington, woolwinder, disposed of parcels of leasehold land in Binholme (partly in the hand of an under-tenant) held, in 1745, on a twenty-one-year lease of J West, farmer of the manor under the Chapter. In 1769 S Wade requested that his wife insert the life of his son into the lease of his cottage and six acres in such a

manner that 'he may be entitled to possession unlimited'. Other wills spoke frequently of the 'tenant right of renewing', the term of their Westminster leases which had been granted 'to their heirs forever'.²⁹ Was this the source of similar rights enjoyed in around 1850 by the Vale gardeners? One cannot say for certain, although a writer of the 1930s claimed that the 'Evesham' custom of the Victorian period certainly originated from some earlier epoch. Forms of tenant custom have, of course, turned up elsewhere. The effect in the Vale was to reduce the role of the landlord to that of a mere receiver of rents. And it created a security of tenure which was seen as a pillar of the nineteenth-century gardening industry.³⁰ It is interesting to note that local leasehold land of the previous century was also regarded as an extremely valuable asset. Its value is recorded in eight Pershore inventories of the period 1695-1759; in aggregate it amounted to £387 (31 per cent) of £1244 total inventory wealth. And it appears to have been worth nearly as much as freehold land: £5 and £3 per acre were quoted in early eighteenth-century Pershore compared to £8 for freehold land in Bengworth (adjoining Evesham). It is also significant, in this context, that the Pershore land tax returns record the names of both leaseholders and those of their tenants and under-tenants.

IV

Leaving aside the question of landholding arrangements, there were numerous other influences in and around Pershore which favoured the infant gardening industry. In the two Pershore parishes and in Ripple, all

²⁹ Dr Thirsk noted the traditionally permissive attitude of Westminster towards the subdivision of land and the payment of rent: 'New Crops', *op cit*, p 90; wills of Millington, Wade, Washbourn, Ganderton, dated: 15 November 1745, 4 November 1769, 26 April 1758, 4 April 1753.

³⁰ Gardiner, *op cit*, p 347; some leasehold was said to bestow 'in effect hereditary tenure': C Clay, 'Life Leasehold in the Western Counties of England 1650-1750', *Ag Hist Rev*, XXIX, 2, 1981, p 94; J Perkins, 'Tenure, Tenant Right and Agricultural Progress in Lindsey 1780-1850', *Ag Hist Rev*, XXIII, 1, 1975, p 10.

containing early gardening communities, one finds the clearest examples of the characteristic landscape of numerous, scattered hamlets and abundant commons. The latter included both meadow-land, much divided, as at Pershore and Birlingham, and rough grazing on the higher ground at Defford and Ripple. Consequently the gardening industry grew up alongside a system of both small- and large-scale farming in which animals were prominent. And links existed between these activities. Vale gardeners, like those in Bedfordshire, depended on farmers for their dung. Young, amongst others, mentions that the latter was got in vast quantities by early gardeners for forming their 'fine flexible loams' on clayey soils like those of the Vale, and also for creating their hot-beds.³¹ Most Vale gardeners apparently lacked the resources to engage in farming on any scale, but on the other hand, some small farmers were active in both fruit and garden production. Thus Sam Smith of Birlingham, dying in 1801, was the first of three generations of his family occupied in both traditional and garden production. Later on between 1820 and 1841, Francis worked twenty-six acres, and by 1861 his son Henry had thirty-six acres, mostly under garden cultivation.

The attractiveness of gardening pursuits lay, as Dr Thirsk has said, in their utilization of assets like family labour which lay conveniently to hand. Prevailing demographic tendencies here assisted their spread. In the town of Pershore numbers expanded by one-third between 1756 and 1801, and by a further 47 per cent to 1841. This rate of increase was roughly equalled in adjoining villages like Defford, Birlingham, and Eckington. The mid-century census schedules throw some light on the structure of this labour force. In 1841 half of the male gardeners heading households were over fifty years of age in Pershore and Bengworth

(Evesham), and a high incidence of adult children was recorded in both parishes. Resident offspring of over ten years of age were twice as numerous as, for example, amongst agricultural labourers, a very much more youthful group. By 1861, for the first time in this locality, the occupations of all family members were recorded accurately. In Pershore there were then some sixty-three households headed by gardeners, and they contained a further forty-one relatives (including thirty-two sons of over ten years) also described as gardeners. This suggests that nearly 40 per cent of the individuals specifically described as gardeners in fact lived in the household and belonged to the family of other gardeners.³² By contrast the 1861 census recorded only three 'working' gardeners and six gardeners' labourers resident in Pershore. Even twenty years later, in 1881, when Pershore boasted eighty-six gardening households, still only ten contained any gardeners' labourers so described. Taken together with a marked absence of lodgers and servants (a mere seventeen per 100 households) this evidence does serve to confirm that most gardening labour came in Pershore from within the family.

Gardening was also easily absorbed into the network of dual occupations found throughout the Vale. In the eighteenth century at least, references to full-time gardeners are quite rare. It seems likely that in its early phase gardening more often than not provided an ancillary occupation for labourers and lesser trades and craftsmen.³³ The probate records yield numerous examples of the dual nature of gardening: men like J Allen, maltster, who left two acres of leasehold land in Pershore, along with crops of hops, french beans, and fruit; or J Wicket, labourer, who bequeathed to his wife no less

³¹ A Young, *Six Months Tour through the Southern Counties of England and Wales*, I, 3rd ed, 1772, p 193; for hot-beds and glass-bells see Sir J Hill, *The Gardeners New Kalender*, 1758, p 137.

³² PRO, RG 9/2103-4: this figure does not include 'wives' as such.

³³ Like knitting which, as Young noted, was the employment of the poor in Evesham and Pershore: *Tour through which the North of England*, *op cit*, p 314.

than six houses with their gardens situated in Lovewell Street (Persnore).³⁴ During the nineteenth century, despite the presence by then of more full-time gardeners, dual occupations remained still a strong feature of economic life in Persnore and its neighbourhood. All the records throw up examples of the practice. The St Andrew tithe schedule for instance records the names of several tradesmen who occupied garden ground in the town: men like T Ganderton and T Birch, both woolstaplers, and T Collins, shopkeeper. In all at least forty of the 139 individual male household heads (28 per cent) appearing in one or other of the two Persnore parishes who recorded their occupation as market gardener in one or other of the three censuses 1841, 1861 or 1881 also combined this with some other calling. The cross-checking of names with local directories demonstrates that this was certainly an underestimate of the true figure.

The largest group appearing in the censuses were the fourteen who combined gardening with shopkeeping, while a further six individuals retailed beer. Others were engaged in some specialist form of small-holding production like pig dealing. No less than eleven men were variously described as brickman or labourer, which says something for the continuing social mobility of gardeners. At Defford, next door to Persnore, gardening was combined with shoemaking, carrying, thatching, and shopkeeping. Also, whole dynasties dealing in special products appear to have taken root by 1861. Men like the Prossers of Persnore were already established by 1841, and became large-scale fruit dealers between 1861 and 1881. Dual occupations may, in fact, have been a factor in the stability of some gardening families. The Andrews family, for instance, produced a line of gardeners and flaxdressers in the second half of the eighteenth century, while for forty years between 1841 and 1881 three members of the

family carried on gardening in Persnore alongside baking and malting.

The wide division of garden property in Evesham and Persnore might also have fostered the pursuit of dual occupations. In Evesham such property was described by the 1832 Poor Law commissioner as residing 'in many hands'. This fact and the highly developed transport facilities must have encouraged all those with access to garden ground to explore their opportunities to the full.

The question of the size of Vale gardens is not an easy one to answer. Professor Beavington quotes averages of 12 and 8.5 acres for his two main Bedfordshire locations in the 1840s, but the Evesham and Persnore town gardens may have been somewhat smaller than this. The only comprehensive evidence comes from the 1841 tithe schedule for St Andrews Persnore, which yields an average of 4.4 acres actually under garden ground at the time of the survey. For the two inner Evesham parishes the contemporary historian, May, records a figure of 459 acres of garden ground in 1845, which when divided by the 106 'gardeners' appearing in the 1841 census yields an average of 4.3 acres. This estimate could have been too low, however, since there is some evidence that in Evesham gardeners' labourers were not always distinguished in 1841 from those renting or owning gardens. For Bengworth, the outer of the three Evesham parishes, May records 135 acres of garden ground. Correlation with the 1841 census households yields a high average here of 11.2 acres per gardener. Similar high average acreages, much nearer to the figures quoted for Bedfordshire, have also been gleaned from the later census schedules. Very few acreages were recorded for Evesham before 1871, but twenty gardeners did so in each of the 1871 and 1881 censuses, yielding means of 8.3 and 8.7 acres respectively (medians of 7.2 and 6.5 acres). Some twenty-nine Persnore gardeners also recorded their acreages in one or other of the

³⁴ Inventory of Allen, 13 September 1703; will of Wickett, 4 April 1748.

censuses between 1851 and 1881, and twelve gardeners did so for four neighbouring parishes over the same period, yielding means of 13.3 and 12.3 acres respectively (medians of 6.5 and 5.0 acres). Five further cultivators recorded their occupations in Evesham and Pershore as farmer and market gardener, and recorded a mean of 83.2 acres. The pattern tentatively suggested is of many small gardens situated in the inner urban areas merging into a landscape of larger holdings spread over the outlying townships and villages. The inclusion of larger than average gardens situated in outlying townships would tend to push up the average size, so that there is not necessarily a conflict between the evidence of May and that derived from the mid-century censuses. This apparent army of small producers must have benefited greatly from the long-established marketing facilities of the Vale. Pitt claimed that the eighteenth-century road improvements had allowed the despatch of sixty to eighty pack horses in a single day from Evesham, directed mainly northwards into the Midlands. Local road improvement Acts dating from 1713 had resulted in some twenty-three miles of carriage-way around Evesham under construction by 1728. Pershore benefited from similar schemes, and by 1763 the town was described as a 'considerable Thoroughfare in the Lower Road from London to Worcester'.³⁵ When Young came to the Vale in 1771 the principal manufacture of the Vale towns remained that of stockings, caps and the like. One suspects that initially it was the pressure from the substantial hose and bodice manufacturers, with their widely flung markets, which facilitated this expansion of road communications. The later substitution of wheeled waggons for pack horses was accompanied by further major advances in road facilities, culminating after

1800 in the projects mentioned earlier on. Similar influences can be seen at work elsewhere in the economic catchment area of Birmingham. Thus the Fisherwick Park gardens near Lichfield despatched regular quantities of cabbage, broccoli, asparagus and fruit to Birmingham and London between 1809 and 1813. By 1845 the sixty-eight market gardeners of Lichfield were claiming that they delivered the produce of 1310 acres of garden ground by horse and cart to the neighbouring Black Country markets.³⁶

V

We might conclude this discussion by taking stock of the gardening industry as it stood poised on the threshold of a new phase of railway-influenced expansion around 1851. The first point to note is that the local industry may have been substantially larger in the 1840s than the Bedfordshire one. There were some 800-1000 acres of garden ground and roughly 150 gardening households in Evesham and Pershore, at least forty-three market gardeners in business in the nearby towns of Cheltenham and Gloucester, and many more springing up in the Vale villages.³⁷

Nevertheless, a salient feature of the mid-century industry was the apparently modest pace of further expansion. In Pershore, for instance, households headed by gardeners rose from forty-one in 1841 to sixty-three in 1861 and eighty-six by 1881. In Evesham May spoke of depressed garden workers in the mid-1840s, and numbers stagnated here between 1841 and 1861. Thus there were 110 households headed by gardeners in 1841, 103 in 1861, and 153 by 1881. Surprisingly few gardeners' labourers showed up in either town until after 1861. Between 1861 and 1881, however, the

³⁵ Pitt, quoted in Sidwell, *op cit*, p 45; *H CJ*, XXIV, p 390 for the Petition of trustees of the Act; T Cox, *Magna Britannia et Hibernia*, VI, 1731, p 217; B Martin, *The Natural History of England*, II, 1763, p 148.

³⁶ Fisherwick Park Garden receipts, Elford Hall MS, *loc cit*, cat nos 771, 797, 820; H Thorpe, *op cit*, p 200.

³⁷ For the latter towns see Hunt's *Directory*, *op cit*, pp 38, 119.

number of households headed by identifiable gardeners' labourers rose in Evesham from nineteen to eighty, and in Pershore from four to ten.

The industry of the Victorian era continued to recruit from a wide social spectrum, often, as we saw earlier, from the lesser trades and labouring classes. Individuals of very modest means appeared out of the ranks of the most ancient of the gardening dynasties. Thus, at his death W Cosnett left only his freehold house, while J Dufty and G Ewins bequeathed estates valued at under £20 and £100 respectively. Other men, as in the previous century, left much property, but very little personal estate. W Dudfield of Pershore for example transmitted an impressive amount of house and garden property, but his inventory wealth amounted, in 1847, to a mere £39.³⁸

If, in 1850, the gardening industry still contained many small men, nevertheless one can, at the same time, discern a nucleus of family dynasties active both in Pershore and Evesham from at least the mid eighteenth century. Thus the six families of Beard, Cosnett, Collins, Blizzard, Dufty, and Andrews all supplied gardeners who were present in Pershore by about 1750 (Beard, Cosnett, and Collins by 1700). Later the six dynasties furnished a third of the gardening families (eighteen of fifty-two) recorded in Pershore during the years 1813-20, and a further forty-eight noted in the censuses of 1841-81. The latter included thirty-one (22 per cent) of 139 gardening household heads recorded at the census dates 1841, 1861 or 1881. Individual members of these family dynasties displayed substantial disparities in wealth, a reflection of the wider social framework of the gardening industry. At the same time, with land and know-how

passing down from father to son over the course of a century, there was obviously some degree of continuity also. In fact the ancient families retained an impressive hold over the garden ground worked in Pershore: eleven men belonging to one or other of the six dynasties occupied a total of eighty-six acres of garden land (two-thirds of the whole) recorded in the 1842 tithe schedule for St Andrews. The average size of their holdings was roughly twice that of all holdings in Pershore.

Perhaps not surprisingly the six ancient dynasties threw up a number of individuals who turned gardening into a large-scale business concern. Andrew Dufty, for instance, was a 26-year-old gardener renting a house and 8½ acres in 1841, but by 1881 was working forty-four acres of ground. James, the eldest son of Joseph Cosnett, who had occupied 5½ acres of garden land between 1841 and 1851, was cultivating fifty acres, and employing eight men by 1881. Other individuals like Joseph Blizzard went on to combine gardening with tenant farming. Four descendants of the six families, namely William and Andrew Dufty, James Cosnett and William Andrews, all gardeners, boasted some 202 acres in aggregate at the mid-century.³⁹ Such men were, perhaps, well-placed to experiment with new products, endowed as they were with a century of horticultural expertise. The celebrated Pershore Egg plum was a case in point. It was discovered in Tidsley Wood in about 1833 by Thomas Crook.⁴⁰ He was styled gardener, seedsman, and shopkeeper of Church Street in the years 1813-41, and his father was found occupying fruit orchards in the town in 1790.

³⁸ Wills of W Cosnett, J Dufty, G Ewins and W Dudfield dated respectively 25 June 1808, 21 April 1813, 9 March 1850, and 27 November 1847.

³⁹ Their parents' generation appear usually to have cultivated rather smaller holdings: see the wills of Sam Andrews and Stephen Blizzard dated 5 April 1820, and 20 May 1844.

⁴⁰ Sidwell notes Crook's discovery, *op cit*, p 47; for the earlier Thomas Crook see will of P Green, 13 September 1790.

Parliamentary Enclosure in Nineteenth-Century Surrey – Some Perspectives on the Evaluation of Land Potential

By A G PARTON

THE study of Parliamentary Enclosure at national level has a long history ranging in time from the early works of Gonner and Slater to the more recent synthesis by Turner.¹ These countrywide perspectives have been matched by a great variety of regional studies which have stressed the physical changes enclosure brought to open-field and common or to heathland and moorland.² A few writers have considered the process of enclosure whilst others have examined the contentious issue of its effect upon the small landowner.³ Understandably the focus for much of this work has been the wholly rural districts. This paper examines the impact of Parliamentary Enclosure in a county and at a time when rural and urban influences might be expected to be increasingly in competition for the use of land. The focus is particularly upon the evaluation of land potential and the subsequent use to which the newly enclosed land was put.

Most of the unenclosed areas at 1800 were commons or heathlands. The survival of patches of open-field arable at this date and at no great distance from London, is something

of an enigma, especially when one considers Wrigley's evidence for the spread of metropolitan influences in South-East England by the seventeenth century.⁴ Tate confirmed the view that Surrey, in common with Middlesex and Hertfordshire, was a county where much of the open-field had been taken in by 1700.⁵

At the end of the eighteenth century Surrey contained an estimated 73,940 acres of unenclosed land, including 8000 acres of open-field; by 1870 about 41,800 acres had been the subject of Enclosure Acts.⁶ The agricultural value of this land was extremely varied, ranging from the fertile loams of the Thameside districts set in an area of intensive agriculture, to the relatively remote, barren heaths of the west and south-west.

Court Rolls provide evidence of piecemeal enclosure at this time, but this was little more than legalizing the nibbling at the waste lands by the cottagers who lived on the fringes of common and heath.⁷ Enclosure by

¹ E C K Gonner, *Common Land and Enclosure*, 1912; G. Slater, *The English Peasantry and the Enclosure of the Common Fields*, 1907; M E Turner, *English Parliamentary Enclosure, its Historical Geography and Economic History*, Folkestone, 1980; W E Tate, *A Domesday of English Enclosure Acts and Awards*, M E Turner, Ed, Reading, 1978.

² For example: H G Hunt, 'The Chronology of Parliamentary Enclosure in Leicestershire', *Econ Hist Rev*, 2nd ser, X, 1957; M A Havinden, 'Agricultural Progress in Open-Field Oxfordshire', *Ag Hist Rev*, IX, 1961; M Williams, 'The Enclosure of Waste Lands in Somerset 1700-1900', *Trans Inst Brit Geogr*, 57, 1972; J Chapman, 'Parliamentary Enclosure in the Uplands: the case of the North York Moors', *Ag Hist Rev*, XXIV, 1976.

³ B Loughborough, 'An Account of a Yorkshire Enclosure - Staxton 1803', *Ag Hist Rev*, XIII, 1965; J M Martin, 'The Parliamentary Enclosure Movement and Rural Society in Warwickshire', *Ag Hist Rev*, XV, 1967; J V Beckett, 'The Decline of the Small Landowner in Eighteenth- and Nineteenth-Century England', *Ag Hist Rev*, XXX, 1982.

⁴ E A Wrigley, 'A Simple Model of London's Importance 1650-1750', *Past and Present*, 37, 1967.

⁵ W E Tate, 'Enclosure Acts and Awards Relating to Lands in the County of Surrey', *Surrey Archaeological Collections*, XLVIII, 1942-3.

⁶ James Malcolm, *A Compendium of Modern Husbandry Principally Written During a Survey of Surrey*, 1805; Tate, *op cit*.

⁷ For example the Court Rolls of Horley Manor for 1808 gave licence to Thomas Blundell to enclose twenty rods on the south side of Horley Mill Road; eleven years later Thomas Marston was brought before the Court charged with illegal encroachment upon the waste (from 'Historical Notes', collected by the Horley Local History Association, no date). Further evidence of piecemeal enclosure appears in the Court Rolls for Banstead, Surrey Record Office (SRO), 212/6/232 and 233/234 for 1716-1818, also in those for Great Bookham, SRO, Acc 153, 1784-1839, and in a series of letters written by Lord Onslow concerning his claims to the waste in Windelsham;

... encroachments are perpetually taking place . . . very many slips have been taken off the Waste of which cottagers and others are in possession.

SRO, 'Act for Inclosing lands in the Parish of Windelsham (and related papers)'.

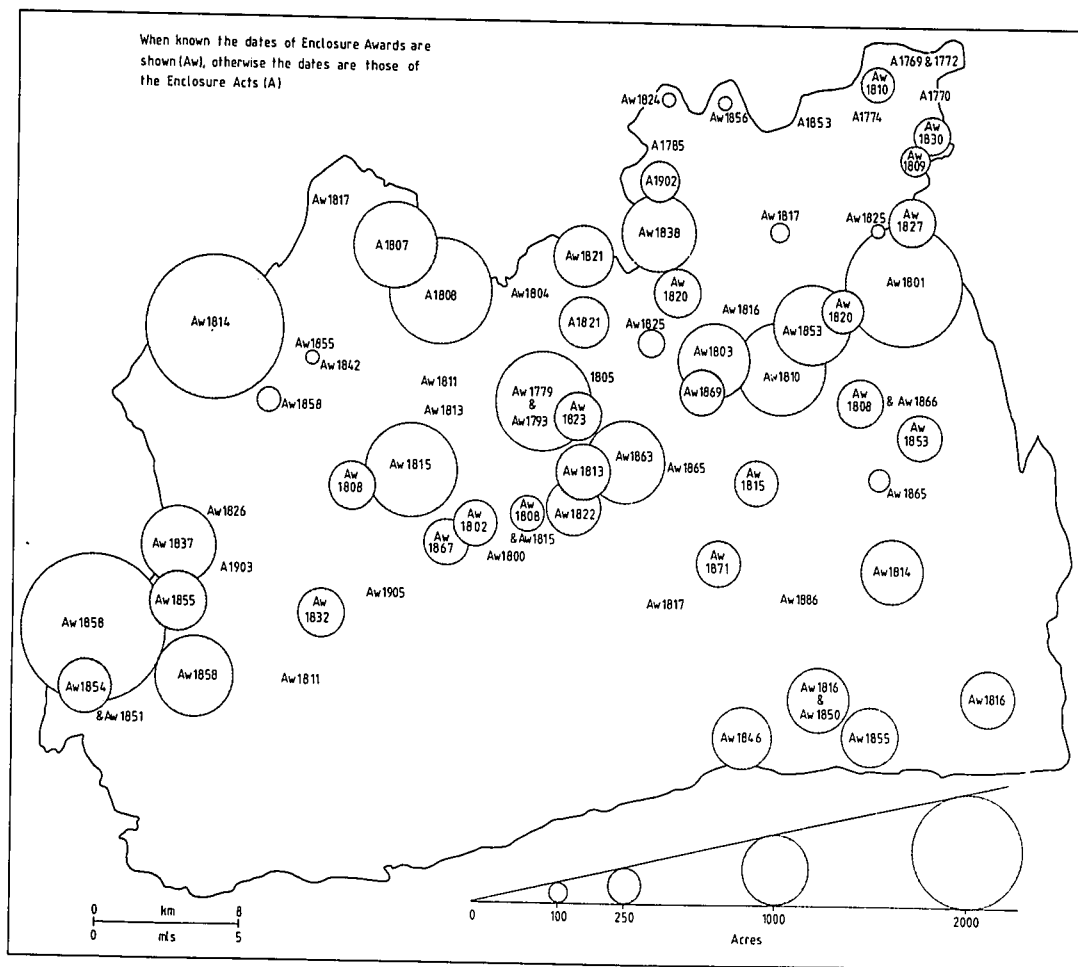


FIGURE I
Enclosure Awards for the County of Surrey

Act of Parliament was the principal means by which residual areas of open-field and large acreages of common and heath were eliminated during the nineteenth century in Surrey. The majority of Enclosure Bills were inspired by a desire to effect improvement and increase revenue from agricultural rents. At the suburban fringe two related but diametrically opposed forces were at work. On the one hand income from building development was sometimes seen as a more certain and immediate return from newly enclosed land than agricultural land-use could yield; at the same time the expansion of suburban South London generated a desire to preserve open space as amenity areas.

In common with other agricultural districts, extra-Metropolitan Surrey experienced two main phases of Parliamentary enclosure (Fig 1). The first period from 1796 to 1839 applied to both subdivided arable and to commons and heath, followed by a second from 1846 to 1870, by which time little open-field remained. In some cases the delay between the first reading of a Bill, the receipt of the Royal Assent and the laying out of field boundaries was such that agricultural prosperity had turned into depression. John Houghton had begun his attempts to improve a part of Bagshot Heath before the low prices of the early 1830s which curtailed his activities; in evidence before the Select

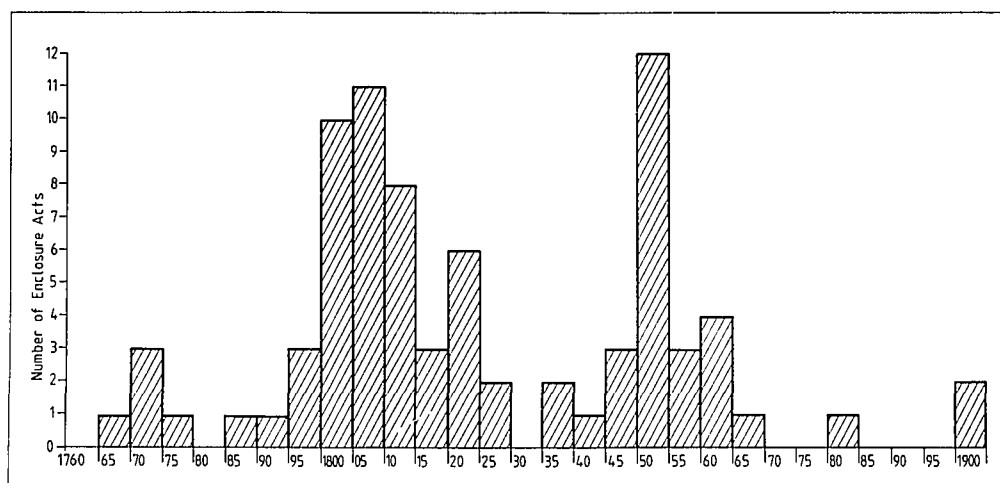


FIGURE 2
Time Profile of Surrey Enclosure Acts

Committee of 1836 he stated, 'I am restrained from going on in my improvements in consequence of the low price of agricultural produce, or I should have gone much further'.⁸ At Effingham enclosure took only one year, partly because six people accounted for most of the open-field enclosed, whereas the Acts for Kingston and Frimley were subject to delays of thirty and twenty-five years respectively. The distribution of open-field arable at 1800 represented an evaluation of land-use potential made at an early date; in most cases it was the better quality land in a parish which had been appropriated to these uses. The success of enclosure, which made for more efficient use of these valuable soils, was almost assured. This was in marked contrast to the enclosure of common and heathland. Very often these areas included the poorer lands of their respective parishes. It might be expected that enclosure would have not been attempted in such areas. Whilst the damp oakwood commons of the clay with flints which caps the North Downs have remained unenclosed to this day, in the west and south-west of Surrey attempts were made to tame the extensive heathlands developed on the Lower Greensand and Bagshot areas (Fig 2). Many of the Enclosure Acts for these areas

applied to very large tracts of country, and enclosure and land improvement were not synonymous. By no means all of this land was destined for tillage, for land use potential was on occasion taken into account. William Keen, a Godalming land agent, was clearly aware of the limitations of the Greensand heaths, for he considered that 'Some would make very good arable land and some very good meadow land, and there might be some good water meadow land, and some good pasture, a great portion of it is only fit for plantations.'⁹ The land which had already been enclosed by an Act of 1811 was described in similar terms. The poorer soils had been planted with softwoods which were yielding timber by 1844. Keen distinguished between 'black sandy common' dominated by heather and 'ferny common' which had greater agricultural value, the bracken probably being an indication of a less acid soil.¹⁰ The value of land affected by any one Enclosure Act reflected contrasts in its potential. When a part of the newly enclosed land belonging to the Ware Estate at Tilford was sold to offset the costs of enclosure the agent recorded that

⁸ BPP, 1836, VIII, Q846.

⁹ BPP, 1844, V, Q690.

¹⁰ *Ibid.*

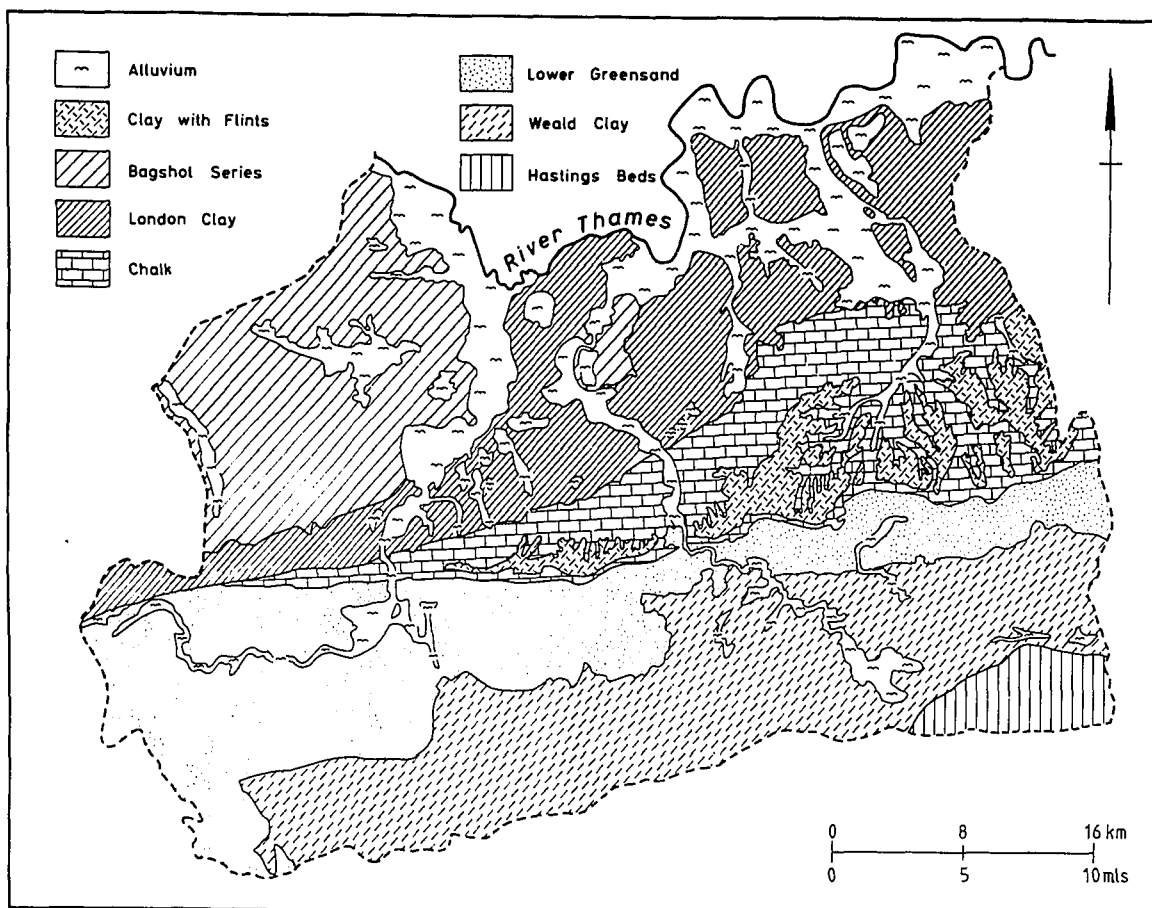


FIGURE 3
Surrey — Simplified Geology

Acknowledgement: Based, in part, on Crown Copyright Geological Survey Maps by permission of the Director of the British Geological Survey

'the lots near Abbots pond were sold for less than £8 an acre, three lots next to it, not such good land for £3 an acre'.¹¹

The Weald Clay, with few areas of common or waste and no open field, was only affected through the enclosure of some of the meadow which had been held in common and the roadside wastes. The motive for enclosure was to make greater use of areas spasmodically grazed and to more efficiently manage the meadows which were subject to over-intensive use. In a district where fodder was in short supply both types of enclosure constituted a more efficient use

of the land resources. Many small parcels of waste in several places were eliminated under the umbrella of one Act; for example an award of 1854 applied to 592 acres of common and waste in seven locations, mostly roadside strips in the parishes of Betchworth, Leigh and Charlwood. Colonel Goulbourn of Betchworth was concerned that roadside commons on the Weald clay were unenclosed and under-used. During investigations to ascertain who had rights to this land Goulbourn's solicitor wrote:

... with regard to enclosures, the question is what is waste, and what rights the Lord or copyholders have on it, if there be a roadside slip the assumption is that

¹¹SRO Acc 705, Ware Estate Records.

the holder of the enclosed land is entitled to it and in fact to the land on his side of the middle of the road. It is said that in bad weather, when the roads were impassable you might travel by the sides. The roads being now made good, owners of adjoining land whenever they can enclose up to the roadway.¹²

Not that enclosures of this kind, involving very small acreages, were always the subject of Enclosure Acts. In some instances enclosure was arranged between tenant or landowner and the Lord of the Manor. At Ockham a tenant wrote to the Lord of the Manor,

I am cutting down the old hedge which is past mending and propose planting a fresh hedge so as to take in this waste.¹³

These instances afford evidence of some kind of land assessment prior to the presentation of a Bill to Parliament, but the examination of the subsequent use to which enclosed land was put suggests that evaluation also followed enclosure and that reappraisals of land potential were made subsequently when changed economic conditions or improved accessibility might give a new value to land. The heaths of the west and south-west included some of the most marginal land in the county although paradoxically they occurred within the most advanced agricultural district in terms of both the integration of stock and crop and the application of farming methods designed to increase productivity. The considerable though by no means always successful efforts made to improve the poorer lands might be related to a concentration of improving landlords and tenants in these districts. The Award for Windlesham was made in 1814; fifty years later a few nursery grounds occupying a small acreage and some coniferous plantations were the only signs of improvement. A relatively small proportion of the 4000 acres described in the Award showed evidence of any change in land-use. Most of the vegetation was heath and

scattered conifers growing within a landscape of enclosure fields, and was probably unchanged since it was described by the Board of Agriculture reporters at the beginning of the century. Although Lord Onslow bemoaned the large acreage of waste prior to enclosure,

you may well suppose it to be a neglected manor when the waste is so extensive,

the costs of effectively improving the land were high.¹⁴ Very often paring and burning and trenching to break up the iron pan commonly found at a depth of about twenty inches was necessary if arable crops were to be grown. The land had then to be heavily dressed with lime and manure and a preparatory crop of clover grown and ploughed in. After the heavy capital investment that all of this involved it was not certain that returns would be high enough to justify the outlay, except in a few favoured locations or during periods of exceptionally high prices. At the turn of the century the latter condition was met; Brayley, noting the successes in reclamation in the Bagshot region, ascribes them to the application of stable dung from Bagshot, which lay on the heavily used coach route from London to the south-west.¹⁵ Conditions may have seemed ripe for more extensive attempts at improvement through Parliamentary Enclosure. However, a complex mesh of changes called for less optimism and a more selective approach to land improvement. William Cobbett, admittedly a somewhat biased observer, saw at first hand the attempts to reclaim the western heaths; writing at a time when agricultural prices were depressed, he considered that the investment in their improvement was

the misapplied capital which should be concentrating on the good lands.¹⁶

¹² SRO, Acc 319, Goulbourn IV/6, 14/1.

¹³ SRO, Acc 317, Box 45 (viii).

¹⁴ SRO, 'Act for Inclosing lands in the Parish of Windlesham (and related papers)'.

¹⁵ W Brayley, *A History of Surrey*, 1841.

¹⁶ W Cobbett, *Rural Rides*, 1830.

After the opening of the London and Southampton railway in 1838, the cheap, readily available supply of stable dung became an increasingly rare commodity as stage coach traffic rapidly diminished, but whilst the railway made reclamation more costly it also brought markets for agricultural produce within easy reach. The nursery and market gardens which developed in this region after 1840 demonstrate how the potential of an area can be changed in response to altered economic and geographical circumstances. The light sandy soils were well suited to the production of market garden crops, especially early carrots, peas, and nursery products such as azaleas, rhododendrons and other 'American plants'. Before the development of the railway this district was too remote to produce these crops; improved communications brought London nearer, allowing it to exert a greater economic influence than had hitherto been possible. Be that as it may the landscape effects of these developments were negligible since these activities were carried on in small units. Brayley mentions an 'extensive nursery for American plants, at Woking which had been enclosed from bog and heath', but this was only 120 acres in area.¹⁷

In the 1820s one could deem most attempts at improvement in this part of Surrey failures, but by 1870, this judgement would have to be qualified. In the south-west the acreage of the Ware Estate at Tilford on the Lower Greensand was doubled as a result of an allotment made by the Tilford Enclosure Award. The Agent was well aware of the varying potential of the land and in recommending that parts of it could be profitably used for either cultivation, grass or coniferous plantation he was careful to say,

having laid before you this opinion I must add that I may be mistaken the land may disappoint us.¹⁸

¹⁷ Brayley, *op cit.*

¹⁸ SRO, Acc 705, Ware Estate Records.

Several methods were being used to reclaim the newly enclosed land; deep ploughing, double trenching with or without burning the turf, first beeking then burning the turf before double ploughing so that the first furrow was buried beneath the second. The costs of these methods were from £3 10s to £6 an acre. Whilst the larger part of the allotment was developed as part of the home farm, the remainder was allocated to the estate farms, the tenants paying a low rent to cover the cost of enclosure and fencing for the first few years, after which the rents were increased, thus recognizing that the tenant would expend some capital on improvement. Considerable tracts of the lightest land were planted with trees; in 1851-2 alone, 150,000 Scotch fir and 50,000 larch were sown. By 1860 the Agent could write:

There is a considerable extent of the enclosed common now in plantations for future value which yields little or no income, but on the other hand there are some plantations yielding poles for sale . . . it is probable that this part of the estate will be made to balance.¹⁹

For the arable land, sheep were not surprisingly seen as the best means of improvement allied to the production of root crops. The enthusiastic Agent wrote:

I repeat the old text all the sheep you can find and if you ask what this is I reply as the sailor who first asked for all the tobacco in the world and on being asked, what more? only said, I ask a little more tobacco, so say I a few more sheep if possible.²⁰

By the end of the century the judicious investment of capital had resulted in the integration of the enclosed common with the rest of the estate.

The large number of variables operating in time and space would call in question generalizations made about the success or failure of enclosure. The Report of the Select Committee of 1844 records that land enclosed at Godalming had doubled in

¹⁹ *Ibid.*

²⁰ *Ibid.*

value²¹ but it is certain that this was not always the case. Harvey Keen in his evidence to the same Committee, when pressed, admitted that he was

afraid that a great deal of land already enclosed does not pay for the cultivation of it.²²

Nine years later Henry Evershed noted that 100 acres of Bradley Common, Godalming was then being reclaimed, but he expressed doubt as to whether even the larch and Scotch fir being planted would survive.²³

For the promoters of enclosure in Surrey, proximity to London was generally of less significance than variations in land quality and the movements of season and price. However, in the district bordering the urban area, the growth of the metropolis had a more profound effect. Prior to enclosure the commons were heavily utilized. Thus gravels were dug to repair the heavily used roads which converged in North Surrey en route for the Thames bridges. Bakers and others cut timber for fuel and the cow keepers pastured their animals on the limited amount of common land available. Soon after Kennington Common was opened in May, it was poached and overgrazed to such an extent that it was of no further use until autumn.²⁴ Battersea and Clapham commons drew a most unusual comment from those staunch advocates of enclosure, the Board of Agriculture reporters, who considered them to be as productive as if they were enclosed.²⁵ These often poorly drained clayland commons were not always immediately attractive to the developer; easy access to London was evidently not enough. Two new roads leading to Blackfriars Bridge were developed following an Act of 1769; they intersected in St George's Fields, an area of swampy common where some of London's street sweepings were deposited. They were not developed for building until

1810 when an Act to enclose and drain them was passed.²⁶

St George's Fields are fields no more
The trowel supersedes the plough;
Swamps, huge and inundate of yore,
Are changed to civic villas now.²⁷

Similarly, nearby Walworth Common had been enclosed in 1770 and vested in Trustees for the Poor who were empowered to let it on ninety-nine-year building leases. Most of the expected income was to go to poor relief. In fact little building took place here until after 1800, because of the land's liability to flooding. Whilst more suitable areas were available the commons remained as agricultural outliers amongst suburban development. This was also the case with Stockwell Green which was enclosed in 1814 but it was not until 1874 that proposals were made to build upon it. By this time the movement to preserve open space had been developing and an attempt was made to return the land to its former 'common' status. This venture in conservation failed because of a legal technicality and a year later three-storey terrace dwellings were being constructed.

The awareness of the value of land in the form of open space as an amenity for the inhabitants of new suburbia had been developing for some years. As early as 1814 the Egham Enclosure Act had provided a green,

open and uninclosed for the pleasure of the inhabitants and the adornment of their residences on the said green in such a manner as the commoners shall think fit.²⁸

A little later, in 1835, a committee of residents of the then fashionable and growing suburb of Clapham obtained the leases of all the manorial rights to Clapham Common. They drained it, improved it and made the common into a public park.²⁹

²¹ BPP, 1844, V, Q668.

²² *Ibid.*

²³ H Evershed, 'On the Farming of Surrey', *JRASE*, XIV, 1853.

²⁴ W James and J Malcolm, *A General view of the Agriculture of Surrey*, 1794.

²⁵ James and Malcolm, *op cit.*

²⁶ Great Britain, Laws, Statutes, etc, Local Act, 49 Geo III, ch 183.

²⁷ H and J Smith, *The Spread of London*, 1813.

²⁸ Great Britain, Laws, Statutes, etc, Egham Enclosure Act, 1814, 54, Geo III, ch 153.

²⁹ E Malden, *The Victoria County History of Surrey*, IV, 1912.

These were the forerunners of the main phase of common preservations in the 1860s, which found expression in the 'Commons Open Spaces and Footpaths Preservation Society' of 1865, the principal body behind the Metropolitan Commons Acts of 1866 and 1869, which gave some protection to the commons within the Metropolitan Police District.³⁰ Conflicts of interest between those who saw commons as amenities and others who saw them as commercial assets occurred before and after the Metropolitan Commons Acts. The Vestry Minute Books for Tooting in 1863 record the setting up of a committee,

to safeguard the rights of the parish in reference to the proposed enclosure of the common by the Lord of the Manor.³¹

The common was subsequently preserved, as was Wandsworth Common, which was vested in the hands of conservators.³² In similar vein the Enclosure Act for Rush Common stipulated that

no buildings or erections above the surface of the earth be erected upon Rush common within 150 feet of the London to Croydon turnpike.³³

This common consisted of a narrow strip of land which ran the length of Brixton Hill. Although enclosed, the open character of the land was preserved and the building line still remains at the stipulated distance from the roadway. The most notable instance of conflict over the use of common land concerned Wimbledon and Putney commons, which today constitute the largest public open space in South London. In 1864,

Lord Spencer, Lord of the Manors of Battersea and Wimbledon, attempted to enclose the land, but the local residents formed a committee to oppose the plan and the Bill was subsequently withdrawn. Determined to obtain some income from the commons, Lord Spencer opened a brickfield, excavated for gravels and leased a part of the land for use as a sewage farm. Finally the local residents began moves which culminated in the Wimbledon and Putney commons Act of 1871, which preserved the commons for public use in the care of conservators.³⁴

The bulk of the land enclosed in nineteenth-century Surrey was common or heath; land which, it might be argued, earlier generations had placed beyond the limits of cultivation. The nineteenth century brought new perceptions of land value which were expressed in attempts to enclose some of this land. The varying degrees of success which followed Parliamentary Enclosure were testimony to the accuracy of these perceptions and to the vagaries of season and price, the backcloth against which the protagonists of enclosure worked. Nearer to London earlier assessments of land quality were sometimes confirmed by the reluctance of developers to build upon the poorly drained commons. The growth of an awareness of the amenity value of open space started a process of conservation which helped to produce the character of the county today. Although close to London, Surrey still contains 26,000 acres of preserved 'wildscape'.³⁵

³⁰ Great Britain, Laws, Statutes, etc., Metropolitan Commons Acts, 1866 and 1869, 29 and 30 Vict, ch 122; 32 and 33 Vict, ch 107.

³¹ W E Morden, *A History of Tooting Graveney*, 1897.

³² G W R Green, *The Story of Wandsworth and Putney*, 1925.

³³ LCC Survey of London, *Parish of St Mary Lambeth*, XXV, 1951.

³⁴ J D Casswell, *How Wimbledon and Putney Commons were Saved*, no date but c1890. Minet Library, Papers in connection with the proposed enclosure of Wimbledon Commons. Green, *op cit*.

³⁵ W G Hoskins and L D Stamp, *The Common Lands of England and Wales*, 1963.

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Agricultural Science in Higher Education: Problems of Identity in Britain's First Chair of Agriculture, Edinburgh 1790-1831¹

By STEWART RICHARDS

By the last decade of the eighteenth century, the new 'convertible husbandry' had become widely, if unevenly, established throughout England. Improved methods of land cultivation, particularly when they were further extended in acreage by the acceleration of the enclosure movement between 1790 and 1815, and increased in efficiency by a more profit-orientated managerial organization, enabled the production of home-grown food to keep pace of a rapidly expanding population. Although this remained a period of little more than crude empirical investigation, still well before exploitation of the inorganic or 'mineral' fertilizing agents, by the turn of the century work by such men of science as Ingenhousz, Black, Priestley, Cavendish, Scheele and Lavoisier, made it evident that a revolution was under way in chemistry no less than in agriculture, and it was therefore perhaps inevitable that the one should impinge more and more on the other.

Of course, we must remember that the appalling level of general education ensured that despite the gradual accumulation of empirical data which were ultimately to provide a theoretical basis for the improvers' practice, and despite the worthy attempts to propagate this information in the journals of innumerable agricultural societies and farmers' clubs, there was little penetration to

the 'dirty-booted farmer' of the period.² It was, accordingly, not surprising that when there first emerged formal instruction designed specifically for agriculturalists, it should be at the 'upper extremity' of the educational hierarchy rather than at the lower.

Paradoxical as it may seem, it has often happened that the cause of agricultural education has suffered at the hands of successful farming practice. Such was already the case in late-eighteenth-century England, for who, it was asked rhetorically, could expect to benefit from theoretical and scientific tuition, when everywhere were to be seen the fruits of an art of husbandry which long experience showed could be acquired only by traditional forms of apprenticeship on the farm?

Such fruits as were evident in England, however, were hardly to be found north of the border. Until well after 1750, large areas of rural Scotland were blighted by poverty and barrenness. The combination of poor, thin soil, a high proportion of mountain and heath, too much water and too little warmth, presented natural problems for the agriculturalist which were formidable enough. But to these must be added the fact that the 'new farming' was far less widely established than in England. There was nowhere sufficient winter feed for stock and no opportunity to provide it from the late crops that struggled to ripen in undrained and unenclosed fields.

¹ This paper draws substantially on S A Richards, 'Agricultural Science in British Higher Education, 1790-1914', unpublished MSc thesis, University of Kent at Canterbury, 1982. Once again I am grateful to Professor Maurice Crosland, Unit for the History, Philosophy and Social Relations of Science, for his helpful advice and comments.

² G E Fussell, 'Science and Practice in Eighteenth Century British Agriculture', *Ag Hist*, XLIII, 1969, pp 7-18.

When improvements did come, the effects, measured against this depressing picture, were dramatic indeed. Fields were enclosed and drained, new and plentiful crops — notably, as in England, turnips and potatoes — were cultivated on new schemes of rotation and in soil enriched by liming and manure. As a result the stock breeders could produce newly viable strains of cattle, sheep and pigs. As Handley puts it, 'the alacrity with which the new methods were adopted was remarkable. In the short space of ten or fifteen years an agricultural revolution was effected in many places.'³ Of the several factors contributing to this rapid transformation, the most general was that agricultural improvement always represented a crucial element in the so-called Scottish Enlightenment, and that this now found a potent stimulus in the effects of the industrial revolution.⁴ As the wealth of the country rose between 1750 and 1815 with the expansion of manufactures and the iron and steel industries, so too did the demand for agricultural produce which, existing now for the first time as a surplus to local needs, could also be transported to the urban markets on the newly constructed roads. Sir John Sinclair, writing in 1813, could claim with justifiable pride that 'the foundation of improved agriculture is certainly laid in the best cultivated districts of Scotland in as great perfection as it possibly can be in any other country'.⁵

The establishment of agriculture in higher education must be seen, then, as the result of the combined influence of three factors. First, there was in Scotland during the second half of the eighteenth century, an intensity of interest in the awakening of a new farming system which was the more concentrated because of the need to make up

for much time that had already been lost. Activity was centred most notably around the Highland Society, first founded in London in 1778 for the purpose of preserving and developing the Highland culture, and established in Edinburgh itself in 1784. From an early date the Society favoured academic agricultural education, and argued that the 'diffusion of knowledge' and 'mutual communication of ideas and information' with similar bodies in England and Ireland was 'the principal object of such Institutions'.⁶

Second, the Scottish universities — in marked contrast to Oxford and Cambridge — had, during the century, established for themselves a reputation that was second to none in Europe, and Edinburgh was unsurpassed in the teaching of medicine and science. Furthermore, the Philosophical Society of Edinburgh (founded in 1732) was, by the 1780s, in many ways the intellectual centre of British science, numbering among its members several illustrious figures whose interests bordered directly upon agriculture, for example, Adam Smith the economist, Joseph Black the professor of chemistry and medicine in the university, and the geologist James Hutton.

Third, the science which had long been regarded as fundamental to agricultural improvement, namely chemistry, was also the science for which the University of Edinburgh was most renowned.

I

Given this three-fold influence, it is perhaps not surprising that we find the earliest promotion of agriculture as a subject appropriate to a university education in Scotland's dynamic capital city. The University of Edinburgh was, at the close of the eighteenth century, experiencing what has

³ J E Handley, *Scottish Farming in the Eighteenth Century*, 1953, p 213.

⁴ See J R R Christie, 'The Rise and Fall of Scottish Science'. In M P Crosland (ed.), *The Emergence of Science in Western Europe*, 1975, pp 111-26.

⁵ J Sinclair, *An Account of the System of Husbandry adopted in the more Improved Districts of Scotland*, II, 1813, p 68.

⁶ *Trans Highland Soc*, XI, 1807, pp 28-9.

been widely regarded as a golden age.⁷ In addition to Black himself, there were several scientific professors of notable distinction, among them William Cullen and Charles Hope (medicine and chemistry), Alexander Munro (anatomy), John Robinson (natural philosophy), Daniel Rutherford (botany), and John Walker (natural history). These men could enjoy, before the 1820s saw the growth of competition both at home and abroad, a sense of confidence and superiority which was a representative culmination of the wider Enlightenment spirit.

It appears that the move to introduce formal agricultural tuition had originated in mid-century with the secretary of the Society of Improvers, Robert Maxwell. In the *Select Transactions* of the Society of 1743, Maxwell lamented the fact that there was no university professor of agriculture, and argued that such a post should be held by a practical farmer who also understood the scientific principles of his subject. But he was evidently not optimistic, for in his *Practical Husbandman* of 1757 he concluded that 'there perhaps never may be in our Time, a College of Husbandry established by Authority'.⁸

The momentum generated by Maxwell must, however, have encouraged the well-known lawyer Henry Home (Lord Kames), for in 1768 he persuaded William Cullen to give some lectures to a private audience on the science of agriculture at Edinburgh. Cullen was no doubt a good choice, for he had wide interests in the application of chemistry to the arts and manufactures, as well as experience in teaching botany at Glasgow.⁹

There was still nothing more concrete to come of this development until, in 1788,

John Walker, the professor of natural history, commenced a much fuller course on agriculture which was recommended by the Highland Society for attendance by its members.¹⁰ Walker appears also to have been a man with the necessarily wide scientific interests, but while he lectured on botany, geology, hydrography, mineralogy, and zoology, as well as agriculture itself, there appears to be no record of his knowledge of chemistry.¹¹ However, by this time the idea of elevating agriculture to a chair in its own right had occurred to Sir William Pulteney, a Member of Parliament and close acquaintance of Sir John Sinclair, who was, incidentally, to die 'the richest commoner in Britain'.¹² Arthur Young had heard of this idea (if not before, then from the advertisement placed in his *Annals of Agriculture*), asking:

Why not a Professor of Agriculture in every University? that young men might be instructed how to concentrate, to one important object, the knowledge to be gained from other lectures; such as those on botany, chemistry, mineralogy, mechanics etc.¹³

But his position seems to have been ambivalent in a fashion not unknown among present-day agriculturalists. There might, he acknowledged, be some merit in studying:

those branches of chemistry, botany and mineralogy that will afterwards be of use to him. But I must own that I do not recommend the University at all; and for this plain reason; that among the great number of gentlemen I have known who were educated there, I scarcely know a single one that acquired any knowledge which is of the least use or application to the life and pursuits of a country gentleman.¹⁴

Yet it was this very inconsistency which enabled him, in echoing Maxwell, to identify the affliction which has tormented agriculture as a university discipline ever

⁷ See T C Smout, *A History of the Scottish People, 1560-1830*, 1969; N T Phillipson and R Mitchison (eds.), *Scotland in the Age of Improvement*, Edinburgh, 1970; and in particular J B Morrell, 'Science and Scottish University Reform: Edinburgh in 1826', *Brit J Hist Sci*, VI, 1972, pp 39-56.

⁸ R Maxwell, *The Practical Husbandman*, Edinburgh, 1757, p 381.

⁹ J A Cable, 'Early Scottish Science: the Vocational Provision', *Ann Sci*, XXX, 1973, p 188; W P Wightman, 'William Cullen and the Teaching of Chemistry', *Ann Sci*, XII, 1956, p 196; A Grant, *The Story of the University of Edinburgh*, II, 1884, p 394.

¹⁰ A and N L Clow, *The Chemical Revolution. A Contribution to Social Technology*, 1952, p 294.

¹¹ Grant, *op cit*, pp 432-3.

¹² R Mitchison, *Agricultural Sir John. The Life of Sir John Sinclair of Ulbster, 1754-1835*, 1962, p 168.

¹³ A Young, *Ann Ag*, XI, 1789, p 368.

¹⁴ Quoted in G E Mingay, *Arthur Young and his Times*, 1975, pp 13-14.

since. Referring to the founder of the Edinburgh chair, he remarked:

The difficulty to this excellent patriot will be the choice of his Professor; he will meet with men of science, and he will meet with men of practice, but neither separately will do, they must be united.¹⁵

It is an inherent dilemma which agriculture shares with other applied sciences, for example medicine and engineering, in which the Scots also played a pioneering role. Perhaps we should not be surprised, therefore, that two hundred years should have done little to relieve the symptoms.

II

In any event, 1790 has a notable significance for higher agricultural education in Britain, for it was in that year that Pulteney placed the sum of £1250 with the Edinburgh Town Council for the purpose of founding a chair of agriculture, the incumbent to receive, at 4 per cent interest, a salary of £50 per annum. This action created two precedents. It was the first chair in the university to be founded by a private benefactor, all previous ones having been established either by the Crown or the Town Council, and the first in agriculture at any university in the British Isles. It was, furthermore, 'a prime example of professionalisation facilitated by the patronage of landed gentry'.¹⁶

The man duly appointed, Dr Andrew Coventry of Shanwell (1764-1832), had little need of the modest stipend. He was the eldest son of the Minister of Stitchell, but his independent means were enjoyed by virtue of inheritance through his mother of the estates of Shanwell, near Kinross. Coventry had taken an MD degree at Edinburgh in 1783, but devoted himself to progressive farming, becoming in due course acknowledged as 'the first authority on Agriculture in Scotland'.¹⁷ From the beginning, there was controversy over his

appointment. The College Bailie expressed concern that the rights of the Town Council might be prejudiced by a private individual's having founded the chair; the professor of natural history (Walker) protested that the new chair should not be allowed to interfere with his rights to teach 'any branch of Natural Science'; and the professor of botany (Rutherford) reacted to this in turn with the counter-claim that the professor of natural history did not have the right to teach botany. Finally Coventry himself was anxious that he alone should enjoy the privilege of giving 'a separate course of Georgical lectures'.¹⁸

These internecine disputes serve to remind us not only that Edinburgh professors at the time were largely dependent upon students' fees for their remuneration, and consequently felt threatened by the appearance of a rival, but also of the wide-ranging, not to say elusive nature of Coventry's subject. His position appears, indeed, to have been decidedly insecure, even though by modern standards, least of all by those of the time, he seems to have served his university diligently for forty-one years.

We can gain some appreciation of his anxieties from the testimony he gave to the Royal Commission of Inquiry into the Scottish Universities, which took exhaustive evidence during the years 1826 to 1830.¹⁹ The Commission was established by the then Home Secretary, Robert Peel, to investigate 'certain irregularities, disputes, and deficiencies . . . in the Universities of Scotland, calculated to impair the utility of these establishments'.²⁰ It was evidently a reflection of Peel's concern over the academic and administrative problems being experienced at all five universities at the time, and in particular over the power

¹⁵ Young, *op cit.*

¹⁶ S. Shapin, 'The Audience for Science in Eighteenth Century Edinburgh', *Hist Sci*, XII, 1974, p 113.

¹⁷ Grant, *op cit*, II, p 456.

¹⁸ E Shearer, 'Edinburgh University and Edinburgh College of Agriculture', *Ag Progress*, XIV, 1937, pp 173-4.

¹⁹ *Report of the Royal Commission of Inquiry into the State of the Universities of Scotland*, BPP 1831, XII.

²⁰ *Report*, *op cit*, p 1.

struggles at Edinburgh between the Senate and the Town Council.

Coventry produced as the syllabus of his lectures his *Discourses Explanatory of the Object and Plan of the Course of Lectures on Agriculture and Rural Economy* which had been published in Edinburgh in 1808. In other circumstances this, together with the weight of thirty-seven years in the chair, might have been regarded as evidence enough of his impeccable credentials, but the Commission adopted what now looks like an inquisitorial, even a hostile, position, so that Coventry felt obliged to utter a number of defensive rationalizations.

I have given, I believe, more Lectures in one Course than any other Professor in the University. I have had sometimes 140 lectures, having part at double hours . . . [and] . . . give to all the students a pamphlet, containing notes upon some difficult parts of the subject or those too minute in detail for them to follow in a Lecture.²¹

After the better part of a lifetime in office Coventry was still not free of 'demarcation disputes' with his colleagues. Thus he gave:

lectures upon the Structure and Economy of Plants, but only with respect to the application of that subject to Agriculture; I do not take notice of anything that belongs to the Botanical class, but I do of everything that could be turned to use in Practical Agriculture; and so with the observations on the atmosphere and its variations.²²

In their *Report* of October 1831 the Commissioners made little attempt to hide their critical attitude. Choosing to deal with agriculture at the bottom of their comments on the Faculty of Medicine, they remarked somewhat scornfully that 'as there is a peculiarity in the mode of teaching it, it may be subjoined to the account of the different classes connected with the three faculties'.²³ This 'peculiarity' — the enormous breadth of subject matter that must be covered — is of course familiar enough to the modern agriculturalist who not uncommonly finds

himself the poor relation of the 'purer', more established, and more clearly identifiable sciences, while claiming for himself special competence only in an uneasy conglomerate of disciplines among which he is 'master of none'. Coventry himself seems to have felt this, and he was vulnerable in another respect also; at least in public he could afford to pay no more than the customary obeisance to the scientific foundations of his subject, lest he risk alienating the bulk of the farming community by showing his true colours to be 'merely academic'. Thus while chemistry and botany 'would be requisite for any person wishing to understand Agriculture in a full and proper manner', he should also 'know something about practical affairs', for this, at the end of the day, was likely to count for more than 'knowing anything about the finer opinions on the subject of Agricultural Chemistry, delivered by Sir Humphrey [sic] Davy and some others'.²⁴

Coventry's other weakness was ruthlessly exposed by the Royal Commission. The size of his class had fallen from over seventy to about thirty students during his term in office, but the decline, pleaded the professor, was:

owing partly to the circumstances of the time. There are many that [have] spoken to me . . . of their intention to send their sons to the class; but from the change in conditions of the tenantry of late, they put off doing so.²⁵

In view of the devastating slump which had overtaken agriculture since the end of the Napoleonic Wars (the latter having been a stimulus to innovation and productivity), this seems a fair point; a nascent agricultural education could hardly be expected to achieve immunity at a time when not just money (the class fee for agriculture was four guineas) but food itself was in short supply. Moreover, a class which in thirty years had never fallen below thirty in number must surely be taken — more especially in view of

²¹ Evidence taken before the Commissioners of the Universities of Scotland, BPP 1837, XXXV, p. 561.

²² *Ibid.*

²³ *Report*, *op cit.* p. 152.

²⁴ Evidence, *op cit.* pp. 561-3.

²⁵ *Report*, *op cit.*

the fact that its subject was available neither for graduation nor ordination — as evidence of the initiative's considerable success.

III

As to the important matter of the contents of Coventry's course and to the way it was delivered, the *Report's* findings speak for themselves:

The Subject of the Course of Study embraces all that relates to Agriculture and the management of Live Stock, with various discussions relating to Rural Economy . . . No preliminary Course of Study is ordered, or deemed requisite, none having been ever at the class who were not qualified to understand what was delivered. It is, however, generally wished that pupils should previously have attended Chemistry, Botany, Natural History and Mechanical or Natural Philosophy. There are no Examinations of the Students; but they have been asked to write upon any subject which they heard discussed in the Lectures, or which they thought connected with the subject.²⁶

All this seems eminently reasonable. At the time, all Edinburgh professors, not just Coventry, had complete legal monopoly over their subjects and seldom required any entrance qualifications from their students. Furthermore, non-graduating students had complete freedom to study whatever they chose. Thus the hostility to Coventry was not motivated by any dissatisfaction with his own performance, but rather by unresolved doubts as to the academic merits of his subject.

In addition to the volume already mentioned, our first professor of agriculture also brought out a small treatise on *The Succession of Crops and Valuation of Soils*, and it has been suggested that Coventry's influence was perhaps reflected in the early 'soil surveys' of the Edinburgh area.²⁷ More direct evidence of his influence, and an indication that chemistry was more important to him than he felt it politic to reveal, comes from no less an authority than

Humphry Davy himself. In the introduction to his *Agricultural Chemistry* (1813), Davy refers to the *General Report of the Agriculture of Scotland* (edited by Sinclair and first published in 1812), regretting that it had appeared too late for him to use.

Had it been in circulation before, I should have profited by many statements given in it, particularly those of the opinions of the enlightened Professor of Agriculture in the University of Edinburgh; and I should have dwelt with satisfaction on the importance given to some chemical doctrines by his experience.²⁸

Unfortunately, the approval of one who had popularized agricultural science rather than advanced its practical utility, was hardly sufficient to provide for Coventry the succour that he needed in official, not to say in farming, circles. Few agriculturalists believed academic instruction to be either a viable alternative, or even a useful supplement, to prolonged experience on the farm. In any case, such scientific expertise as might conceivably be profitable could be acquired simply by attending the ordinary classes already available in the university on chemistry, natural history, geology, engineering and the like. No agricultural faculty or department *per se* was desirable, for agriculture was a practical art, not a theoretical science, and as such could never lend itself appropriately to study at the university. To make matters worse for Coventry this view was, of course, one which recruited wide support among his own colleagues in the university, although for the quite different reasons of apprehension and disdain.

IV

Given the opposition from all quarters, it was surprising that the Edinburgh chair survived at all. While the prestige of agriculture had stood high in the decades around the turn of the century, it suffered a

²⁶ *Report*, *op cit*, p 152.

²⁷ R Somerville, *General View of the Agriculture of East Lothian*, 1805, p 279.

²⁸ H Davy, *Elements of Agricultural Chemistry*, 1813, p iv.

precipitous fall in the wake of the colossal National Debt which followed 'victory' in the French Wars, a tragic situation which had been documented by several Select Committees before 1840. This depression was now reflected in the state of agricultural science, which in Britain passed through a relatively quiescent period between the seminal publications of Davy (*Elements of Agricultural Chemistry*, 1813) and Liebig (*Organic Chemistry in its Application to Agriculture and Physiology*, 1840). In the absence of a lively atmosphere of discovery

and debate, it was the more difficult to promote a role for agriculture in formal education. Although in the event no action was taken against the Edinburgh chair (David Low succeeding Coventry when the latter retired in 1831), the attitude assumed by the Royal Commission is as revealing as any of the parlous condition into which the rural interest had declined. It required a new generation of teachers and experimentalists, with new energy and new ideas, if a successful rescue operation were to be mounted.

British Agricultural Policy Since the Second World War

By J K BOWERS

By any standards, British farmers had a good war. Following a prolonged depression of the inter-war period with low prices and low farm incomes the onset of hostilities saw a rapid transformation in their position. In just three years from 1938-39 to 1941-42 gross output of British agriculture increased by two-thirds and over the war as a whole real farm net income increased more than three-fold. Much of this improvement was in prices rather than in quantities. Prices doubled between 1939 and 1946, whilst at constant prices gross output peaked in 1939-40 at a level some 16½ per cent above that of 1938-39; the 1939-40 level was not reached again for a decade.¹ Aggregate figures arguably understate the contribution of British farmers to the war effort since the objective was to save scarce shipping space by reducing dependence on imported animal feedstuffs via the expansion of home-grown cereals and root crops. In these terms there was considerable success. Between 1939 and 1942 physical output of wheat and barley rose by about two-thirds, oats by three-quarters, and tonnage of potatoes almost doubled. This was at the expense of livestock output. Cattle numbers remained virtually constant and sheep numbers fell.

The farmers' contribution to the war effort stood them in good stead when it came to the post-war settlement. The strategic importance of a prosperous agriculture was accepted and a determination to avoid a reversion to the 'dog and stick' farming of

the depression was also important. Farmers were one of the groups that had a claim on the better world that was to emerge from the ruins of victory.

I

The basis of the post-war settlement for British farmers was laid in the Agricultural Act of 1947.² The general objectives of the Act, which were subsequently quoted on almost every occasion that a new departure in policy was made and at other times as well, are stated in section 1.

'promoting and maintaining . . . a stable and efficient agricultural industry capable of producing such part of the nation's food and other agricultural produce as in the national interest it is desirable to produce in the United Kingdom, and of producing it at minimum prices consistently with proper remuneration and living conditions for farmers and workers in agriculture and an adequate return on capital invested in the industry'.

For the main products, constituting at the time about 80 per cent of gross output, the mechanism for achieving these objectives was through price guarantees, initially paid directly through the Exchequer and subsequently, as wartime controls were lifted, by 'deficiency payments' representing the difference between the guaranteed prices of the product and some sort of average market price. Guarantees were given for eleven main products: cattle, sheep, milk, eggs,

¹P Cheshire, 'Management of the market: the economic arm of agricultural policy' in Open University D 203 III, *Agriculture*, Milton Keynes, 1975.

²The principles of agricultural support had evolved during the War. They were rehearsed in a speech by the Minister of Agriculture in the House of Commons in November 1940. The purpose and timing of Reviews was announced in December 1944 and the first annual review took place in February 1945. The objectives of policy as quoted above were stated in almost identical words by the Minister of Agriculture in the House of Commons on 15 November 1945. For the evolution of the policy see W E Heath, 'Price fixing policies in Agriculture', *Journal of the Proceedings of the Agricultural Economics Society*, vol 8, no 1, 1948, pp 4-13.

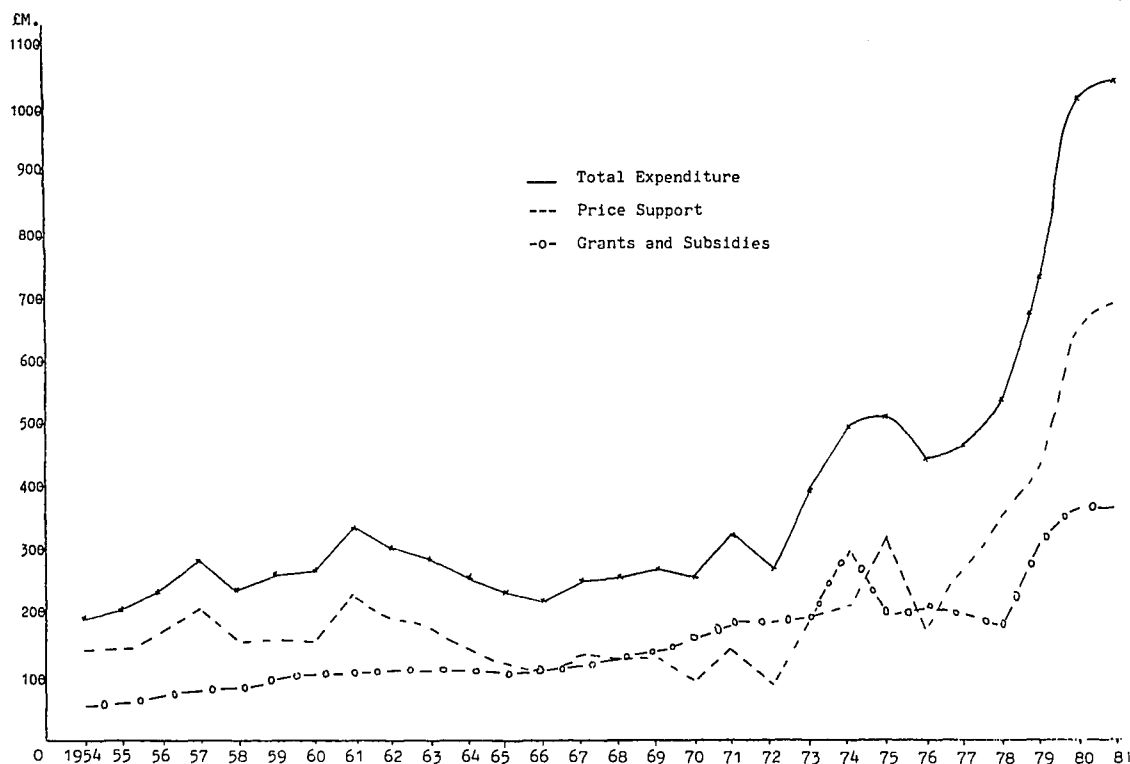


FIGURE I
Public Expenditure on Agricultural Support (Current Prices)

barley, wheat, oats, rye, potatoes, sugar beet, and wool. Other products, eg horticulture, were protected by a variety of trade measures, mainly general and seasonal tariffs.

Guaranteed prices were fixed annually following an annual agricultural review. The Review involved Ministers consulting with representatives of agricultural producers — the various farmers' unions — but not representatives of the agricultural workers — to consider the economic condition and prospects of the industry. The farmers' unions were thus in a unique position among British industries in having a statutory right to consultation over the prices they would receive for their produce. This statutory cartel was acceptable presumably because, until the 1960s at least, the prices fixed were at the expense of the

taxpayer and not directly at the cost of the consumer.³

From 1951 the Annual Review resulted in a White Paper which provides an invaluable source of official thinking on agricultural policy. The brief historical commentary below is largely based on these documents. The Act contained provision for special reviews between annual reviews and recourse was made to them from time to time. Special reviews were held in 1951, 1955, 1956 and in 1970. Those in the 1950s were in response to wage settlements; that in 1970 to meet rapidly rising cost of all inputs.

Farmers were not the only agricultural interest group to be involved in the annual price fixing ritual. Data provided by agricultural economics departments in the

³But indirectly of course since supply on the home market is affected.

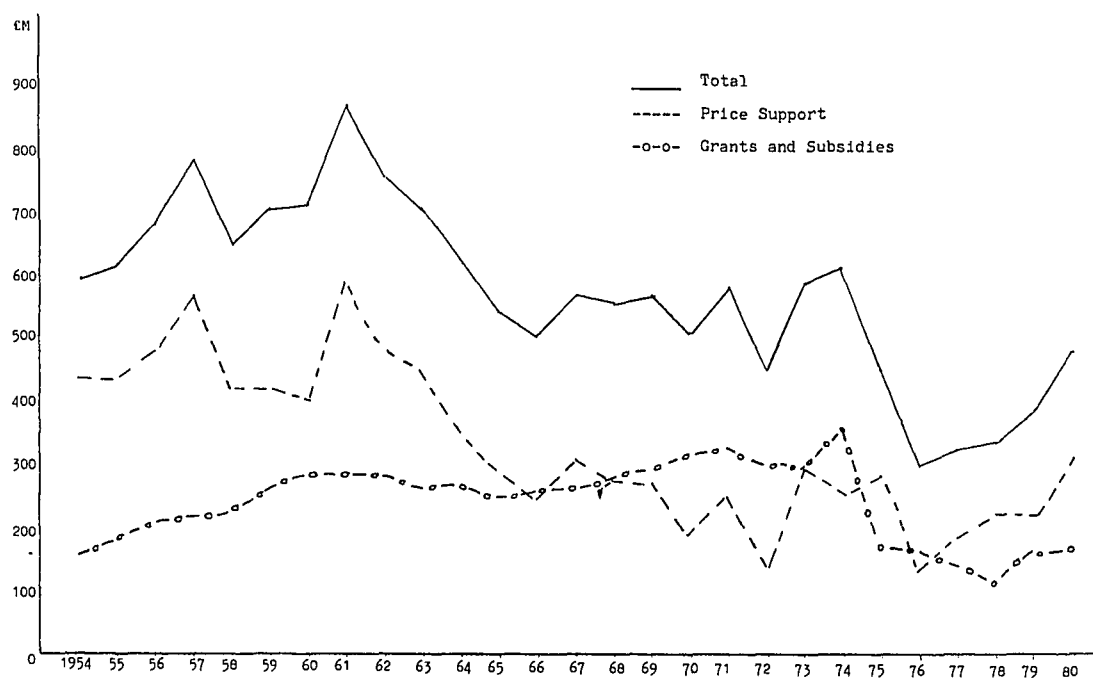


FIGURE 2
Public Expenditure on Agricultural Support (Constant Prices)

universities formed part of the information input and was published in the White Papers.⁴ These data, the Farm Management Survey, were collected under MAFF funding and the Ministry thus directly sponsored agricultural economics in British universities.⁵ The Ministry additionally sponsored research in Departments of Agriculture, as well as in various agricultural colleges, and the results in the form of improved techniques were disseminated through the agricultural services (now the Agricultural Development and Advisory Service (ADAS)). The annual settlement involved the payment of direct grants on inputs and for the adoption of new techniques as well as price guarantees. These are plainly complementary with ADAS work; indeed part of that work involved publicizing these grants. As Figure 2 reveals,

the direct grant element had a tendency to rise over time at the expense of the price guarantees.

This unique example of co-operation between agricultural interests over the development of agriculture and the fixing of prices arguably served to reduce criticism of the system; everybody with the knowledge of the details was likely, one way or another, to be part of the system. This was possibly significant when, as happened during the 1960s, the emphasis of policy changed, from, in the words of the Act, stressing 'minimum prices' to concern with 'remuneration and living standards'.

II

The early years of the operation of the Act were dominated by the problems of post-war reconstruction and the role that agriculture could play in easing them. The Government had in mind a programme of growth for the industry as it had for most of

⁴ A good description of the system is in the 1951 Review, Cmnd 8239, May 1951.

⁵ The situation at Queen's University, Belfast, where members of the Department are simultaneously officials of the Northern Ireland Department of Agriculture, is unique.

the next thirty years. The initial objective, stated in detail in the 1952 Review,⁶ was to raise net output by 1956 to some 60 per cent above pre-war levels. Priority was to be given to the development of livestock enterprises to increase the supply of meat to the home market. 'Above all to raise to the utmost the production of beef and veal, mutton and lamb' (para 12 (h)). The other recurring problem was a shortage of feed grains and an improvement in productivity of grassland was sought so as to release one million acres for growing barley and oats. The programme was to be coupled with an 'efficiency drive' — targets could only be met if there were a substantial rise in productivity.

Although subsequent White Papers expressed pessimism, the target was in fact met. The problem of imported feedstuffs remained a policy preoccupation until the late 1950s with, in consequence, continual calls for improved productivity of grassland and increased production of feed grains. 'Ten per cent of concentrates saved would be worth at least one million tons of imports.'⁷ A cut in pig production to save imported feed costs was sought in 1955. The 1956 Review⁸ called for an intensification of the 1952 policy for balance of payments reasons.

Efficiency was encouraged in a number of ways. First, as Table I shows, the addition to guarantees after 1951 was typically less than the increase in costs and in 1954, 1958 and 1960 was in fact negative. Thus, the intention was that increases in net farm incomes could only come through increased efficiency. *Long-term Assurances for Agriculture*⁹ placed constraints on the Government's ability to adjust the guarantees downwards. For any product the guaranteed price in any year was to be no less than 96 per cent of the previous year's level and for livestock products the reduction was to be no more

TABLE I
Increases in Guarantees and Changes in Cost
for Review Products

Year	£M	
	Cost Increases	Additions to Guarantees
1951	53.5	53.25
1952	41.0	39.0
1953	22.2	15.4
1954	-6.7	-12.0*
1955	25.0	28.0
1956	37.0	25.0
1957	38.0	14.0
1958	11.0	-19.0
1959	11.5	3.0
1960	13.0	-9.0
1961	19.0	14.0
1962	19.5	11.0
1963	12.5	0.0
1964	24.0	31.0
1965	19.0	10.0
1966	32.0	23.0
1967	15.5	25.0
1968	68.5	52.5
1969	40.0	34.0
1970	60.4	80.0*†
1971	141.0	150.0*†
1972	48.0	49.0

* Author's estimate.

† Because of changes in the system of protection these figures are not comparable with previous years.

than 9 per cent in any three-year period. The total value of guarantees including production grants was to be no less than 97½ per cent of the previous year's level once adjustment was made for cost changes. The White Papers for 1958 and 1960¹⁰ make clear that but for this commitment the reduction in guarantees would have been greater.

The second method of encouraging productivity growth was via a change in emphasis from price support to subsidies on capital and chemical inputs and on structural change. The growth of grants and subsidies during the 1950s in both current and constant prices is shown in Figures 1 and 2. Cmnd 23 introduced a new scheme of grants at an initial rate of 33⅓ per cent.

⁶Cmnd 8556.

⁷Cmnd 9104 (1954) para 15.

⁸Cmnd 9721.

⁹Cmnd 23 (1956).

¹⁰Cmnds 390 and 970.

While the long-term downward trend on price guarantees in real terms is clear from Figure 2 and its lack of trend until the 1970s in current prices from Figure 1, the open-ended commitment entailed by deficiency payments once the markets were decontrolled¹¹ imparted fluctuations to the actual expenditure on price guarantees. The initial strategy for dealing with this is best shown in Figures 3 and 4. Taking 1964 as our break-point (for reasons explained below), cumulative price increases were zero or negative in pigs, eggs, wool and wheat and low in all others with the sole exception of beef and potatoes. The increase in beef is more apparent than real since unlike the other intensive users of imported foodstuffs, pigs and eggs, feed-stuff cost charges were not netted out before calculation of guaranteed price. In the case of potatoes, prices were adjusted with the objective of meeting home demand from home supply.

Rising and unpredictable charges on the Exchequer, the inevitable outcome of deficiency payments in a time of falling world prices of agricultural products, as was the second half of the 1950s, rather than balance of payments problems, provided the main spur to reform of the support system. Unless guaranteed prices could be brought down, the 'efficiency drive' served simply to make the public expenditure problem worse. Concern with the cost of the policy and the need to reduce it first surfaced in the 1956 White Paper. By 1958 the Ministry had decided that 'on present prospects no further expansion on gross output is required'. The problem was aggravated by complaints from Commonwealth suppliers that UK agricultural expansion was spoiling the market. This was cited as a reason for cutting the guarantees on milk and wheat in 1957¹² and for sheep in 1959¹³ and for the policy of zero growth in 1958.

As well as these measures the government limited guarantees by imposing producer quotas or 'standard quantities', with various penalties for over-production. These were introduced for barley and pigs in 1961 and for eggs in 1963. A two-part tariff for milk with substantially lower (and uncontrolled) prices in the manufactured market appeared also in 1961.

In 1960, following a meeting between the Prime Minister and the President of the NFU, talks were held between agricultural ministers and representatives of the farmers' unions. The results were published as a White Paper.¹⁴ From the tone of this document, which contrasts sharply with that of the Annual Reviews of the period, the NFU appears to have scored a major victory. The paper describes agriculture as 'this great industry' (para 2), emphasizes its importance as a source of employment, both directly and indirectly its 'valuable contribution' to the balance of payments and its impressive increase in net output and productivity in the post-war period, while at the same time 'ensuring a countryside in which the whole nation can find pride and enjoyment'. Significantly, the paper argued that 'export prices' were not a 'fair criterion by which the public should judge the competitiveness of the home product', since most competitors supported their home agriculture. Furthermore agriculture was not the only industry to receive public money. The unions complained that the government intended to restrict the industry in the interests of saving public expenditure and to 'further a particular trading policy'. In reply the Government stressed that their policy was for expansion on 'sound lines'. The Government agreed to consider the unions' views that surpluses were in fact desirable as a source of food aid to developing countries and also to consider the possibility of

¹¹ Eggs and cereals were decontrolled in 1953 and fatstock, the last to be dealt with, in 1955.

¹² Cmnd 109.

¹³ Cmnd 696.

¹⁴ *Agriculture* — Reports on talks between the Agricultural Departments and the Farmers' Unions, June-December 1960, Cmnd 1249 (1960).

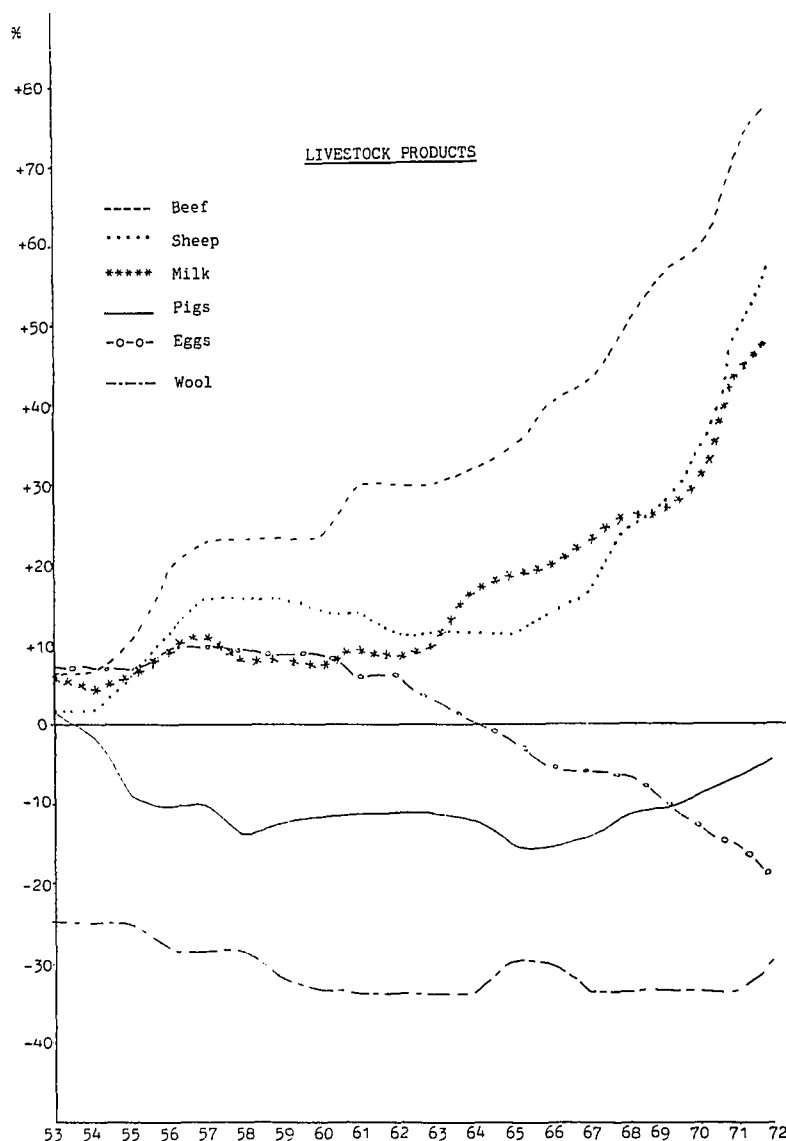


FIGURE 3
Cumulative Percentage Increase in Price Guarantees

international agreement to control markets 'to the mutual advantage of all'.

These talks bore immediate fruit in that the White Papers of the early 1960s were more fulsome in their praise for farming's achievements and in an improvement in the relationship between guarantees and costs (Table 1). But its real success appeared in the Annual Review for 1964, which marked a substantial shift in approach, to a degree that amounted to an abandonment of the policy

that had been followed hitherto. The paper announced the introduction of import controls for cereals and fatstock. The Bacon Market Understanding was to operate from 1 April and a minimum import price scheme was to be introduced for wheat. Agreement was being sought on control of the fatstock markets but meanwhile 'co-operation would be sought with overseas suppliers in co-ordinating the level and phasing of supplies to the UK market'. This approach

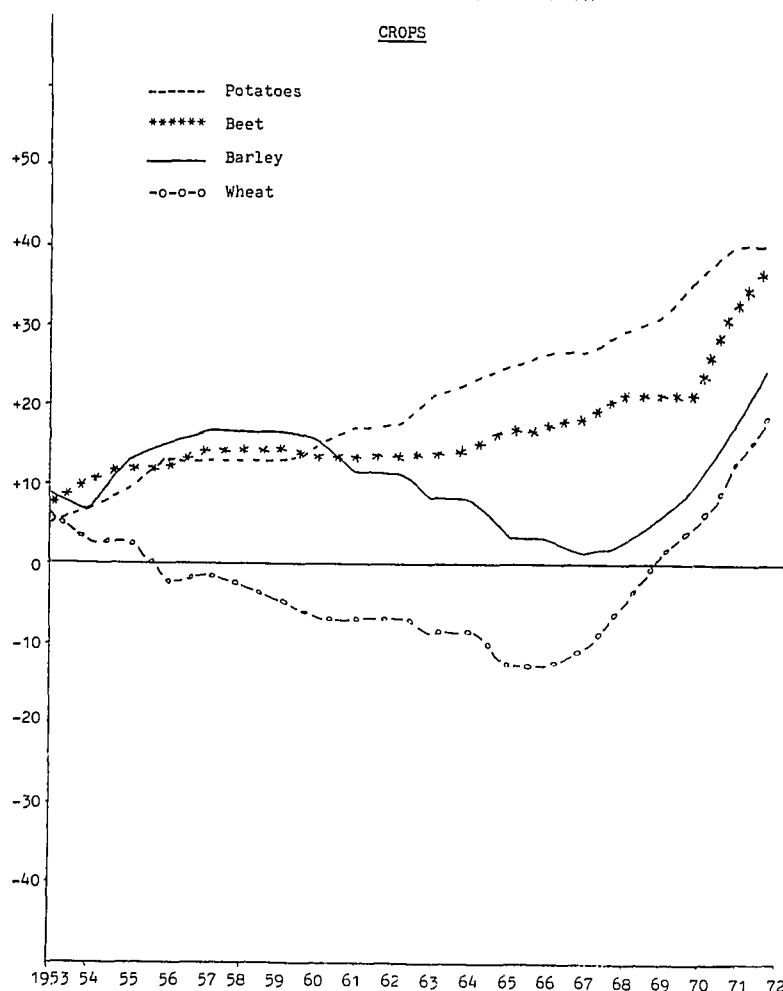


FIGURE 4
Cumulative Percentage Increase in Price Guarantees

was extended in subsequent years. By 1969¹⁵ there were in addition quotas on butter, 'voluntary arrangements' on poultry, negotiations in progress for ways of limiting imports of cheddar type cheese and on a minimum import price scheme for eggs.

This changed approach meant the abandonment of attempts to eliminate protection and support for agriculture through making it competitive on world markets. Under 'market management', protection was effectively seen as permanent. This was made possible by the shift

of the burden of support from the taxpayer to the consumer. Protection thus was hidden and higher prices could be justified as a fair reward for farmers and as reflecting the real cost of food production. The 1964 Review laid stress on the social role of agricultural protection (para 11) and para 12 announced that provided import controls worked, greater weight in policy would be given to the question of returns to the farmer. Significantly 1964 was the first year for a decade in which the value of guarantees exceeded increased costs (Table 1).

If the objective was to reduce the overt cost of protection to the Exchequer it was wholly

¹⁵ Cmnd 3965.

successful. In real terms public expenditure peaked in 1961, and even at current prices the 1961 level was not reached again until 1973. The removal of the public expenditure constraint removed also the limitations on output. Throughout the period from the mid-1960s to the 1980s agriculture was operating under some sort of expansion plan. The first of these was the selective expansion coupled with the National Plan of 1965.¹⁶ Agriculture's contribution to this was to be two-fold — to release labour for other industries by a rapid (5 per cent per annum) growth in labour productivity and to save imports by meeting the estimated increase in consumer expenditure on food. Beef production was given major priority since 50 per cent of this increased demand was expected to be for meat.

A separate White Paper in 1965¹⁷ addressed itself to the problem of reform of the structure of holdings within the industry. Grants were to be available to persuade small farmers to leave the industry, various forms of assistance also to the amalgamation of small farms into viable economic units and assistance to co-operation through a newly created body, the Central Council for Agricultural and Horticultural Co-operation. As part of the programme for structural reform the White Paper also proposed mobilization in the special support for hill and upland farmers which had existed in varying forms since 1940. Livestock headage payments were put on a long-term basis and increased in value (1965), hill ploughing grants were introduced (1967) and further structural measures applied (1969). While assisting the achievement of productivity targets and especially the targets for beef, these measures can be seen as in part stemming from the then current concern with regional problems and, within that, the peculiar problems of remote rural areas.

The selective expansion programmes survived unscathed the collapse of the National Plan with the measures of September 1966 and in 1969 were rolled forward until 1972–73. By 1970 a new argument was introduced for a programme of maximum output growth: the reduction of the bill for the Common Agricultural Policy in the event of entry to the EEC.

Entry to the EEC can be seen as the logical culmination of UK agricultural policy in the 1960s. Agricultural protection was to be regarded as permanent and was to be borne largely by the consumer, thus keeping the Treasury wolf from the Ministry door. In fixing prices the main concern was with the welfare of farmers, not the interests of the consumer and still less those of overseas suppliers and the benefits of international trade. It had an additional advantage that if the consumer complained about high prices then blame could be attributed to the French. As the 1971 Review made clear, we would have an import levy system whether we entered the EEC or not.

Entry to the EEC did not remove the case for expansion. The need to reduce the costs of membership via expansion of agriculture was then seen as even more urgent. It was exploited to the full in *Food from Our Own Resources*¹⁸ which gave a maximal expansion programme over five to ten years. In addition to the saving of budgetary contributions and food imports this paper found another argument for expansion — as an insurance policy against the fluctuations in prices and the commodity shortages of the early 1970s — this despite our now having right of access to an enormous supply block. Even the later *Farming and the Nation*¹⁹ under a Labour Minister much more sympathetic to consumers than either his predecessors of the 1960s and 1970s or, indeed, his successor, considered that there was a case for

¹⁶ Cmnd 2764 (1965).

¹⁷ *The Development of Agriculture*, Cmnd 2738.

¹⁸ Cmnd 6020 (1975).

¹⁹ Cmnd 7458 (1979).

expansion and proposed another five-year programme.²⁰

III

If the objective of British agricultural policy in the period up to 1964 was to make agriculture self-supporting, to increase its productivity and efficiency to the point where the need for public support and especially public expenditure was reduced to a minimum, then it must be adjudged a failure. The abandonment of these objectives from the middle 1960s is clear evidence of that. Under import limitation the level of protection has continued to rise as it did in the 1950s and effective protection rates in the late 1970s under the CAP were substantially higher than in the 1960s.²¹ The burden has increased but the incidence has changed. Given the virtual static demand for foodstuffs within the UK market, increased competitiveness for the national farm could only come about via a shift in comparative advantage: *de facto* by a higher rate of productivity growth in agriculture than in manufacturing. This did not happen; the rapid growth in output per acre and per man was matched by low or even negative growth per unit of capital, per unit of chemical input and probably per unit of energy input so that total productivity growth was less in agriculture than the internationally poor performance of UK manufacturing.²² The argument for the

policy is a variant of the infant industry case for protection. It was assumed that there were economies of scale to be realized and that these could be obtained by expansion with increased capital intensity. It is doubtful whether such economies are there to be realized by any approach but in any case the implicit constraints under which policy operated ensured that what existed could not be exploited. Essentially the implicit constraint was the size of farm. Until the late 1960s little emphasis was given to increasing the size of units with the corollary of a reduction in the numbers of farmers. Rather these economies were to be obtained by specialization within the farm and increased intensity of land use. Labour may have been a scarce factor in the 1950s but it is not clear that land was; certainly capital was not abundant. The consequence of the distortion of factor prices built into the policy was a shift in factor ratios rather than economies of scale and neutral technical progress.²³

If the infant industry argument does not provide a case for expansion the other arguments are also doubtful. The balance of payments case concerned whether agricultural expansion could improve the balance of payments and not whether, given the objective, agriculture was an efficient location for resources to achieve this end.

Within the CAP expansion of output embodies a basic prisoner's dilemma. Each country can hope to gain from its partners through expansion but the net result of expansion is that all are worse off. Expansion by the UK improves the budgetary balance at a high cost to the UK consumer. Given that the CAP is operating under a budget constraint, the net gain to the UK's

²⁰ While setting no precise targets. Unlike Cmnd 6020 this paper shows concern about the costs of support, the impact of high prices on consumers, the impact of the policy on the environment and the problems the CAP was causing for developing countries. Cmnd 6020 was more in the tradition of the Report of the Select Committee on Agriculture (1969) which dismissed all arguments and doubts about the wisdom of maximal expansion as 'mere speculation'. Virtually the entire hours of attendance at the hearings of this Committee were made up of farmer MPs: P Cheshire, *op cit*.

²¹ C J Black and J K Bowers, 'The Level of Protection of UK Agriculture', *Oxford Bulletin of Economics and Statistics*, 46, 1984, pp 291-310.

²² Over the period 1948-68 agricultural productivity grew at 1.6 per cent per annum while that in manufacturing grew at 1.8 per cent per annum, ie manufacturing productivity increased by 49 per cent compared with agriculture over 20 years. See J K Bowers, 'Economic efficiency in agriculture', in Open University, *op cit*.

²³ The preoccupation with technical rather than economic efficiency follows inevitably from application of science to agriculture which, as noted, the Ministry actively promoted. Agricultural research concentrated on such measures of efficiency as yields and output per man. Concentration on individual enterprises accords with the logic of scientific experimentation.

budgetary contribution from expansion is far smaller than the gross gain.²⁴

If post-war agricultural policy has failed to make British farming more competitive it has at least reconciled public opinion to the need for permanent protection. It has furthermore persuaded the public that British agriculture is highly efficient. The confusion between technical and economic efficiency that underlies successive policy phases seems to be widespread. It has also achieved its objective of safeguarding farmers' incomes. Not only was the three-fold rise of the war-time sustained and consolidated, but the rise in real average pre-tax net farm incomes since then has been greater than the real income growth of many other groups of workers.²⁵ To this must be added massive real increases in rents and land values. But the lasting achievement of post-war policy has been the changes it has wrought in the landscape and the natural environment. By common consent these have been deleterious if not disastrous. They result from the directions of change which have been the objectives of policy: specialization, increased intensity of land-use, increases in arable and leys at the expense of permanent pasture and extensive use of chemical inputs.

The damage and destruction of ancient monuments in the 1950s and 60s, mainly through ploughing, was massive. Of scheduled field monuments in Wiltshire, a survey in 1964 found that almost two-thirds had been damaged or destroyed.²⁶ The 1965 Report of the Deserted Medieval Study Group noted that 'as many sites have been

threatened during the past 25 years as during the previous 500'. There has clearly been a substantial loss of visual evidence of past agricultural practices, such as the destruction of ridge and furrow by continuous deep ploughing and the elimination of water meadow systems but, except for the loss of hedgerows,²⁷ this still awaits documentation.

Turning to the natural environment there has been considerable evidence of chemical pollution. Most strikingly the decimation of populations of birds of prey from organochlorine pesticide poisoning in the 1960s, but also loss of water quality from fertilizer run-off and wastes of intensive livestock units. Habitat loss, however, has been the most lasting problem. The Nature Conservancy Council²⁸ has argued that the modern intensive farm is a hostile environment to almost everything except agricultural enterprises and the reduction in habitat diversity is shown by marked declines in the distribution of indicator species — plants and, although the evidence is less good, invertebrates and amphibians. It could indeed be said that post-war agricultural policy has created the nature reserve by reducing many wildlife habitats to a position of scarcity, increasing their value and vulnerability, and incidentally by reducing the availability of agricultural land to meet growing demands for recreation, adding greatly to the population pressures on what remains.

Finally, it should not be thought that these were problems of the 1950s and 60s which have now been recognized and are under control. Existing plans by Water Authorities will, if carried through, eliminate virtually all the wetland grazing marsh in England and Wales to be replaced by arable farming largely for cereals and leys on well drained

²⁴ See J K Bowers, 'Who pays the cost of UK agricultural expansion?', *University of Leeds, School of Economic Studies, Discussion Paper* 110, 1982.

²⁵ J K Bowers and P Cheshire, *Agriculture, the Countryside and Land Use*, 1983, Chapter 4. The comparators used are male manual workers, administrative grade civil servants, army officers and university lecturers. This is not true of agricultural workers, who have simply maintained their position at about 75 per cent of the wage of male manual workers. As noted, policy has not been directed at agricultural workers.

²⁶ The evidence in these paragraphs is surveyed and documented in Bowers and Cheshire, *op cit*, Chapter 2.

²⁷ Countryside Commission, *New Agricultural Landscapes: Issues, Objectives and Action*, London, 1977.

²⁸ Nature Conservancy Council, *Nature Conservation and Agriculture*, London, 1977.

land. These schemes are being promoted and grant-aided by MAFF.²⁹ There is no evidence so far that the Wildlife and Countryside Act 1983 is controlling these trends and internal evidence that, un-

amended, it is unlikely to do so. The threat to the environment in all its aspects would benefit from an abandonment of the wearying dash for growth in agricultural production and still more from some reversal. The consumer and taxpayer might benefit from such a policy as well.

²⁹J K Bowers, 'Cost-Benefit Analysis of Wetland Drainage', *Environment and Planning, 'A'*, 15, 1983, pp 227-35.

Annual List and Brief Review of Articles on Agrarian History, 1983*

By RAINE MORGAN

THERE was a disproportionately large number of important articles in 1983 on the role of food in history. This arose out of the publication of papers given by the historians, demographers, economists, food scientists and nutritionists attending the Bellagio conference the previous year. Many had used evidence on the effects of hunger on fertility and mortality in present-day poor societies to supplement historical data and Scrimshaw (206) evaluates this approach. Among those contributors critical of Malthusian theory Boserup (28) underscores the positive effects of population growth and food shortages, arguing that high and increasing densities allow heavy investment in the infrastructure necessary for technological change and greater agricultural output. Simon (211) also focuses on the benefits of dense settlement for development, maintaining that an increased demand for food leads to more plentiful supplies in the long term. Several other contributors questioned the Malthusian assumption that malnutrition kept pre-industrial populations within the bounds of their resources through positive checks. Watkins and Van de Walle (233) for example argue that nutrition and mortality are linked but only where there is a *chronic* food shortage. In England crises of subsistence were too localized and infrequent to have a large impact and high death rates were more commonly the result of infections unrelated to the food supply. Even subsistence crises were not necessarily caused by food shortages *per se* according to Tilly (222). The rise of national markets, the ripple effect of high prices on employment or wars all affected access to food, leading to serious deprivation and conflict. Her study of food protest in England and France suggests that crises were less about the dearth of grain than its inequitable allocation. Franklin's study (85) of medieval Gloucestershire connects high death rates not with harvest failure but with climatic changes which allowed the malarial mosquito to flourish. Carmichael and Livi-Bacci (41, 146) also deny that infection was mainly due to malnourishment and cite killer epidemics that were independent of harvest failures. McKeown (149) however takes a contrary

view, and argues that 'slow growth of human population before the eighteenth century was due mainly to lack of food, and the increase from that time resulted largely from improved nutrition'. Central to his argument is the belief that poor food intake lowered resistance to disease, and that until better hygiene of modern times, increases in density of populations encouraged infections, keeping mortality at a high level. European death rates are studied by Kunitz (138) who offers a variety of explanations for their decline from the seventeenth century. Among the most significant, after the waning of epidemics, was the alteration of diseases into relatively benign childhood forms where nutritional status and level of child care were all-important for survival. Wrigley and Schofield's recent seminal work — *England's Population History 1541-1871* — offers a fresh interpretation of past events, and a number of articles by these authors (203, 244, 245) summarize their impressive investigative efforts based on family reconstitution. Their most exciting proposal is that the astonishing growth of England's population was due not to changing mortality but to changes in nuptiality, specifically earlier and more universal marriage, linked to improvements in the real wage. This is already proving controversial and Olney (172) for example questions the postulated fifty-year lag between changes in fertility and living standards. An underlying cause of disagreement may be the nature of a major data source — the Phelps Brown and Hopkins cost of living index — and Thirsk (221) offers a salutary reminder to historians of its fundamental weaknesses. Chief among them is the omission of fruit, vegetables, dairy produce and pork for long periods. Flaws in the index are also highlighted by Shammass (207) who investigates the impact of new commodities and the evidence of wage assessments to gain a clearer understanding of diet and expenditure patterns. Findings suggest that the proportion of income devoted to food purchase in early modern England was closer to 50 than the 80 per cent assumed by Phelps Brown and Hopkins, and that substitution and adjustments could counteract hardship. By using retail instead of wholesale prices Rappaport (188) further suggests that the cost of living index may overstate the fall in real income during the sixteenth century by some 40 per cent. An

* Publications are dated 1983 unless otherwise noted. References to articles or off-prints should be sent to the Bibliographical Unit, Institute of Agricultural History, University of Reading.

alternative to the cost of living index for measuring nutrition is data on height and Floud and Fogel *et al* (83, 84) report on a major collaborative project to test the value of this source in historical studies. Located in military records, censuses and household surveys, the information is not only abundant (after 1700) but also offers good geographical and occupational coverage. A number of articles examine how workers fared during modern times. Oddy (168) proposes a new conceptual framework for the study of famines which differentiates between psycho-social famine, nutritional famine and actual starvation. In a test case study of the 1860s subsistence crisis in Lancashire he shows the impact of reduced incomes on consumption and health patterns. Cage (38) also highlights the serious deterioration in income and conditions of Glasgow workers in the first half of the nineteenth century. Two studies reach more optimistic conclusions. The analysis of height data in Floud (83) suggests a very marked improvement in the nutritional status of urban poor after 1800, outweighing the effects of squalor and pollution, while Lindert and Williamson (144) also argue that living standards rose. They use more traditional pay and expenditure data to show that farm workers actually gained ground on the higher paid during the latter half of the eighteenth century and from the 1820s were better off than during any earlier decade.

There is a dearth of information on diet in ancient times but Greig, Knights *et al* and Osborne's studies (97, 98, 137, 177) of sewers, cesspits and latrines promise to remedy this deficiency. On the pre-historic period generally Pryor (187) offers a critical survey of the major theories proposed by anthropologists and archaeologists to explain the origins of agriculture. A guide to the remarkable growth in research on the Mesolithic is provided in Price's lengthy bibliography (185) and review of recent work. The general trend of thinking supports a rapid intensification of subsistence patterns and settlement within the context of seasonal foraging activity. Modern farming has destroyed much archaeological evidence but Bell (18) demonstrates that valley sediments can reveal valuable data on climatic and land use changes that would otherwise be unobtainable. The sophistication of early societies is becoming increasingly apparent. Fleming (79) scrutinizes the extensive network of boundaries on Dartmoor and links them with complex territorial structures and agriculture. Their positioning suggests that the boundaries, or reaves, originated in a major re-organization of land which followed a single political decision in the second millennium BC. A study of centralized food storage facilities in Britain by Gent (90) also casts new light on the nature of prehistoric economies. He argues that they evolved in areas

where cereal growing was hazardous and at a time when climatic change and population growth increased the risks of dearth. Until recently it has been assumed that the introduction of the hardy spelt wheat in the first millennium BC was confined to the south of England, in association with pressure of numbers and migration onto marginal soils. But Van der Veen and Haselgrove (230) describe a sample from County Durham which suggests that spelt was probably not only present but also of considerable importance in the north. Coles and Orme (48, 174, 175) bring us up to date with work on the ancient wooden trackways on the Somerset Levels and the fascinating glimpses they provide of woodworking techniques and life generally 6,000 years ago.

A number of data sources for the medieval period are described. The lay subsidy rolls contain the most comprehensive evidence on wealth between 1334 and the early sixteenth century. Despite the well known problems of under-assessment and local variation Hadwin's critical survey (100) confirms that they can still be of value in comparative studies. Clues to the antiquity of many boundaries can be found in Ordnance Survey records and Faull (73) draws attention to their importance for the historian and field archaeologist. Very little has been written on medieval Irish agriculture and Jäger (122) describes a variety of primary sources which could provide the detailed information we lack. The interest in field systems continues: Baker (7) reviews recent contributions to the debate over origins and calls for a closer co-operation among scholars in order to synthesize ideas. Close examination of open fields in Yorkshire by Harvey (109, 110) has revealed a remarkable regularity in layout and tcnurial units. These support deliberate re-organization and the author speculates about a ninth- or early tenth-century origin when strong or unified lordship, population growth and a new landholding structure may have promoted the massive replanning of the landscape. Also in the north-east, Unwin (229) compares an extensive system of fields of probable Roman date with medieval township boundaries but finds no evidence of the continuity of occupation stressed in some recent findings. Work on Irish fields is also progressing and Currie (56) provides a regional study with a classification of the various field types. It has been thought that strip size in open fields was linked to the quality of land or the statute acre. A detailed analysis of Sussex data by Nash (163), however, suggests that these are unlikely explanations and that local customary acres may have had a strong influence. The low state of English agriculture during the thirteenth and fourteenth centuries has become axiomatic. But in an important article Campbell (39) shows that land pressures and poor stocking rates did not necessarily imply pro-

ductivity failures. On the contrary, in eastern Norfolk and some localities outside, high corn yields comparable with the late eighteenth century were achieved by reduction of fallow, heavy manuring and the intensive cultivation of nitrogen fixing crops. A very different picture emerges from Farmer's account (70) of Westminster Abbey Manors. Here grain harvests remained wretchedly low despite increased stocking, abandonment of marginal lands and the growing of legumes. Using a theoretical approach Silver (210) proposes a general equilibrium model to explain the decline in grain yields on Winchester manors before the Black Death. It is argued that the rise in wool-export taxes rather than over-population caused a switch into more intensive cereal cultivation leading to reduced output per unit of land. In a separate article Campbell (40) again focuses on the problem of yields and demonstrates a new method of measuring output. By analysing data from a variety of estates on different soils he shows that productivity varied according to farming regions rather than the size or ownership of estates. Current investigations are shedding light upon the obscure origin of English sheep breeds. Bischoff (22) has uncovered evidence of two distinct fleece types in manorial records. This, in conjunction with a calculated use of rams, suggests selective breeding and the creation of the genetic predecessors of the seventeenth-century Longwool. Armitage's research into this breed (5) uses osteological, iconographic and wool fibre evidence to reconstruct its changing appearance between medieval and modern times. Contradicting the usual assumption of economic rationality Mate's investigation (153) of the affairs of Canterbury Cathedral Priory indicates that the question of monastic discipline influenced decisions on estate policy in a way which could reduce revenue. The traditional reliance on records of the largest estates for evidence on the development of leasehold tenure is avoided by Rees (189) in her comparative study of a small and remote abbey property. Methodological controversies have surrounded the use of court rolls for social studies due to their idiosyncratic and localized nature. To allow more meaningful interpretations Bennett (19) proposes a new approach based on rigorous surname analysis and selective family reconstitution. The importance of local management decisions in causing peasant discontent is stressed in Watts's study (234) of Titchfield Abbey manors, while Stone (218) destroys the romantic idea of the ancient village as conflict-free and peace-loving; our ancestors were even more prone to casual violence in the past than at the present time.

For the early modern period Robinson (196) describes the *Valor Ecclesiasticus*. Compiled in the sixteenth century to provide information on benefice

incomes in England and Wales, this source has been hardly used by historians, and yet could provide valuable data on agrarian output. It has been a usual practice for students researching into the British economy to rely on Deane and Cole's estimates of production. However, recent investigations by Crafts (53) have highlighted the need for revisions, and new estimates give prominence to the period before 1760 as one of significant achievement in agriculture, while years thereafter have a slower growth than generally believed. Lindert (143) combines earlier revisions of the social tables of Gregory King with comparable estimates of income structure up to 1913 to give an over-view of growth and inequality trends. Findings again emphasize the importance of the century before 1780 for agricultural production. Similarly, in another important article, Wordie (243) rewrites the chronology of English enclosure history, arguing that the seventeenth century rather than the eighteenth was pre-eminent in terms of acreage, and he calculates that the productivity gains to agriculture were substantial. The stimulus of enclosure to production and wealth is also highlighted in Johnstone's analysis (124) of probate records from eastern Lincolnshire. However, an econometric study by Allen (2) of data collected by Arthur Young in the 1760s comes to a very different conclusion. Results argue that enclosure did not increase efficiency. Rather rent increases reflected a redistribution of existing agricultural income from the tenant farmer to his landlord. Irish landownership structures have been heavily researched: O'Dowd (169) examines inheritance customs and finds that the law of family or kin ownership was not always adhered to, even before the influence of English colonizers encouraged primogeniture. Smyth's scrutiny (213) of landholding in a single Tipperary parish over two centuries portrays the highly cohesive kinship system as the essential instrument which allowed the farm families, particularly the middle tenantry, to survive in times of uncertainty. Duffy too (64) stresses continuity in the family farm system which survived well into the nineteenth century where in-depth colonization did not take place. The Plantation has been viewed as the process of driving the native Irish off their lands for the benefit of colonists, but Sheehan (209) rejects this stereotype, maintaining that the English government lacked the means to achieve it. Instead almost all the undertakers lost their lands to native claimants by judicial proceedings or simple reoccupation. The process of Irish village development is also discussed. Robinson (195) argues that the urban network in Ulster was influenced more by pre-Plantation precedent and the physical and economic environment than by any deliberate planning by the Commissioners, and Wheelan (235) describes how

new villages developed around the reinvigorated parish and chapel networks following the religious upheavals. The study of English village plans is considered by Roberts (191) who offers a classification system, and Taylor (219) illustrates the effect that grants of markets had on morphology. The manoeuvrings of Government, its agents and the local community over the issue of fenland drainage are explored by Kennedy (133, 134) who shows how Charles I aroused hatred and distrust by his unscrupulous use of power, whereas Elizabeth and James had been remarkably fair-minded. A massive plough used to drain a Yorkshire clayland parish in the seventeenth century is described by Newman (164). Twelve feet in length and requiring twenty-eight oxen to draw it, the machine provides an extraordinary example of township co-operation in the construction, use and maintenance of equipment. A number of articles return to the question of information flows and technological change. Macdonald (148) asks what was the role of the real user — the agricultural labourer — and argues it was a vital one. Not only did he adapt new ideas but he transferred innovations from one area to another and sometimes even initiated change. Goddard (95) tries to estimate how influential were agricultural newspapers in hastening progress in farming. Although the majority of agriculturists never read an agricultural newspaper, one half of substantial tenants did and the author concludes that the press provided an important medium for the exchange of ideas. Absenteeism has been viewed unfavourably but Beckett (12) shows that it did not always lead to neglect and deterioration of estates; indeed it may have encouraged efficiency through the employment of able stewards. Marshall's lengthy article (151) on Cumbrian market towns is intended to put right the 'lamentable deficiencies and tendencies in the study of urban history'. His aim is to widen the scope of study from a narrow concern with mere numbers of people and their economic function to a consideration of local society, marketing and manufacturing activities over time. On market development in Scotland Gibb and Paddison (91) describe the inhibiting effect that burghal monopolies of trade had on village development and rural services. Scottish rural communities have not received the same attention as their English counterparts due to the belief that sources are lacking, but Whyte and Whyte (236) identify a quantity of archival material that could be exploited. Proto-industrialization has been much debated in recent years and Coleman (47) explains why the concept has little value in an English context. Problems include the very gradual development of rural industries here, their differing origins and the contrasting character of the localities concerned. Mills (155) seeks an explanation for

framework knitting taking root in certain Leicestershire villages, drawing comparisons with evidence for Nottinghamshire. He rules out environment and enclosure history but believes landownership patterns and social structure may have been crucial. Gulvin (99) notes that little has been written on framework knitting in Scotland and draws together fragmentary data for the century after 1650.

Many fewer notable articles were published on the modern compared with earlier periods. The Sun Fire Insurance policy registers have been known about for some time but they are now being made more accessible by the use of computer storage systems. One of the potential uses of this data is to throw fresh light upon the agricultural processing trades and their fixed capital, although Schwarz and Jones (204) alert future researchers to some inherent weaknesses. Three other primary sources are brought to our notice. Kain and Holt (130) map the data on crops and their yields from the Cheshire tithe files; the 1854 statistics for north-east Scotland are analysed by Dodd (61), and the accuracy of the agricultural census from 1866 is assessed by Clarke *et al* (45). On Ireland, Kennedy (132) offers a critical appraisal of writings adopting an econometric approach and stresses their outstanding contribution to our understanding of agricultural and population history. A rigorous statistical analysis of the 1841 census data is employed by Almquist (3) to reconstruct regional occupational profiles of the Irish economy. Results contrast with Lee's findings for Britain. Also on Ireland, Cuddy and Curtin (55) establish that by the end of the nineteenth century farming was highly commercialized, even on the smallest holdings in western areas, while Hazelkorn (111) looks at the writings of Marx and Engels and concludes that many of their insights were obscured by 'flamboyant but inconsequential paradigm'. Fukudome (86) too finds gross inaccuracies and misinterpretation in Marx's view of English mechanization. The activities of farmers is the main theme in a number of articles. Mutch (162) counters Fletcher's claim that the late nineteenth-century depression was confined to the arable counties of the south-east. Even in Lancashire low prices and uncertainty were felt keenly by growers of vegetables, fodder crops and corn. Fisher (77) explains why no statutory measure for enforcing the acclaimed Lincolnshire custom of tenant right was achieved in the mid nineteenth century, despite an active campaign. Apart from the defence of landlord privilege there were real practical difficulties in assessing residual improvements in the soil and he notes that the high returns on investments in Lincolnshire made that county exceptional. Also, local custom had already evolved and Jones (125) describes the sophisticated and flexible system used by the Glamorgan tenantry.

The activities of an enterprising businessman in creating a prize farm in Yorkshire in the 1880s are detailed by Harris (108). Production of liquid milk and butter for urban markets was the main expression of confidence at the time. In a separate article Harris (107) focuses upon a single estate in the East Riding during the inter-war period and shows how disastrous this time was for agriculture locally. Livestock is now receiving more attention and Broad (36) gives an account of the outstandingly successful government action which eventually eradicated cattle plague in the eighteenth century. In contrast, Britain failed to cope with the outbreak of disease in the 1840s and Fisher (76) cites the belief in *laissez-faire* and confusion over the nature of animal disease which prevented effective control measures being taken at this time. The diffusion of improved sheep breeds is traced through farm sales notices by Walton (232) who argues that the rapid adoption rate owed much to Robert Bakewell's peculiar marketing techniques. On farm labourers Devine (60) examines Highland migration, seasonal and permanent, to the Scottish lowlands after 1760, and Peck (179) surveys the changing composition of the male workforce in Warwickshire during the third quarter of the nineteenth century. From this time allotments and smallholdings became common and Perkins (181) describes the circumstances that led to their provision. It was hoped that they would halt depopulation and Haresign (105) explains why the schemes of the Lincolnshire fens were a failure. Basically allotments provided only a small addition to income and labourers remained badly paid, ill-fed, poorly housed and barely educated. Not surprisingly many laid down their hoes and left the land.

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Book Reviews

JOSEPH NEEDHAM, *Science and Civilisation in China*, vol 6, *Biology and Biological Technology*, part II, *Agriculture*, by FRANCESCA BRAY. CUP, 1984. xxvii + 724 pp. 13 tables. 271 illustrations. £50.

The dust-jacket of this book reminds us that many superlatives have been used of the previous volumes of *Science and Civilisation in China*, and the first thing to say is that *Agriculture*, written by a much younger author but still within Joseph Needham's personal and intellectual field, is a work worthy of its predecessors meriting many of the same superlatives. This is the first of a number of volumes which will deal with technology rather than science, and it sets high standards of scholarship, judgment and presentation. It is also the first Western attempt to present a technical history of Chinese farming throughout the traditional centuries. It reminds us that the greatest topics in agricultural history are those about which least is written — the growth, rationale and development of the great agricultural societies of Asia. Asian agriculture, still fundamentally traditional in form, continues to maintain approaching one-half of the whole human family; and it has probably always done roughly that. China is only part of this experience, although in recent centuries the largest single part; in earlier centuries it appears likely that India took primacy.

The materials for the history of Chinese agriculture are surprisingly good. Traditional farming systems gave rise to a series of farm manuals which no doubt represent superior practice but which give many indications of closeness to real farming experience. These works depend much upon quotation, century after century, in the Chinese way; and also in the Chinese way, many devote major sections to questions of administration rather than cultivation; but the best are works of great distinction. None, unfortunately, is yet translated into English in full, though *Ch'i Min Yao Shu* (*Essential techniques for the peasantry*), the most important of all, written around 535 AD, has been the subject of a brief analytical summary in English, with extensive quotations, by Shih Sheng-han; and Ms Bray herself promises us a full translation. Books of this kind give advice not only on cultivation and land management but also on orchard trees, silkworm management, poultry, animals and fish, manufacture of food products such as soy sauce, storage and marketing of farm outputs, and (in *Ch'i Min Yao Shu*) even cookery and preserving. The tradition of these books is quite well known and well documented among Chinese scholars both before Liberation and since, with reprints, contemporary annotated editions, a few translations into modern Chinese, and so forth;



FIGURE 104

The caption says this drill is used for sowing wheat, barley, or setaria millet. TKKW 1/15b.

and there has also been considerable Japanese study in this and related fields; but it has been unfamiliar in the West until the present time. These traditional books represent the foundation of the present author's materials, and they display, as she says, a unique degree of continuity. As well as general farm manuals like *Ch'i Min Yao Shu*, they include a long tradition of farm calendars (related more closely, surely, to the predictability of the east Asian seasons, than to the 'harsh and unpredictable climate'), and a wide range of supplementary written materials. In addition Ms Bray has cast her net widely beyond the standard written sources — into archaeology, modern agronomy, Western travellers and writers, and so forth. The main body of the book reviews the main farm operations and techniques (field systems, tillage implements, sowing, fertilization, weeding, harvesting and storage), and the main crops. In these chapters, Ms Bray is scholarly, dispassionate and sensible. She knows her sources and deploys them masterfully. The longest and most detailed chapter,

on implements, is particularly well-informed and perceptive; and she returns later to the same theme, in the form of the possible Chinese origins of the European seed-drill. It is when handling objects, whether ploughs, 'transplanting horses', archaeological finds, or the written sources themselves, that Ms Bray writes at her best. Even so, when she has a path of judgment to tread among conflicting opinions based on limited or feeble evidences, in fields far removed from implements and documents such as the origins and spread of maize or the origins of wet-rice terracing, she does so purposefully, judiciously and securely. The author's scholarship is fortified by valuable features common to the whole series — painstaking referencing, elaborate bibliographical apparatus (in Chinese and Japanese as well as in European languages), spacious treatment, generous illustrative material, and welcome identification of Chinese words and names by characters in footnotes. The idiosyncratic and now sadly outdated romanization system, once adopted for the series, is no doubt here to stay.

As the author points out in her Introduction, 'This volume differs from its predecessors in that agriculture is not a science but a technology.' 'Agriculture is *par excellence* the technical system that mediates between nature and society.' In fact this book is addressed to agriculture itself, and relates only rather indifferently to either nature or society. It is introduced by a rather perfunctory review of Chinese farm regions based on the work of John Lossing Buck in the 1930s. The author points out that twentieth-century data probably relate only imperfectly to conditions before 1600 AD (her notional cut-off point) or even before 1800; but does not attempt the construction of an alternative scheme of Chinese regions. In fact Buck's work is itself vulnerable to criticism as a data-gathering exercise based heavily upon over-confidence in cropping zones as the key to rural realities among American geographers of that period. One of its weaknesses was failure to recognize any course of change within these formulations, or to make allowance for development over time. Ms Bray herself instances respects in which Buck must not be considered an authority for the historic past, but nevertheless appears willing to accept him in that guise. In fact, dependence upon Buck has tended to over-formalize and under-represent very real historic distinctions in Chinese landscapes about which Ms Bray is perfectly well informed, such as those between a dryfield north and a paddy south, between mountain and plain, and between the old-settled north China plain and the north-east which remained detached socially from China until late in the nineteenth century. It is good to see the author introduce the nine regions of north and central China proposed in the ancient

Yü-kung text, but strange to see these compared to those suggested by Buck, or indeed to see two such disparate partners jammed into one intellectual bed.

Society as well as nature is taken rather more for granted than might have been expected in so intelligent and sensitive a book. The view of the Chinese countryside outlined here is formal rather than functional — for instance, going back to land, Ms Bray's discussion of paddy land relates mainly to physical form, and hardly at all to functional organization; and similarly her discussion of rice cultivation remains close to technical materials and does not really attempt to develop various useful insights about labour, yields and cropping systems. Here however there is a prior preoccupation — relations between farm progress in China and farm progress in Europe. When the author returns to the functioning of paddy systems, discussion is still brief and over-general.

A tendency to neglect functional realities has general as well as specific implications. Most Chinese rural landscapes are extremely full of people — indeed, this is their most remarkable characteristic, and one which they share with those of Java, Vietnam and many parts of India, and even Japan. The tremendous population growth which underlies this crowding began in China towards the end of the period represented by this book if that is taken to terminate around 1600; but it was based upon the organized countrysides of the Ming dynasty, represented by books such as *Nung Cheng Ch'üan Shu* of which the author gives so lucid and enthusiastic an account. These are the mature landscapes of her history. Although the expansion of the Chinese population towards its modern total is a subject primarily for the eighteenth century (it was in full flood in 1800), and the expansions in India and Java for the nineteenth, nevertheless there is a case for taking the maintenance of very large and densely settled populations more seriously in the centuries which preceded the modern expansion. This is particularly so when the modern expansion took place with the help of technical processes which are discussed elsewhere in the book. Here too agriculture is discussed with less reference to its social relationships than might have been hoped for. One difficulty, of course, is the idea of a cut-off period in time in itself. Agriculture in China up to the present and for the foreseeable future is and is likely to remain traditional in all essentials, and particularly in its social relationships; in these conditions, no date in time can represent a convincing terminus.

FRANK LEEMING

MARGARET GELLING, *Place Names in the Landscape*. Dent, 1984. 326 pp. £15.

The study of English place-names has taken a new direction during the last two decades. Dr Gelling's earlier book, *Signposts to the Past* (1978) was acclaimed by historians and place-name scholars alike. This new volume will convince historians that the linguistic analysis of settlement names can be integrated with other approaches to the study of early history in a fruitful manner. As Margaret Gelling says, for example, among the words for habitations *aern*, *bōthl* (and variants *bōtl*, *bold*) and *stōw* may be instanced as terms used only in the naming of places which were, or later became, of some administrative importance. 'It follows that Much and Little Cowarne in Herefordshire are not named from an ordinary cowshed, and that Colerne (a large parish and ten-hide Domesday estate in Wiltshire) should be seen as more than a shed in which charcoal was stored' — sentiments that agricultural historians will applaud.

Earlier place-name studies were dominated by the search for exceptional names; topographical names aroused little interest. Dr Gelling makes it clear that topographical settlement names (as distinct from minor- and field-names) outnumber other types of names recorded by AD 730. Moreover, they predominate in areas shown by archaeologists to have had the earliest Anglo-Saxon settlers, and they predominate as names of parishes. Collectively, their historical importance is undoubted.

Readers of the *Review* will also welcome the statement that names in all instances must be considered in relation to the landscape. 'The general picture which emerges is of a people in possession of a vast and subtle topographical vocabulary.' This is illustrated vividly by her suggestion that *waesse* signifies 'land by a meandering river which floods and drains quickly', an idea inspired by noting that a broad lake near Buildwas had evaporated overnight, thus enabling cattle to graze the following day on the recently flooded meadows.

Dr Gelling does not analyse the results of her investigation. Her aim is the more modest one of stimulating others to undertake field work. The book consists of a short introduction and a lengthy series of essays on topographical names arranged alphabetically. She disarms possible criticism of some of her derivations by acknowledging the disadvantages of a single author undertaking such a large-scale work. Topographical names usually present fewer linguistic difficulties for the non-specialist than most other early names. They therefore provide opportunities for historians to make a positive contribution towards furthering this line of research. Dr Gelling's book will be the essential starting point.

DAVID HEY

MICHAEL HAVINDEN, *The Somerset Landscape*. Hodder and Stoughton, 1981. 272 pp. £7.95.

This book is a delightful introduction to the county of Somerset. It is written by an economic historian who knows much about agrarian history, agrarian societies and about the business of farming itself; it is therefore saved from the platitudes of landscape 'histories' in which economic and social contexts are relegated to the status of an appendix of inappropriate or poorly understood models. Mr Havinden's passages on post-medieval enclosure, for example, form the most perceptive account yet written of reduction of open fields and wastes in a county which experienced a wide and complex range of enclosure processes, contributing in part to the diversity of its landscapes today. Again, behind his adventurous yet deft handling of Domesday statistics lies the common sense of an agriculturalist; his brief calculations lead him to the conclusion that, high moorlands and low 'moors' apart, Somerset was already relatively densely peopled at the time of the Conquest. And throughout there are many little insights and observations — on the houses of native gentry and newcomers, for example — which show that the eye of a professional historian has been turned on the Somerset landscape. The book also differs from some other volumes in the same series in that Mr Havinden decided to devote half of it to surveys of the several regions into which he chose to divide the shire. This was a wise decision, for the pattern made by Somerset's farming regions is a good deal more complex than that of many an English county. The decision has allowed him to escape, to a degree, from the slavery of conventional chronological divisions which contort interpretations in most books on landscape history: the Anglo-Saxons relentlessly advancing; early medieval settlement everywhere expanding; later medieval landscapes predictably contracting; the sixteenth century beautifully blossoming; and the nineteenth ubiquitously despoiling. For each of his regions Mr Havinden describes what was unusual or distinctive in its evolution after about 1500. For each he provides a series of thumb-nail sketches of principal towns; taken together, these make an excellent guide to a collection of urban places which, as we might expect, is as diverse as the county's farming regions. The sketches are written with a freshness which comes from recent observation in the field. The same quality marks the work as a whole, as it must in a book intended in part for the general reader.

Yet if Somerset historians complain that the book is not a definitive account of the making of the county's landscapes, particularly before 1500, it is only because their own researches (not least this reviewer's) have been so painfully slow. They simply have not completed the background work

with sufficient thoroughness. The county offers ample scope for research into some of the most intriguing problems of English agrarian history, of which three may be mentioned here. Unlike parts of eastern, north-eastern and midland England, much of what was later to become the county of Somerset enjoyed almost a quarter of a millennium during which internal development of a Romanized society proceeded unchecked by 'the nations of the men of strange speech'. Like other eminent writers on west-country landscapes, Mr Havinden lays a dead hand on this period by evoking plague and emigration to Armorica as disruptive forces. Romance aside, it may well turn out that the period contributed much of significance to the present-day Somerset landscape; and if that is the case the county will tell us something about rural societies which elsewhere vanished leaving few traces. We shall know only when the terms in the county's very rich store of Anglo-Saxon charters, which cast a backwards glance into the 'darkness', have been analysed along lines laid down by Mrs Hooke's work on the west midlands; when lack of a place-name survey by experts, which must have infuriated Mr Havinden in his early chapters, has been rectified; and when full and systematic use has been made of the evidence of ecclesiastical topography, which is there for all of us to employ if we are patient enough, and loving enough, to tease out its meanings. Second, parts of lowland Somerset, her rich vales and her marshland fringes, supported some of the densest populations of all of medieval England. Mr Havinden's perceptive re-working of Domesday statistics hints that they may have been well peopled already at the time of the Conquest, thereby casting further doubts on the concept of a poorly developed and late developing south-west. Over the following two hundred years, further and probably very fast growth produced those bursting villages from which Postan drew some of his evidence for late thirteenth-century crises and in which Titow calculated a man/land ratio of one person to perhaps as little as 1.5 acres. The agricultural practices which nourished such high densities need to be explored in work akin to BMS Campbell's meticulous research on another highly distinctive marsh fringed region — in north-east Norfolk — and we need to know more about relationships between marshland resources, reclamation and growth of population in these extraordinary communities. Third, Somerset is remarkable in that, according to Schofield's figures, it was the second most wealthy English county in the early sixteenth century, yet had ranked only twenty-third at the beginning of the fourteenth. Gross figures such as these undoubtedly conceal even more marked accumulation and concentration of wealth in some parts of the county. 'Crisis and

decline, 1320-1460', implying a downward spiral, is not the happiest of headings for a sub-section on Somerset in the later Middle Ages, as the author knows well when he concludes it by describing the lofty Perpendicular of Yeovil church, pointing upwards as evidence for a rather different state of affairs.

H S A FOX

R N DORE (ed), *The Letter Books of Sir William Brereton*. Record Society of Lancashire & Cheshire, 1984. xvii + 534 pp. £25 to non-members.

The letters collected together in this substantial volume all belong to the first half of the year 1645 and will be valued principally by military historians of the English Civil War. The siege of Chester looms large in these pages, but there is much information here about tactics, troop movements, weaponry, the relations between county regiments and between the Committee of Both Kingdoms and the provinces, as well as about pay and army discipline. The text also provides repeated reminders of the religious convictions which animated the Parliamentary war effort.

Readers of this journal, however, will be less concerned with the military side of the war and more likely to be interested in what the letters reveal about its social and economic consequences. This is an area still in need of further investigation and the publication of any source materials dealing with it is to be welcomed. We get some sense here of the disruptions and privations which the war occasioned both for combatants and civilians. Within the besieged city of Chester, we are told, 'they begin to stint the inhabitants to one meal a day... It is said fire, salt and hay are much wanting' (p 186). A later letter tells us that a quarter of veal had just sold there for ten shillings, 'some say 13s 4d'. Outside the city, however, in the rest of the county, conditions were becoming desperate. 'And for money they are so far exhausted betwixt free quartering of our own men and plundering by the enemy, their daily taxations and their weekly mises for these garrisons that they are subject to, that they profess that, being restrained from selling that little cheese which is most of their sustenance, they are not able to contribute any more unless they should sell the very clothes off their backs and their wives and childrens' (p 191).

There are many references in the text to the provisioning of the army with meat and corn and, since the theatre of operations was Cheshire, to supplies of cheese and salt. Plundering is mentioned on a number of occasions, a practice which Brereton deplored and desperately tried to prevent. 'Our reputation is extremely lost hereby with the com-

mon people, who for the most part judge our cause by the demeanour of our army' (p 297). Elsewhere we hear of the requisitioning of horses, carts, even pickaxes and spades. Sir George Booth held back from making further appeals to the country people in April 1645, conscious that their chief concern at that point was with seedtime.

The standard of editing of the four letter books included in this volume is high and represents a considerable achievement in view of the problems posed by the hasty copying, errors, and use of cyphers in the originals. All the more pity, then, that so much skilful and patient editorial labour has had its usefulness reduced by the omission of maps and, above all, an index (presumably on grounds of expense). The index of names, places and (possibly) subjects will come in the second volume, but we are warned that 'there is bound to be a sizeable gap between publication of the two volumes'.

R C RICHARDSON

A FENTON, H CHEAPE and R K MARSHALL (eds), *Review of Scottish Culture*. John Donald, Edinburgh, 1984. vii + 104 pp. £5.

To launch a new journal is always an act of faith. This is particularly so at a time when many libraries will only take a new periodical if an existing one of equal cost is cancelled. For a price of £5 for the first annual issue, *Review of Scottish Culture* provides good value though, with over a hundred large-format pages and attractive illustrations.

The journal is produced by John Donald publishers who have, within a few years, made a major contribution to academic publishing on Scottish topics. The editors claim that their new periodical fills a gap in the available publication outlets for work on Scottish material culture. They are probably right. Although existing archaeological, geographical and historical journals provide some scope, many folk-life journals have fallen on hard times within recent years and there is no specific forum within Scotland for the publication of research of this kind.

The first issue demonstrates the editors' broad definition of 'material culture' and the interdisciplinary nature of work in this field with articles by archaeologists, geographers, historians and museum specialists. It is difficult to decide how a journal is likely to develop on the basis of the first issue though. The early numbers of 'Scottish Studies' were far more wide-ranging in their content than those of subsequent years. One hopes that *Review of Scottish Culture* will maintain its broad perspective and will not become too narrow and specialized.

The editors provide a brief statement of intent regarding the aims and scope of their journal but it is

a pity that they did not go further and write, or commission, an introductory review article surveying the current position of studies of Scottish culture. R H Buchanan's short paper 'Box beds and bannocks. The Living Past' goes some way to meeting this need but at a more general level.

The volume is dedicated to T Henderson, the first curator of the new Shetland museum in Lerwick, who died in 1982, and one of his stories, 'The wreck of the Lastdrager', is included. There are two papers on material culture at a domestic scale — on wooden tumbler locks and clay tobacco pipes — but the editors' aim of interpreting 'material culture' more widely is shown by papers on wet-nursing and the pre-industrial origins of the Scottish tenement. Agricultural historians will be particularly interested in R C Boud's article on the development of agricultural improvement societies in Scotland between 1723 and 1835. The author provides a useful gazetteer of 133 societies. Unfortunately the numbers of the entries in the gazetteer are not reproduced on the accompanying maps so that one is left to speculate on the location of some of the more obscure societies.

The journal looks as if it will provide a useful new outlet for research on aspects of Scottish agricultural history, as well as other aspects of material culture, and the reviewer wishes the editors and the publisher every success with their venture.

IAN D WHYTE

JOYCE YOUNGS, *Sixteenth-Century England*. The Pelican Social History of Britain, 1984. 444 pp. £2.95 (paper) and £14.95 (cloth).

During the last two decades or so the content of modern economic history courses — and textbooks — has changed substantially. Gone are the great social issues such as poor law reform, drains and housing, post-Napoleonic repression and Chartism, education and trade unions. To compensate, social history has emerged replete with its own texts and courses, its own jargon and journals. But for teachers and students of the pre-industrial or early-modern period the dichotomy has been less acute. Interests have shifted — among economic historians the institutional approach had almost disappeared — but economic and social historians continue to share many common interests. Many studies, and especially the growing number on local themes, defy an easy classification and bridge the two branches of study. Joyce Youings's new book which appears in the Pelican Social History of Britain series is firmly in line with this trend. Although this is in a social history series it is rooted, quite rightly, in the study of economic change. The argument is presented in fifteen chapters which deal with the major issues of

economic and social life: occupations and life in town and country; social hierarchy and relationships; population change and price movements; the church, and education; crime and armed risings; poverty and unemployment; social groupings and allegiances at family, county and national levels. The reading on which Professor Youings's study is based is impressively wide and the examples used to illuminate generalizations are well chosen. In short, the book has much to offer, especially to those not entirely fresh to the subject. Throughout, Professor Youings is advisedly wary about the possible abuses of statistics, whether they relate to migration patterns, wage rates, or population growth: thus, 'it is a sobering thought that the splendid figures now available for the country's overall population each year from 1541 are based on the registers of just over four hundred out of some ten thousand parishes in England' (p 20). Even more sobering, perhaps, although not mentioned here, is the fact that much of the explanatory framework in Wrigley and Schofield's enormous work is based on the reconstitution of families from a mere dozen parishes.

For agrarian historians and their students chapter two on landlords and tenants in early Tudor England usefully threads its way through difficult terrain with valuable glances back at previous centuries. Similarly, chapter seven on the land market is a judicious summary which, of course, incorporates the author's own excellent work on the confiscated monastic estates. Changes in agricultural techniques are dealt with briefly at the start of chapter ten, which is entitled 'New Horizons'. Unfortunately, the discussion is so compressed that in places controversial matters become hard fact. Before long I expect to meet the following passage in an undergraduate essay:

In the great midland plain farmers were slowly but surely, from the 1560s, abandoning the rigid distinction between arable and pasture land and adopting the more flexible 'up-and-down' husbandry, 'up' for grain and 'down' for grass. This must have led to radical changes, even total abandonment, of time-honoured local customary rotations, with considerable consequences for community life. Corn-yields on some farms crept up to as much as twice their former levels, and with the better grass, though with as yet little selective breeding, the quality of stock slowly improved (p 252).

How far this process had spread by 1600 we are not told, nor, in the even briefer discussion of water-meadows, is there any comment about their confined geographical location.

However, agriculture forms only a relatively small part of the study. Professor Youings set out to write a general textbook on sixteenth-century social

history and it is as such that the success of the volume must be judged. The first and arguably the most difficult task facing the textbook writer is to decide on the structure to be adopted, and Joyce Youings opted for a compromise combining chronological and thematic treatments. There are five chapters in each of three sections, each section covering about a third of the century, although two or three chapters are allowed to range over the whole period. Unfortunately the three major sections are not identified in the text and the inattentive reader may slide over page 21 — where the structure is revealed — and remain confused. In addition the material under discussion refuses to remain in the slots provided. Thus chapter one — entitled 'Occupations' — belongs to the years 1500 to c.1530, but some examples are drawn from later in the century. Moreover, many of the general comments in the chapter are true for much, if not the whole of the century, not just for the first three decades. The novice reader will face two further problems. First, there are various places where prior knowledge of the period is required. The causes of the 'rebellions in 1536-7 in Lincolnshire and the north' are discussed in some detail but not the course of events, and the uninitiated would find it difficult to discover what exactly was going on in 1549 (pp 210-216). Similarly some readers might like to know what Daniel Hochstetter and Thomas Thurland were mining in England (p 242), or what had happened in Drake's 'episode at Nombre de Dios' (p 245). Secondly, the need to compress arguments has led Professor Youings to make comments which will confuse newcomers to the literature of the period. Thus a discussion of the early history of the Russian Company explains the development of the joint-stock principle followed by the statement that:

The Russian Company itself, and also the Levant Company formed in 1581, was later to revert to private trading under regulation, like the older Merchant Adventurers' Company. Perhaps it was the open-field tradition, individual proprietorship under communal regulation, which best served Englishmen's talents for collaboration (p 236).

It will take a perceptive reader to discover from this the basic characteristics of the regulated trading company. These two problems — the expectation of prior knowledge and the compression of discussion — are exacerbated by the absence of footnotes. The experienced reader can get a great deal of pleasure from trying to 'spot' the sources, but undergraduates need greater help than the, admittedly useful, annotated guide to further reading can provide. What, one would like to know, is the authority for the suggestion that many of the 6000 or so Kentish men who served abroad in the later Elizabethan army 'eventually returned home, but

diseased and unlikely to beget healthy children?' (p 152).

Occasionally it becomes more difficult to see exactly what is meant by a particular passage; thus we are told that as well as those most dependent on wage-earning:

there were others, perhaps only a minority, at all social levels, whose income failed to keep pace with the rising cost of living, a situation not made easier for them to bear by the rise in the standard of material living which characterized the Elizabethan period' (p 304).

The average undergraduate may have difficulty grasping this passage; similarly, he may be thrown by the statement that blast-furnaces were 'producing iron ore to supply the smiths for the making of tools and utensils' (p 239). The inattentive will also be misled by the statement on p 151 that 'By 1591 overall population growth had actually slackened and was down to only about 2.5 per cent *per annum*, compared, as already noted, with nearly 6 per cent in the 1580s' [my italics]. Of course, these are quinquennial estimates of growth as is revealed on p 148. The discussion of population growth, population densities, price changes, and the like would have benefited from graphic representation: the book does not contain a single map, table, diagram, or graph.

Despite problems there is much of value in *Sixteenth-Century England*; like most textbooks it has the power to annoy, but it can also stimulate. However, it cannot be recommended unreservedly to undergraduates. One final word of warning: buy the paperback — my copy of the hardback is already dropping to pieces.

DONALD WOODWARD

NORMAN J G POUNDS (ed), *The Parliamentary Survey of the Duchy of Cornwall, Parts I and II*. Devon and Cornwall Record Society New Series, Vols 25 and 27. Pp xxiv + 272, continuously paginated. (1982 and 1984). £8 per vol from Asst. Secy. c/o Devon and Exeter Institution, Exeter.

'It is remarkable that the archive of a great agricultural estate such as the Duchy of Cornwall has never been very fully published.' Thus astonished is Charles, the present duke, in his Foreword to this edition of the surveys of 1649, 1650 and 1652. The editor gratefully acknowledges the financial help of the Duke and his Council: let us hope that when the heir apparent succeeds to his wider kingdom he will display the same enthusiasm and generosity to facilitate the publication of the estate records of the Crown proper, to say nothing of the Duchy of Lancaster. He will then get a loyal huzzah at his coronation from agricultural historians.

These Duchy surveys were part of a general survey of Crown lands which followed the confiscations of 1649. The 64 manors concerned lay mainly in Cornwall: those beyond Tamar are mapped in a frontispiece to Part II; in the more crowded map of Cornwall, a frontispiece to Part I, places are numbered and identified by reference to a later Table (p xxi). The boroughs are distinguished from manors in the Cornish map but not in the Devon. The text itself is an alphabetical re-arrangement of the original surveys collated from two surviving series, one in the Duchy record office and one in the Public Record Office.

The editor's Introduction briefly describes the provenance of the surveys and the territories covered together with a tabulation of the number of tenements in each manor and its monetary yields. The reader is left to conduct his own researches into the significance of these numbers and values, and into the varied local economies revealed, which are industrial as well as agrarian. The remarkably varied agricultural resources of the Isles of Scilly are faithfully recorded alongside the remnants of the garrison from the days when they were a Fortress Falklands. The editor makes no attempt to look backward to these tenements as described earlier, often in equal detail (as in Assessment Rolls of 1356 onwards or the great survey of 1337 published by the Society in 1971 as vol 17, curiously omitted from such references as those in note 24, p xiv).

The bulk and detail of the Parliamentary Surveys has presented a difficult editorial problem: the resulting text is a mixture of transcript and calendar, the transcript being identified by single quotation marks, as is any direct quotation occurring within the calendar. This makes a ferocious task for printer and proof reader: since any lost quotation mark, as happens for example somewhere on p 42, makes it impossible to distinguish the end of transcription and the beginning of editorial calendaring. *Id.*, it will be noticed, is employed for two purposes, misleading when (as on p 14) both are employed in adjacent passages: (i) for a tenant's name repeated after a first occurrence but (ii) for every place-name when its modern spelling is identical with that in the document.

The place-name index is very full, and will assist the elucidation of names in the older unpublished surveys. There are inevitable slips in a work of this complexity: Portpigham (*ie* West Looe) becomes East Looe in the headnote to no 32 even though the document itself three lines below reads 'alias Westlooe'; while on the very first page of the Introduction (p ix) a reader might think that the confiscating Parliament of 1649 was that of Mr Attlee's government, since it allegedly met in 'November 1946'. Neither of these slips had been

noted by the time of the *Corrections* on an unnumbered page of Part II. On p xviii the former Courtenay lands incorporated in the Duchy 'be almost wholly devided [*sic*] into small copyhold tenements': Table I on the facing page below shows, however, that there were 156 freehold tenements as against 145 copyhold.

MAURICE BERESFORD

MARGARET SPUFFORD, *The Great Reclothing of Rural England: Petty Chapmen and their Wares in the Seventeenth Century*. The Hambledon Press, 1984. xiv + 258 pp. 28 illustrations. £18.

It is only recently that historians have begun seriously to examine what Dr Spufford calls the domestic framework of living and this study, following on from Dr Thirsk's seminal work, *Economic Policy and Projects*, extends our understanding of this important but neglected subject. In particular, she describes the great variety of goods which the chapmen made available to the ordinary consumer and the minute differences in the prices of items of varying quality. (At times, however, it is difficult to know if wholesale or retail values are being referred to.) Cloth, especially linen, predominated, although a range of drapery and haberdashery ware was also carried. On the basis of this evidence Dr Spufford suggests that a revolution in the standard of clothing and soft furnishings occurred in the post-Restoration period, extending at least as far down the social scale as the poorer sections of the population who left inventories.

The term 'chapman' was given to anyone acting in a middleman capacity but interestingly dead ones tended to be the people discussed in this book, presumably because the others were normally (but not always) given an occupational label that corresponded to their particular specialism. Dr Spufford's chapmen varied in wealth and status, even if their median wealth in the years 1660-1700, £28 (excluding debts), put them on a par with (Cambridgeshire) husbandmen. In contrast to many of the specialist chapmen, however, they had little connection with agriculture. Most worked on foot, although a career cycle is discernible, with the successful ones purchasing a horse to extend the scope of their activities and then eventually establishing themselves in a shop. Some spectacular examples are recounted in the book but they were exceptional and one must sympathize with the majority who continued on foot, growing old in a young man's occupation. They all experienced the hostility felt towards middlemen at the time; those travelling around the country were treated with suspicion by the authorities, whereas in the towns shopkeeper-chapmen met opposition from the linen-drapers and

mercers, who seem to have been motivated by a mixture of snobbery and fear of competition. Dr Spufford admits that there was a disreputable element whose actions influenced attitudes towards the whole class but emphasizes the positive contribution that the chapmen made in bringing essential household supplies and little luxuries to large numbers of people. Concentrations of chapmen existed, often in centres of textile manufacture, but they demonstrably could be found in the remotest parts of the kingdom. Villages were mostly served by pedlars on foot but significantly some chapmen's shops were located in settlements smaller than market towns. Credit underpinned the system and was practised throughout the entire distributive network from the wholesaler at the top down to the humble pedlar who offered easy terms to his clients.

Dr Spufford has written a well-researched book that provides many insights into the social and economic life of early modern Britain. She handles the disparate and fragmentary sources with skill and makes deft use of examples to illustrate her general points. Her analysis of the inventories is particularly judicious and her discussion of their limitations should be read by all those looking at these important but deceptive records. The book itself is well-produced and the long appendix comprising a number of inventories (partly included, one suspects, to make the book of viable length) provides a useful source of reference and a valuable teaching aid for comparison with other occupational groups, although the inclusion of a glossary of terms would have been helpful. There is a wealth of illustrative material but the maps depicting the areas covered by individual chapmen would have been improved by the addition of some basic geographical detail to make the seemingly eccentric circuits intelligible. There are also a few mis-spellings and the anachronistic use of the place name 'Telford' jarred with this native Salopian but these are minor blemishes in what is an immensely enjoyable and informative book.

PETER EDWARDS

DONALD HARMAN AKENSON, *The Irish in Ontario: A Study in Rural History*. McGill-Queen's University Press, Kingston, Montreal, 1984. Pp xiii + 268. 35 Canadian dollars.

Professor Akenson's industry is fast becoming an embarrassment to other, especially native, Irish historians. This is his tenth book in field since *The Irish Education Experiment* (1970); he has also found time to be a novelist, publisher, academic, and editor of the excellent *Canadian Papers in Rural History*. Till now he has specialized in the story of the Irish at home, but here the focus shifts to Akenson's own

back yard near Kingston, Ontario. The change has produced a forceful and stimulating, if sometimes idiosyncratic, book.

Readers who judge books by their titles and expect another exercise in grand SPSS history à la Thernstrom or Katz, are in for a disappointment. Nor is this really mainly about 'the Irish in Ontario' either: it is more an essay in the economic history of a small township — population 361 in 1803, 3586 in 1846 — in eastern Ontario in the century after 1776. A quick overview shows this. Chapter 1 does a useful job of debunking the myth that Irish emigrants were averse to having a go at farming life abroad; in Ontario the great majority of them ended up on the land. It also reclaims a role for Catholics in emigration to Upper Canada, long stereotyped as a haven of Ulster-Scots. By 1871 Irish-descended Protestants and Catholics together, in a ratio of roughly two-to-one, made up one-third of Ontario's population. Chapter 2 narrows its focus to a specific area, Leeds and Landsdowne township. For almost seventy pages, the Irish do not feature at all. Nor is there much about them in Chapter 3, mainly an interesting and often amusing account of yankee loyalist entrepreneur Joel Stone (pp 66–78, 101–3). Chapter 4 is about another anti-hero, Dublin-born Ogle Gowan, who arrived in Canada in 1829 with loyalist credentials as impressive as any of the earlier settlers, and quickly climbed the local political ladder through his Orange connections. Wounded during the uprising of 1837–8, though 'from a bayonet in the buttock', the tale of this demagogue's rise to respectability takes another thirty pages to tell.

Akenson's excuse for the long excursus on Gowan is that it is 'a metaphor for the radical upgrading in status of the Irish immigrant community'. None such is needed: the next section of this chapter makes the case effectively enough with some generalizations about farming from censal manuscript data in 1842. Akenson's admittedly small sample shows the Irish to have had more land, more acres cleared, and higher average yields than the average settler. That much is interesting and will come as a surprise to some, though perhaps Akenson overargues the case: Marvin McNnis's Ontario-wide data base for 1861 (pp 339–344) puts the Irish slightly below the average by similar criteria. The rest of the chapter is about confessional history, again with little specifically Irish content. Finally the township becomes more industrialized after a fashion, and, curiously enough, the Catholic Irish fared rather poorly — more to form! — in the main town in the area.

Chapter 7 spells out the significance of all this. On the assumption that emigrant communities are good laboratories for testing hypotheses about life at home, Akenson's perspective from Leeds-Landsdowne prompts him to argue for greater cultural

similarities between Catholic and Protestant in Ireland than usually conceded. The claim is based on relative economic performance in Canada only, for these similarities rarely led to partnership or intermarriage. Akenson also claims a basis for attacking the traditional notion of Irish 'failure' in the New World, which goes back to Oscar Handlin and still finds many supporters. For Upper Canada, this seems fair enough: the evidence from myriad recent local US studies remains confusing, however.

CORMAC Ó GRÁDA

D H AKENSON (ed), *Canadian Papers in Rural History*, Vol IV. Langdale Press, 1984. 338 pp. \$19.95.

The papers in this volume range widely in subject matter, methodology, and purpose. Some analyse broad trends and developments; others deal with relatively narrow questions. Some employ quantitative data and theories from the social sciences; others rely primarily on qualitative evidence and personal intuition. Some suggest explanations of historical circumstance; others offer solutions to research problems and aid in using historical records. All, it is the editor's implied hope, will further our understanding of rural history and its relationship to other fields of Canadian history.

Several of the papers investigate issues related to the economics of farming. Based on responses to a detailed questionnaire sent out by a British colonial official, R E Ankli and K J Duncan plausibly estimate that farm-making expenses in Ontario in the mid-nineteenth century were, at the very minimum, £100 plus the cost of land, which ran from a few shillings to £7 per acre, depending on the amount of improvement, location, and quality. Their findings suggest that for a young Canadian to enter farming with a reasonable prospect of success required a substantial, though normally not unattainable, investment. W L Marr's comparison of owner- and tenant-operated farms in York County, Ontario, in 1871 reveals support for the agricultural ladder thesis, minor differences (favouring owners) in farm size and capital stock, and similarity in overall productivity. The evidence sustains the conclusions, but Marr misses an opportunity to relate them to those of corresponding studies of the nineteenth-century United States. E C Gray and B E Prentice, using land transfers in the original deed records, trace movements in rural land prices from 1842 to 1981, and speculate that successive farm improvements and the rising demand for agricultural products were the principal factors in the secular appreciation of values. Their time series employs, inexplicably, current rather than constant prices, which unnecessarily complicates its interpretation; the authors might also have developed more

rigorous tests of their explanatory hypotheses. The inclusion of K Kelly's study of commercial agriculture in northern Bengal, India, during the nineteenth century is curious, as it is the only piece that does not deal with Canada. Still, this is a deftly argued, if somewhat overdrawn, account of the change from an emphasis on export staples, especially indigo, to a diversified agriculture of foodstuffs and raw materials in response to modifications in land rent payments and an end to use restrictions on leased land, both of which freed tenants to cultivate the most profitable crops, and to the expansion and broadening of farm markets, which provided the incentives to modify cropping patterns.

Another quartet of papers deals with social-demographic questions. R S Dille culled the biographical history of Waterloo County, Ontario, for Mennonite settlers and their descendants, and discovered a comparatively stable subgroup within the population. Occupation was the main discernible difference between the 32 per cent who left the county (most for elsewhere in Ontario) and those who persisted over the three-quarters of a century covered by the study: professionals, businessmen, and skilled workers tended to leave; farmers, clerks, and unskilled workers tended to stay. Employing a 'life course' model, which postulates that the timing of key career transitions is a function of personal objectives adjusted in accordance with individual circumstances and societal norms, D A Norris analysed a predominantly Irish Protestant township in mid-nineteenth-century Ontario. He found families with strong kinship and community bonds, and a common migratory background that stretched back to Ireland and progressed through stages to what, we are told, was for many their final destination. Neither the explanatory power of the model nor the nature of the evidence, however, makes convincing the homogeneity, stability, and personal success that Norris attributes to this group of settlers. In yet another paper on Ontario in the nineteenth century, G J Lockwood argues that Irish immigrants in a township in the eastern part of the province successfully adapted to their new home by responding to a variety of economic opportunities. That they enjoyed a steadily improving standard of living, as Norris maintains, seems beyond question; that this was due in large part to the confidence they gained from gravitating to regions of poor quality soil, where competition for land was weak and valuations low, seems of dubious validity. E Padolsky and I Pringle describe their procedures in organizing a demographic data file to be used in constructing a grid — or areal framework — for a linguistic survey of the Ottawa Valley. A demographic model, according to the authors, is superior to the more common geometric or topographical

models because it allows for an analytically appropriate subdivision of the area under investigation and for more precise definition and selection of representative communities and regions; moreover, the resulting grid has predictive capabilities for identifying locations of special linguistic interest or importance.

Governmental action provides the unifying theme for another group of papers. I MacPherson and J H Thompson chart the World War II transformation of agriculture on the Canadian prairies that brought a dramatic shift out of wheat and into feed grains and livestock production, a more efficient organization of farm labour, an increased pace of mechanization, and more systematic marketing procedures. In the face of wartime exigencies, the federal government, working closely with farm organizations, implemented policies designed to promote and facilitate each of these developments. The changes may have been inevitable, as the authors claim, but their suggestion that war-induced intervention provided for a more orderly reconstruction than would otherwise have occurred needs further study. B M Gough's informative essay recounts the efforts of the Puget's Sound Agricultural Company, a subsidiary of the Hudson Bay Company, to settle and develop the agricultural potential of the colony of Vancouver Island at the behest of the British government, which was anxious to secure the area against American penetration. Although the company's attempt from 1849 to 1857 to set up a system of corporate farming failed, due in part to unwise policies and in part to fortuitous circumstances, the concern left its mark on the early history of the island, played a role in averting American absorption, and established a precedent for future government-business ventures. Easily the most enjoyable of this collection is C J Brannigan's piece on a libel suit brought in an upper Canada frontier community during the 1840s by an influential minister-cum-businessman and his family against a local school teacher for defaming their good name. Besides making fascinating reading, the story demonstrates the maturity of the legal system and its effectiveness in resolving personal disputes in sparsely settled outposts of the country. B Osborne and R Pike evaluate the factors behind the rising demand for postal service in central Canada from 1851 to 1911. Adopting a 'public works' philosophy as their operative principle, provincial governments responded by expanding and upgrading the system and in doing so, the authors contend, contributed significantly to modernization of the region.

Finally, T A Hillman has performed a valuable service to scholars of Ontario by providing a statutory chronology and genealogy that traces the evolution of boundaries and place-names of subdivisions in the eastern section of the province.

Notwithstanding some unevenness in quality and a few editorial oversights, this anthology expands our knowledge of Canadian (and Indian) rural history and should contribute importantly to broader syntheses and general works on the subject.

D L WINTERS

A GAILEY, *Rural Houses of the North of Ireland*. John Donald, Edinburgh, 1984. x + 289 pp. 269 figs. £25.

It is both a privilege and a pleasure to review Mr Gailey's book, especially only a few months after doing likewise for the similar book from the same publisher on the vernacular architecture of Brittany. John Donald Publishers are currently doing the subject proud, for books covering Scotland and North Yorkshire and Cleveland also come from the same house, releasing into the study quite suddenly a formidable mass of data and not a few ideas for many to consider.

Alan Gailey is Keeper of the Department of Buildings at the Ulster Folk and Transport Museum; whatever official backing he may have received, his book is clearly the result of enthusiasm, application, and many a busman's holiday. It has too an impeccable, and quite distinctive, pedigree, acknowledged in the dedication to Estyn Evans and rooted throughout in long-term examination of the subject-matter by personal fieldwork. The approach is cultural, geographical, archaeological, ethnological, anthropological, folk-lorist, rather than historical or architectural in the senses of trying to narrate or make value judgments about design. Indeed, the distinction is one of which the author is well-aware, drawing attention to it in his brief discussion (p 11) of the different traditions underlying the development of studies of vernacular buildings on either side of the Irish Sea. This occurs in a stimulating, wide-ranging first chapter, 'Vernacular Housing and the Built Environment' which, as well as providing a pertinent opening to the book, deserves a life of its own as a general paper for an audience wider than that which will be attracted by the geographically-limited subject-matter itself.

The book is otherwise largely arranged on a thematic basis. Chapter Two deals with early and medieval houses in 12 pages, not summarily but completely: how satisfying it must be to be able to discuss every single known example of one's subject from the early Neolithic to c.AD1600 from a whole country (not just Northern Ireland) in such a compass. Thereafter, abandoning chronology, we proceed from construction and size through wall

materials, the roof, the hearth and chimney to floors and piercing before moving into synthesis with discussions of house types and hearth-lobby houses in particular. Expanding to more general issues, the author reviews matters in a British perspective in two chapters which must excite comment in and east of Aberystwyth and then withdraws slightly, despite a title of 'The House and Society', to his own evidence again; yet here, paradoxically, is much that is actually germane to students working elsewhere and not only in studying vernacular houses. The book ends with a brief look at farmhouses, farm buildings and farmyards in Northern Ireland alone, to which area the last chapter on conservation and restoration is limited, though some of the problems are familiar enough elsewhere.

The penultimate chapter apart, there may appear to be little in all this about agrarian history. The houses studied, however, are without exception both expressions of and evidence for a deeply agrarian way of life. This is so from the 'creats' — the temporary summer dwellings of transhumance — through the stone-built thatched one-room houses occasionally still in use to the 'degenerate-formal Georgian' farmhouses that characterize the countryside today. Embedded in them too is not just a local vernacular but much material relevant to wider issues such as the origins and development of the long-house (here called the 'byre-dwelling'), the variations on the lobby-entrance house, and the range and extent of different roof structures among which the cruck in several forms bulks large. Given the Anglo-Irish connection, there is also much implicit here of a 'compare and contrast' nature for arguments about models of diffusion or invasion, in this context of course politely called Plantation.

The book is well-written and well-produced. The line drawings are unfussy and clear, though as a medium of communication they suffer from non-standard reduction to different scales; the far larger number of in-text half-tones are on the whole reproduced much better than in many another offset litho production and are a crucial component of the presentation. Misprints are almost entirely absent, which makes 'neotholic' (p 16), a gem by any standards, the more remarkable. Following international scientific practice, all measurements are given in metric, an irrelevance as far as the builders of Northern Ireland's rural houses were concerned, and without their imperial equivalents significant dimensions, such as a house width of 16 ft expressed as 4.88 m, can actually be obscured. Any major work, however, can absorb such pinpricks without its integrity being questioned or its status impugned. Alan Gailey has produced a scholarly landmark in the study of rural houses in the British Isles; that it comes from and is about an area whence, for the

outsider, most news is currently bad news makes it all the more stimulating, both intellectually and as a portrait of another kind of reality.

P J FOWLER

SAMUEL CLARK and JAMES S DONNELLY JR (eds), *Irish Peasants: Violence and Political Unrest 1780-1914*. Manchester University Press, 1983. Pp viii + 454. £29.50.

This is a very substantial volume of essays, confirming incidentally, as it was printed in America, the high quality of American book production. It is a less unified volume than the title suggests, consisting of a group of essays dealing with the late eighteenth and early nineteenth centuries, closely related to the themes of the volume, and two other groups of essays, one dealing with orthodox politics of a rural or agrarian character, the other concerning itself with the rural labourer, the trader in rural life and politics, and turn-of-the-century conflict between graziers and smallholders. The real strength of the volume lies in the solidity of the individual contributions. However, a unifying framework is created by a general introduction, separate introductions to the three sections into which the book is divided, and a concluding agenda for research. The chapters by Donnelly on the Pastorini prophecy — a strange prophecy foretelling conflict and final overwhelming of the protestants which caught a grip on the rural mind around 1820 — and by Roberts which goes a long way to making sense of the confused and confusing conflict of the Caravats and Shanavests which was so prominent in Munster in the first decade of the nineteenth century, are both admirable studies. Miller's essay on the agrarian or sectarian conflict in county Armagh in the 1780s is an equally effective piece of writing, and these three essays are supplemented by a pioneering article by Dickson on the impact of growing fiscal burdens in the 1790s.

What these contributions bring out collectively is a substantial amount of popular politicization, justifying the editors' observation that 'the Irish case gives little support to the view that peasants are incapable of political organization' (p 15). While recognized on a number of occasions, this insight is not elaborated though it clearly merits further examination. Professor Miller's study of county Armagh points to the political framework of the county's troubles, and it is within a political frame-

work rather than an agrarian one that relations within the county deteriorated in the 1780s and 1790s.

On the whole, while the book recognizes the cultural forces behind unrest and changes in its pattern, they do not get as much explicit recognition as the essays on the early period themselves suggest they merit. However, the agenda for further work does recognize the possibility of parallels with societies such as those of southern Italy and Corsica (p 421). The essays on post-1848 politics are on orthodox political activity. The editors themselves recognize a marked contrast between the nature of protest activity before and after the 1840s, and this may to some extent call in question their own emphasis on the late 1870s as 'a great turning point in modern Irish history' (p 273). The problem of the social historian lies in part in the fact that the approach in Irish political history has tended to unduly accentuate the episodic character of events at the expense of attention to the remorseless transition which runs through all of nineteenth-century Irish history.

In their own demesne the editors somewhat uncharacteristically contradict their own interest in long-term trends by an emphasis on the 'rancher'-peasant conflict as a novelty of the post-1840s, drawing a correlation between this phenomenon and the mass evictions of the 1840s and 1850s. This emphasis is derived from the essay by Jones on 'The cleavage between graziers and peasants in the land struggle, 1890-1910', which is the least happy piece in the volume. However, this issue was a real but relatively minor one of its day, pursued in highly coloured language by its supporters. The editors themselves elsewhere recognize that it had antecedents in the eighteenth century (p 423), and indeed one of the articles in the volume, Roberts's, persuasively relates the Shanavest-Caravat conflict to a class divide between larger and smaller landholders in Munster, a region in which the class theme had already become persistent in the second half of the eighteenth century.

The achievement of this volume is to have commissioned a substantial number of solid contributions which are likely to become standard sources of reference for both social and political historians. The introductory and later editorial commentaries are probably also the best guide to the large but uneven literature on rural unrest and politics.

L M CULLEN

Shorter Notice

F W J MCCOSH, *Boussingault*. D Reidel Publishing Company, 1984. xviii + 280 pp. £35.50.

Of the sciences, chemistry had an early importance in the understanding of agriculture and in solving problems in agricultural production. Boussingault (1802-1887), from an unconventional

background, made important contributions to agriculture, agricultural chemistry and agricultural education. Dr McCosh has produced a straightforward account of Boussingault's life that sets his career in a social as well as a scientific context.

JEREMY ELSTON

Books Received

- C G A CLAY, *Economic Expansion and Social Change: England 1500-1700*. CUP, 1984. 2 vols, xiv + 268 pp; xii + 324 pp. £20 (cloth); £6.95 (paper) each volume.
- T M DEVINE (ed), *Farm Servants and Labour in Lowland Scotland 1770-1914*. John Donald, Edinburgh, 1984. ix + 262 pp. £16.
- ALEXANDER FENTON, *Loads and Roads in Scotland and Beyond: Road Transport over 6000 years*. John Donald, Edinburgh, 1984. vii + 144 pp. £8.50.
- JOAN M FRAYN, *Sheep-rearing and the Wool Trade in Italy during the Roman Period*. Francis Cairns, Liverpool, 1984. ix + 208 pp. £20.
- DAVID GRIGG, *An Introduction to Agricultural Geography*. Hutchinson, 1984. 204 pp. £12.95 (cloth); £5.95 (paper).
- NIGEL HARVEY, *A History of Farm Buildings in England and Wales*. Second edition, David & Charles, Newton Abbot, 1984. 279 pp. £17.50.
- P D A HARVEY (ed), *The Peasant Land Market in Medieval England*. Clarendon Press, Oxford, 1984. xvi + 375 pp. £28.
- ROBIN HILL, *Shropshire Sheep, a History*. Shropshire County Museum Service, Acton Scott Working Farm Museum, 1984. 16 pp. £1.50 (+ p & p 25p).
- R H HILTON & T H ASTON (eds), *The English Rising of 1381*. CUP, 1984. vi + 220 pp. £22.50.
- W G HOSKINS & DAVID HEY, *Local History in England*. Third edition, Longman, 1984. xiii + 301 pp. £12 (cloth); £5.95 (paper).
- ROGER J P KAIN & HUGH C PRINCE, *The Tithe Surveys of England and Wales*. CUP, 1985. xvi + 327 pp. £27.50.
- SUSAN A KNOX, *The Making of the Shetland Landscape*. John Donald, Edinburgh, 1985. x + 255 pp. £18.
- NORMA LANDAU, *The Justices of the Peace 1679-1760*. University of California Press, 1984. xv + 421 pp. £35.40.
- DAVID MABEY, *Good Cider*. Whittet, 1984. vi + 143 pp. £7.95.
- EILEEN & DONAL MCCRAKEN (eds), *A Register of Trees for Co Londonderry, 1768-1911*. Public Record Office of Northern Ireland, Belfast, 1984. x + 80pp. £5.50.
- SAMUEL PYEATT MENEFFEE, *Wives for Sale*. Basil Blackwell, Oxford, 1984. ix + 336 pp. £6.95 (paper).
- CELIA MILLER (ed), *Rain and Ruin: the Diary of an Oxfordshire Farmer, John Simpson Calvert 1875-1900*. Alan Sutton, Gloucester, 1984. 285 pp. £8.95 (cloth); £4.95 (paper).
- DAVID NEAVE (ed), *Winteringham 1650-1760*. Winteringham WEA Branch, 1984. vi + 157 pp. £5.
- SUE NEEDHAM, *A Glossary for East Yorkshire and North Lincolnshire Probate Inventories*. University of Hull, Department of Adult Education, Studies in Regional and Local History, 3, 1984. 28 pp. £1.50.
- DAVID PAM, *The Story of Enfield Chase*. Enfield Preservation Society, 1984. 168 pp. £6.95.
- SANDRO ROGARI, *Ruralismo e Anti-Industrialismo de Fine Secolo: Neofisiocrazia e Movimento Cooperativo Cattolico*. Le Monnier, Firenze, 1984. L. 20,000.
- ELEANOR & REX C RUSSELL, *Making New Landscapes in Lincolnshire*. Lincolnshire Recreational Services: County Library Department, Lincoln, 1983. 127 pp. £5 plus p & p.
- DAVID WARREN SABEAN, *Power in the Blood: Popular culture and village discourse in early modern Germany*. CUP, 1984. x + 250 pp. £22.50.
- PAUL SERVAIS, *La Rente Constituée dans le Ban de Herve au XVIIIe Siècle*. Credit Communal de Belgique, Collection Histoire, 62, 1982. xxx + 390 pp. 750 FB.
- JOHN SHAW, *Water Power in Scotland 1550-1870*. John Donald, Edinburgh, 1984. xi + 606 pp. £25.
- MORRIS SILVER, *Enterprise and the Scope of the Firm*. Basil Blackwell, Oxford, 1984. xii + 191 pp. £17.50.
- Somerset Villages: The Vernacular Buildings of West and Middle Chinnock, with some account of the inhabitants, their history and livelihood*. Somerset and South Avon Vernacular Building Research Group, Glastonbury, 1984. 64 pp. £3.75 (plus 70p p & p).
- JOAN THIRSK, *The Rural Economy of England*. Hambledon Press, 1984. 420 pp. £22.
- D M WOODWARD (ed), *The Farming and Memorandum Books of Henry Best of Elmswell 1642*. British Academy, Records of Social and Economic History, new series, VIII, OUP, 1984. lxxiv + 347 pp. £33.

Notes on Contributors

A R BRIDBURY, Senior Lecturer in economic history at the London School of Economics, is the author of *Economic Growth* (1962), *Medieval English Cloth-making* (1982) and various articles on medieval topics mainly in the *Economic History Review*.

DR MAVIS MATE graduated in history at Somerville College, Oxford and subsequently emigrated to the USA, where she received her PhD at Ohio State University. She is currently professor of history at the University of Oregon. She has published a number of articles on estate management in the thirteenth and fourteenth centuries and has made a particular study of the estates of Canterbury Cathedral Priory. At present she is working on problems relating to the fifteenth century.

DR ALAN NASH read geography at Cambridge, and received his PhD in 1984 from that institution. Between 1979 and 1981 he was a junior research fellow in the Department of Geography, Sheffield University. He then went for three years to Queen's University in Kingston, Ontario, as a post-doctoral research fellow and lecturer, teaching historical geography and demography. At Queen's he was also a research associate on a project, funded by the Social Science and Humanities Research Council of Canada, investigating the decline of fertility in nineteenth-century Kingston. His doctoral thesis was on population change in Wiltshire from 1086 to 1524, and he has published a number of articles on Sussex open fields. He is currently working on a book with Dr R Woods on historical demography to be published by Oxford University Press.

J M MARTIN, a former lecturer in economic history at the Universities of Bath and Belfast and at the Middlesex Polytechnic, has just completed a year as education archivist in the Gloucestershire Record Office. He has recently completed studies of the Vale of Evesham gardeners, and of Bedworth, a Warwickshire weaving and mining community. He is currently studying agricultural innovation and rural protest 1815-50 in Gloucestershire and neighbouring counties.

DR ALAN PARTON is Co-ordinator for Modular Degree Courses in Sciences at Coventry (Lanchester) Polytechnic. His research interests are mainly in

eighteenth- and nineteenth-century historical geography. His PhD was entitled, 'Town and Country in Surrey 1800-1870'. In 1982 he was co-author of a report funded by the SSRC on aspects of poverty in Birmingham in the mid-nineteenth century. His recent publications include papers dealing with the Surrey Hearth Tax as evidence of population distribution, Poor Law out-relief records as indicators of poverty in Birmingham, and the migratory patterns evidenced in the diary of a Victorian artisan. He is currently working with Poor Law settlement certificates as evidence of migration into and out of Birmingham during the first half of the eighteenth century.

DR STEWART RICHARDS studied zoology and physiology at Leicester, London and Yale Universities. He has taught at Wye College, University of London since 1967, publishing *Temperature Regulation* (Wykeham, 1973) and a range of research papers in the physiological journals. More recently he has become interested in 'science studies', writing a thesis on the role of science in agricultural education for the MSc degree of the University of Kent at Canterbury in 1982, and publishing *Philosophy and Sociology of Science* (Blackwell, 1983), an introductory text for undergraduates. His current research is in the history of physiology and of higher education in agriculture.

J K BOWERS is Senior Lecturer in economics at Leeds University. He graduated in Philosophy, Politics and Economics at Oxford University in 1966 and worked for three years as a research officer at the National Institute of Economic and Social Research before going to Leeds. He was for five years an Associate Fellow of the Economic and Social Research Council Industrial Relations Research Unit at Warwick University. He has published articles on regional policy, labour economics, agricultural policy and environmental economics and is co-author of *Labour Hoarding in British Industry* (Blackwell, 1982) and *Agriculture, the Countryside and Land Use* (Methuen, 1983) and editor of *Inflation, Development and Integration* (Leeds UP, 1979). He is currently chairman of an Economic and Social Research Council working group on research needs in the field of rural land use.

Notes and Comments

WINTER CONFERENCE, 1984

The Winter Conference was held on 1 December in the Institute of Historical Research, University of London. Over eighty members of the Society and the Historical Geography Research Group heard four papers on the theme of the 'Conservation of the agricultural past'. Dr P F Brandon introduced some 'New approaches to landscape conservation'; Dr J Sheail explored the relations between 'Nature conservation and the agricultural historian'; Dr P Fowler posed some questions about 'Buildings on the farm'; and Mr R Bridgen discussed 'The preservation and interpretation of agricultural object material'. The conference was most successful, not least because it attracted a larger than usual number of members from outside universities and polytechnics. The papers proved to be provocative by questioning the criteria which could be used to decide whether particular objects, buildings or landscapes should be conserved. Understandably, the speakers tended to make their questions rhetorical ones, though doubtless the Conference would have been even more provocative had they chosen to answer them.

The 1985 Winter Conference is to be organized by Mr A D M Phillips, Department of Geography, University of Keele, Keele, Staffordshire, ST5 5BG.

SPRING CONFERENCE, 1985

The Society's Spring Conference will be held at the College of Ripon and York St John, Ripon, 1-3 April 1985. The speakers will be as follows: Mrs Christine Hallas (Open University), 'Agricultural change in nineteenth-century Wensleydale and Swaledale'; Mr Richard Hoyle (Corpus Christi College, Oxford), 'The Pilgrimage of Grace as Peasant Movement'; Dr John Chapman (Portsmouth Polytechnic), 'The Impact of Parliamentary Enclosure: a Reconsideration of the Statistics'; Dr Brian Outhwaite (Gonville and Caius College, Cambridge), 'Progress and Backwardness in English Agriculture, 1500-1650'; Dr Cormac Ó Gráda (University College, Dublin), 'Patterns of succession to Irish farms after the Famine'; and Dr John Perkins (University of New South Wales), 'Contemporary German Perspectives on British Agriculture before 1914'. Mrs Hallas will be leading an excursion through Swaledale and upper Wensleydale. Any enquiries should be addressed to Dr J A Chartres, School of Economic Studies, University of Leeds, Leeds LS2 9JT. Booking forms are inserted into this issue of the *Review*.

SPRING CONFERENCE, 1986

The 1986 Spring Conference of the Society is to be held at Seale-Hayne Agricultural College, Newton

Abbot, Devon, from 7-9 April. Offers of papers should be made to Dr M Overton, Department of Geography, The University, Newcastle upon Tyne, NE1 7RU.

INTERNATIONAL CONGRESS OF HISTORICAL SCIENCES, 1985

The XVIth International Congress of Historical Sciences will be held in Stuttgart in August 1985. The International Commission on Historical Demography is organizing a colloquium at the conference on 'Agricultural development and population growth'. Further details are available from Professor Dr A E Roel, Departamento de Historia Moderna, Universidad de Santiago de Compostela, Santiago de Compostela, Spain.

INTERNATIONAL ECONOMIC HISTORY CONGRESS, 1986

The IXth International Economic History Congress is to be held in Berne from 24 to 29 August 1986. There are a number of sessions at the Congress which will be of interest to members, including a 'B' Theme on 'The structure of internal trade, 15th-19th centuries', jointly organized by Dr J A Chartres (University of Leeds), and a 'C' Theme on 'Agriculture in the Industrial State: the shrinking sector', organized by Professor F M L Thompson (Institute of Historical Research, University of London) and Dr E J T Collins (Institute of Agricultural History, University of Reading). Further information about the Congress as a whole may be obtained from Neuvième Congrès International d'Histoire Économique, Neubruckstrasse 10, CH-3012 Berne, Switzerland.

HISTORIC FARM BUILDING GROUP

An Historic Farm Buildings Group, devoted to all aspects of the study of farm buildings, is to be formally launched in 1985. Further information may be obtained from the Co-ordinator of the Steering Committee, Mr J Weller, 152 High Street, Bildeston, Suffolk, IP7 7EF.

NOTES AND COMMENTS

This section of the *Review* is edited by the Secretary of the Society, Dr M Overton, Department of Geography, The University, Newcastle upon Tyne, NE1 7RU, who would be glad to receive items for inclusion. He would also welcome members' comments on 'Notes and Comments' or on any aspect of the Society.

Irish Peasants: Violence and Political Unrest 1780-1914, edited
by Samuel Clark and James S Donnelly

L M CULLEN

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THE BRITISH AGRICULTURAL HISTORY SOCIETY

Articles and correspondence relating to editorial matter for the *Agricultural History Review*, and books for review, should be sent to Dr J A Chartres, Editor, *Agricultural History Review*, School of Economic Studies, The University, Leeds LS2 9JT.

Correspondence about conferences and meetings of the Society, and about more general matters, should be sent to Dr M Overton, Secretary BAHS, Department of Geography, The University, Newcastle upon Tyne, NE1 7RU.

Correspondence on matters relating to membership, subscriptions, details of change of address, sale of publications, and exchange publications should be addressed to E J T Collins, Treasurer, BAHS, Museum of English Rural Life, The University, Whiteknights, Reading, Berkshire.

Correspondence on advertising should be sent to Dr R Perren, Department of Economic History, University of Aberdeen, Aberdeen AB9 2TY.

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Rural Change in the Dutch Province of Drenthe in the Seventeenth and Eighteenth Centuries
J BIELEMAN

Dearth and the Marketing of Agricultural Produce: Oxfordshire c. 1750-1800
W THWAITES

A Neglected Scottish Agriculturalist: the 'Georgical Lectures' and Agricultural Writings of the Rev Dr John
Walker (1731-1803)
CHARLES W J WITHERS

'A Fiendish Outrage?': A Study of Animal Maiming in East Anglia: 1830-1870
JOHN E ARCHER

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Rural Change in the Dutch Province of Drenthe in the Seventeenth and Eighteenth Centuries¹

By J BIELEMAN

DURING the Republic the state of Drenthe extended as far as the modern province of Drenthe does (an area of 266,278 hectares). At that time it was more or less a sovereign entity, and a member of the confederation of states which formed the Republic. The *Landschap*, as it was called, lay in the north-east of the Netherlands against the German border, and was surrounded by Groningen to the north, Friesland to the west, and Overijssel to the south (see map 1). It was a rather isolated region, surrounded by vast blanket bogs. Its geological structure had mainly been formed during the penultimate Ice Age when it was covered with an ice sheet stretching south from Scandinavia. It consisted mainly of a boulder clay plateau which was later on partly eroded by melting streams and then covered with an infertile layer of sand. During the Holocene, blanket bogs started growing and formed an important component of the natural landscape.

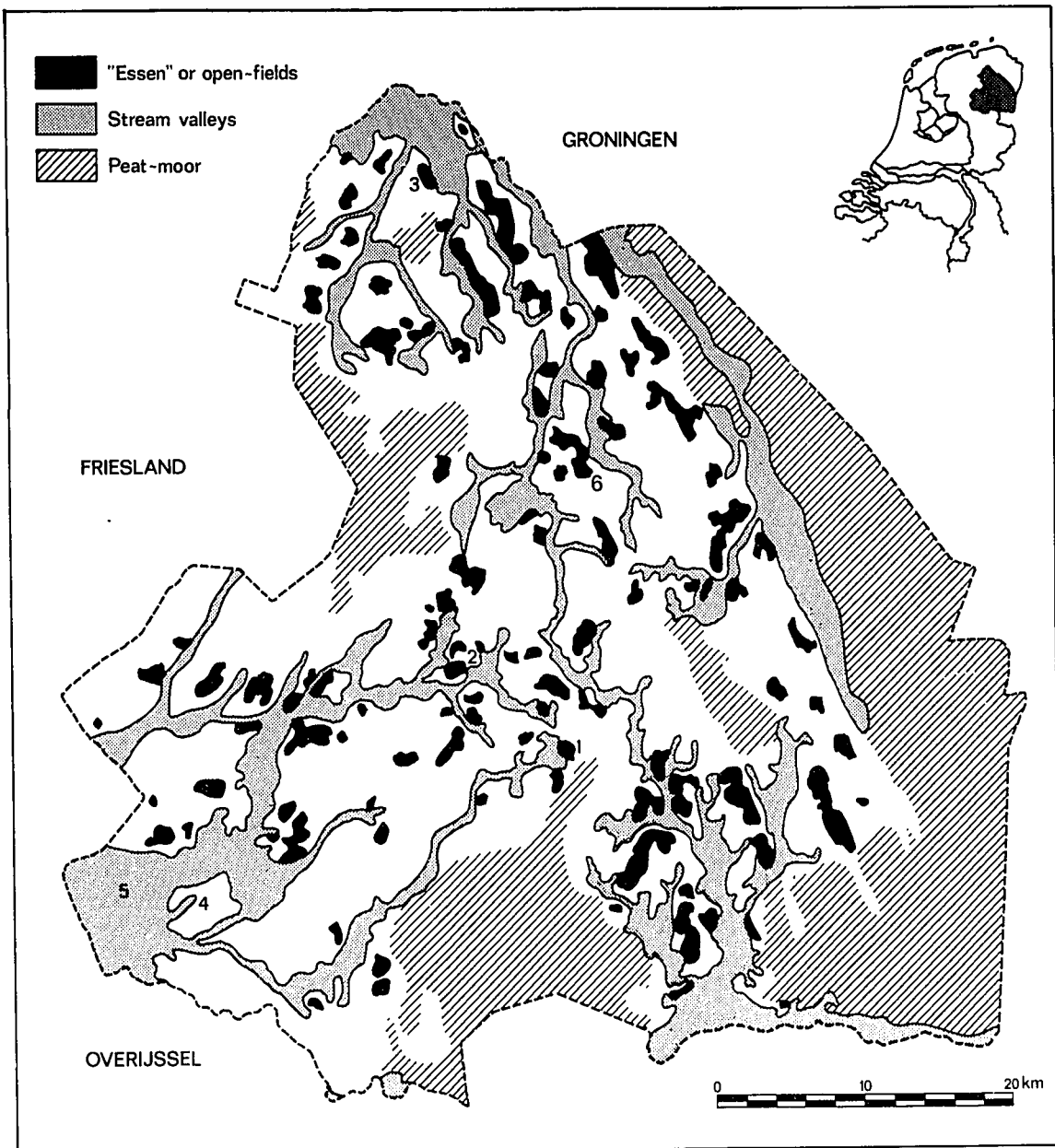
In the early seventeenth century the *Landschap* must have been an almost empty steppe of heath and blanket bogs over which small villages and hamlets were scattered like islands in an ocean. It is important to realize that it was a very sparsely populated area. There were no towns except the small town of Meppel in the south-west and the fortress of Coevorden in the south-east. Meppel had only

about 1000 inhabitants, Coevorden even fewer. The *Landschap* had thirty-six parishes and about 150 villages and hamlets, most of which had between ten and twenty farms. In 1630 Drenthe had about 22,000 inhabitants; no more than 8.3 people per km². Its population was about 1 per cent of the Dutch population at that time.² When studying aspects of its social-economic history we always have to keep these figures in the back of our mind. In seventeenth-century Drenthe there were three main types of settlement — the *esdorp* or open-field settlement, the *streekdorp* or linear settlement (found on the low-lying land at the edge of the plateau) and the *veenkolonie* or fen settlement. This paper is concerned mainly with open-field settlement, although some contrast with the linear settlements is made.

The main components of the *esdorp* settlements as can be seen on a detail of the first topographical map (1851/2) were: 1. the open fields or *essen*, 2. the meadows, on the silty and peaty soils beside the streams in the eroded parts of the plateau, 3. waste-lands. Then of course there were villages themselves (see map 2). The cadastral map for 1832 of the hamlets of Garminge and Balinge in the parish of Westerbork clearly shows the typical pattern of the open field with its fields and furlongs. The holdings of one farm were spread evenly over all the fields.

¹ This article is an adapted version of a paper given at the Spring Conference of the British Agricultural History Society held from 11 to 13 April, 1983. More on this subject will be published as a thesis called 'Agrarische ontwikkelingen op de Drentse zandgronden, 1600-1910. Een nieuwe visie op de oude landbouw' (Rural Change in Drenthe, 1600-1910: a new outlook on 'traditional' agriculture) which is in course of preparation.

² Faber *et al* (1965) estimated that the total number of inhabitants must have been about 1.4 to 1.6 million in 1600. A Faber, H K Roessingh, B H Slicher van Bath, A M van der Woude and H J van Xanten, 'Population changes and economic development in the Netherlands: a historical survey', *AAG Bijdragen*, 12, Wageningen, 1965, pp 47-113.



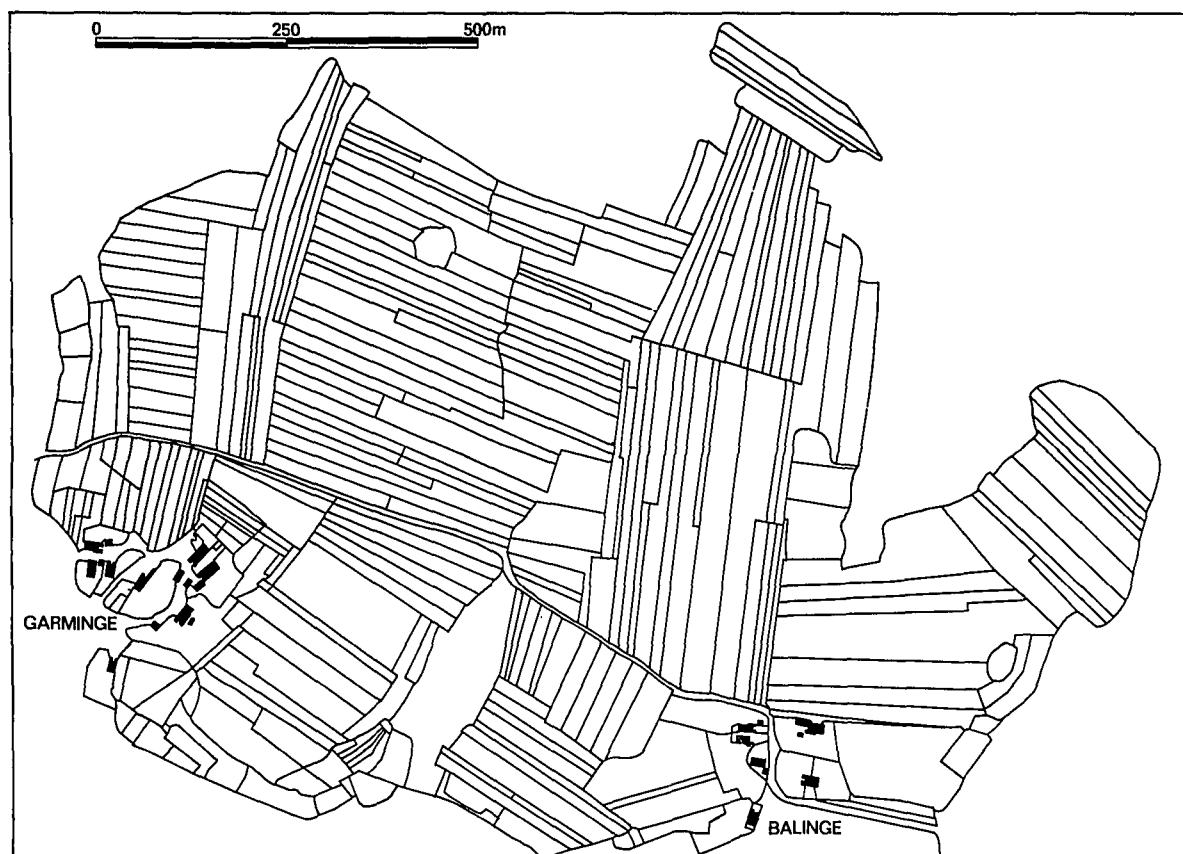
MAP I

Province of Drenthe. The map shows the most dominant features of the physical landscape of Drenthe. The open fields (indicated by black spots) are situated in close relation to the stream valleys. The places mentioned in the text are indicated by number

- | | |
|----------------------|--------------|
| 1 Garminge — Balinge | 4 Ruinerwold |
| 2 Beilen | 5 Nijeveen |
| 3 Peize | 6 Rolde |



Detail of sheet 17 of the first topographical map of the Netherlands (ca 1850) showing how the typical features of the *esdorpen* (open field) landscape survived into the nineteenth century



MAP 3

Small *essen* (open field) of the hamlets of Balinge and Garminge according to the first cadastral maps (1832). The holdings of each farm are equally scattered over the open field

I

Until recently there has been very little systematic research done on early farming or on the agricultural economy as a whole on the sandy soils of the Netherlands. Authors simply contented themselves with projecting some of the external aspects of the late nineteenth- and early twentieth-century farming back into former centuries. They assumed that what they saw as a primitive way of farming had been the same for centuries. Implicitly or explicitly they ignored the existence of dynamism in the old rural community, and so a picture emerged which was in fact no more than a caricature of the historical truth; a picture often painted in romantic colours. In the traditional view of agriculture in Drenthe, important features were that of the

shepherd with his flock of sheep on the heath (horned cattle played hardly any role according to the traditional view) and the continuous rye cultivation based on an intensive system of turf manuring (*plaggenbemesting*). There was supposed to be a stringent division between continuously cultivated arable land and pasture. The rural economy of Drenthe was presented as an almost closed, self-sufficient subsistence economy hardly related to any market. Recently however some authors like Roessingh have queried this traditional outlook.³ Examination of the records in the State Archives in Assen, the province's present capital, gave us a far more realistic

³ H K Roessingh, 'De veetelling van 1526 in het kwartier van Veluwe' (The Cattle Census of 1526 in the Veluwe Quarter of Gelderland), *A A G Bijdragen*, 22, Wageningen, 1979, pp 3-57.

view on farming and the rural community as it was in the seventeenth and eighteenth centuries. Much of our knowledge of agriculture in that period stems from sources which were put together for other than statistical reasons. Nevertheless they have proved to be useful and have helped us unveil a far more differentiated, and in many ways, a completely different picture of farming in Drenthé in the past. The research enabled us to solve problems like: the extent of agricultural land; the size and number of farms; the ratio between freeholders and tenants; the characteristics of the farming system; and the relation between cattle, sheep and field system.

In 1642 at the insistence of the States General of the Republic, the government of Drenthé started to make arrangements for a new system of taxation based on immovables, in addition to existing taxes. All over the *Landschap* surveyors were sent out to make records of everyone's property. These records give us a splendid view of agricultural land, and the size of the farms in every village and hamlet. By studying this material, we were able to calculate that by about 1650 Drenthé had approximately 15,460 ha or 5.8 per cent arable land. Besides this, there was a certain amount of land registered as privately owned meadow land. This was as much as three-quarters of the area of the arable land. But there must have been more meadow land still in common use. Many of the private meadows had been divided among the share-holding farmers during the first half of the seventeenth century due to improvement of the agrarian economy of Drenthé. Not all of the arable land however was actually ploughed. Some of it we find registered as fallow land. From a special record dated 1643 we deduced that over all the *Landschap* about 16 per cent of the arable land lay fallow. But there were of course important local differences. In some hamlets this percentage was as high or higher than 30 per cent or even more. A

contemporary notice tells us that a typical farm in the early seventeenth century consisted of 32 mudde (1 mudde = 0.27 ha) of arable land and twenty-four cows (including the young cattle). However tax-records show that around 1650 only about 22 per cent of farms were that size. The records also show that remarkable differences could exist between villages and hamlets in one and the same parish. The small farmers were often to be found in the churchvillages. Those who had hardly any land and only one or no horse were called *keuters* or cottagers. The shopkeepers and artisans were also found in these villages. In the satellite-like hamlets around the main villages the farms were mostly about 32 mudde. They had four horses and were usually described as *een vol bedrijf*, a complete farm.

Of course not all the farmers were freeholders. But herein lay the remarkable character of Drenthé compared to the neighbouring provinces Overijssel and Friesland. Drenthé had comparatively speaking many freeholders. A tax record of 1630 shows that in the *esdorpen* about 55 per cent of the farmers were freeholders. (Slicher van Bath found that in the adjoining province of Overijssel this was only about 10 per cent.)⁴ Of the remainder, 7 per cent of the farms were owned by the nobility and 5 per cent by the stewards' office of the government. These had formerly belonged to the monasteries and clergy. But these are only general figures. There were considerable differences between parishes and between the villages and hamlets within them. In the *streekdorpen*, in south-west Drenthé, the percentage of freeholders was even higher than in the *esdorpen*.

Apart from the early seventeenth-century notice indicating that twenty-four cows were held on a 32 mudde farm, we hardly have any information about live-

⁴ B H Slicher van Bath, *Een samenleving onder spanning*, Assen, 1957, pp 612-41.

stock on farms. It seemed almost impossible at first to reconstruct the relation between livestock and arable. But what we did have were records of revenues of about seven imposts paid in each parish over a period of about two centuries, and some of these were taxes on livestock. We decided to use the yield from these imposts as reflection of the data we most needed. It seemed to us that the important imposts were those on cattle, on sheep and on the exportation of bullocks, the so-called *uitdrift*. From the revenues of the impost on horned cattle, we deduced that during the first half of the seventeenth century the stock of horned cattle kept in the open field area must have been considerably larger than it was in the nineteenth century. When we calculated the yield of this impost per household, it was much higher in the open field villages than in the linear villages. This was rather remarkable as in the late nineteenth century the latter were by far the most important dairying regions. The seventeenth-century figure of twenty-four cows on a 32 mudde farm must have been a rather good example of the average number of cattle kept on a farm of that type.

But it was not only the revenues from the impost on horned cattle that were comparatively high in the open-field regions. The revenues from the impost on the exportation of cattle, the *uitdrift*, were also higher, and much higher than they were in some of the parishes on the lower fringes of the *Landschap*. This meant that cattle husbandry must have played a much more important role in the open-field farming in Drenthe than has until recently been assumed. But it was of a completely different nature from what we are used to nowadays or from what we know of the early twentieth century when the area of sandy soils had become an important dairy farming region. It appeared that in the first half of the seventeenth century, an important part of the horned cattle stock on the

open-field region must have consisted of young bullocks. These were sold at the age of two or three years and driven to Holland or elsewhere where they were fattened on the better pastures around the towns and sold for slaughter.

Although cattle was mainly grazed on heathland the open fields were also used. What was the open-field system in Drenthe during the seventeenth century like? Not all the arable land on the open fields was actually ploughed. By about 1643, 16 per cent of the open field lay fallow and in some parishes this was 30 per cent or higher. On the maps drawn by surveyors, we can see that these fallow lands were often to be found along the fringes of the open fields. It is obvious that in these cases a period of fallow was used to improve the quality of these marginal fields. In some other cases the fallow land is found on parts of the open fields which were enclosed. Here it was possible to keep cattle for grazing. In the codified law of Drenthe and in some local by-laws we find regulations concerning the enclosing arable land in the open field. The individual profit to one farmer enclosing some of his land was not allowed to hinder other farmers in ploughing their furlongs nor impair the interest of the whole community. Therefore it must not be forgotten that the open fields may have been less open than we thought.

But there were other ways in which farmers could graze their cattle on the open fields. In a number of local by-laws we find regulations concerning common grazing on the stubble. From these by-laws and other sources we tried to reconstruct how this common grazing worked and how it was linked with crop rotation. We came to the conclusion that apart from those sections of the open fields that were enclosed, they must have been divided into two parts of roughly equal size in which the arable strips of each holding were more or less equally apportioned. One year, one part

was meant for winter cropping and the other half for a spring crop, the next year they changed. This system allowed for common grazing on at least one half of the open fields after the winter crop had been harvested, that is from August to March. Apart from this we also know from other by-laws that pigs were allowed on the newly-sown winter crops if the ground was frozen and if they were properly cramped. In the seventeenth and eighteenth centuries, the winter crop was rye. Although the main spring crop was also rye, some buckwheat was also grown though probably not on a large scale. It is likely that the arable land on the open field was manured mainly by this method of crop rotation and common grazing. Moreover, we are inclined to assume that the system of turf manuring (which in general is believed to have been introduced during the later Middle Ages)⁵ played only a minor role in this period. But we will return to this later on. Common grazing, although it had undeniable advantages, on the other hand must have been one of the causes why average yields were very low. The farmers could not plough and harrow their lands just after the harvest. So weeds could not be fought adequately. In fact farmers chose to let these grow and spread, just for the benefit of common grazing. According to a contemporary notice in the early seventeenth century the yield ratio on the open fields in Drenthé must have been no more than 1:3. Only in very good years did it go up to 1:4. And we must remember that every fourth harvest was a bad harvest. So one can imagine that the farmer's income was dependent to a large extent on selling some of his cattle every year in the early spring.

The unsteadiness and vulnerability of farming in those days in a poor region like

Drenthé can also be seen from a graph showing the revenues from the impost on sheep (see Fig 1). This shows how often and to what extent the flocks were decimated by diseases like liver rot. In 1620 and 1621 for instance farmers were hit by bad harvests and wet weather and large numbers of their livestock died. In the eighteenth century there were the three successive cattle-plague epidemics which threw the agrarian community out of its balance.

II

What developments took place in the rural community and in farming during the seventeenth and eighteenth centuries and what were their possible causes? To answer this it is useful to separate endogenous factors from exogenous ones. One of the main endogenous factors we took into account was the growth of the population and its consequences for the structure of the rural communities. In 1630 Drenthé had about 22,000 inhabitants. By 1830 this number had grown to 63,868. But this was not linear growth. From 1630 until about 1740 we found a regular increase, but after that it remained static. It was not until the beginning of the nineteenth century that there was a rise of the annual growth rate. In the nineteenth century Drenthé was the fastest growing province in the Netherlands. It seems that the increase of population in the seventeenth and eighteenth centuries, slow as it was, was mainly due to a growth outside agriculture. We can demonstrate this trend with the help of the records of a tax that was based on the number of horses per household. In the seventeenth century the four-horse farm was the most common type of farm in the open field region. By the early nineteenth century the number of this type of farm had decreased considerably, the two-horse farm being more usual, many of the traditional large farms had been divided and those farmers whose land remained whole

⁵ J. C. Pape, 'Plaggensoils in the Netherlands', *Geoderma; an international journal of soil science*,⁴ Amsterdam, 1970, pp 229-55. H. de Bakker, *Major soils and soil regions in the Netherlands*, The Hague, 1979, pp 39-54.

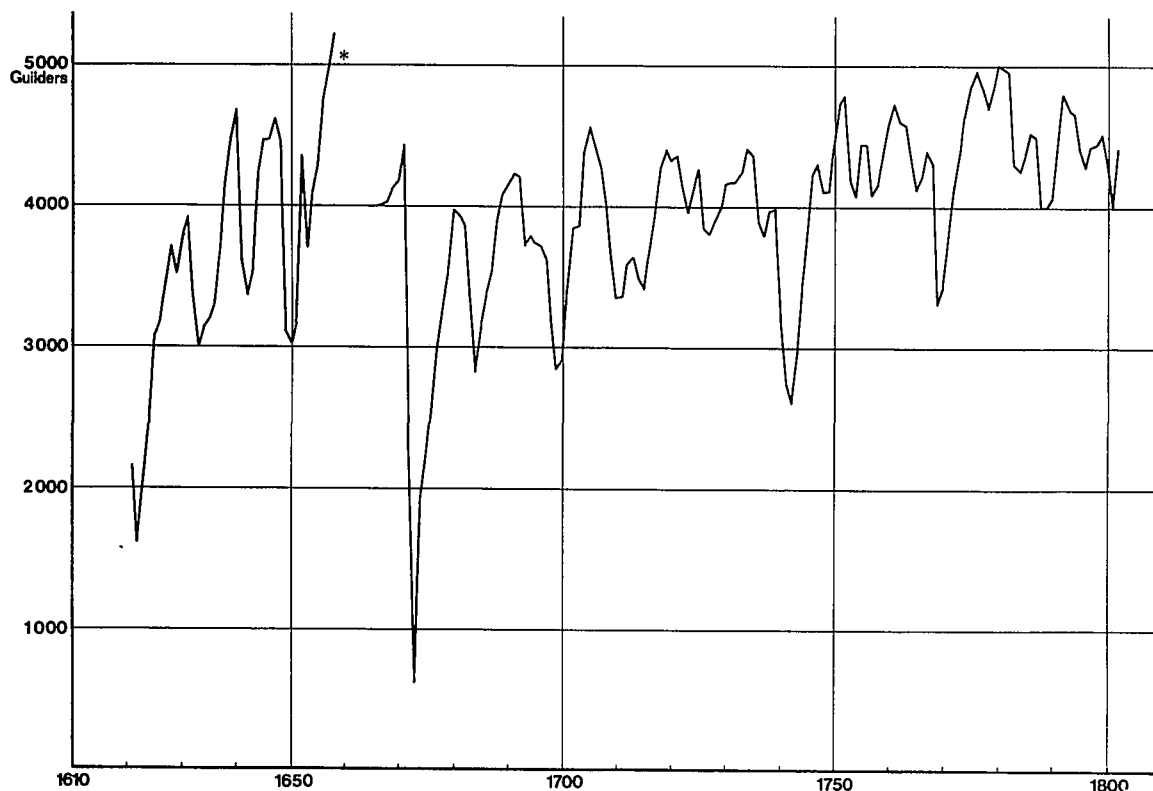


FIGURE I

Revenues of the impost on sheep (1621-1802). The graph shows to what extent the number of sheep depended on the loss of animals caused by diseases like liver rot

were a small minority amidst a great number of small farmers, shopkeepers and artisans. We also found that the population growth between 1672 and 1742 was mainly caused by the growth of the group comprising cottagers (*keuters*), shopkeepers and artisans. The figures in Table I, based on these tax-records, show this growth in fourteen villages and hamlets in the parish of Rolde in the central parts of the open-field region.

When we looked at the size of the farms in terms of their area, we found that the number of traditional 32 mudde farms in Drenthe had declined from 22 per cent to about 5 per cent in 1807, while the number of small farmers with half or less of this area had increased from 47 per cent to 62 per cent. Beside the population growth there were of course other factors that influenced the rural community, such as

TABLE I
Social structure of fourteen villages and hamlets in the parish of Rolde

A Number of larger farms classed by number of horses	Number of horses	
	1672	1804
four-horse farms	71	29
three-horse farms	9	13
two-horse farms	18	52
total	98 (100%)	94 (96%)
B Number of households (excluding large farmers) classed by occupation	Number of households	
	1672	1804
shopkeepers and artisans	21	46
small farmers	9	72
poor	4	11
total	34 (100%)	129 (397%)
Total A + B	132 (100%)	223 (169%)

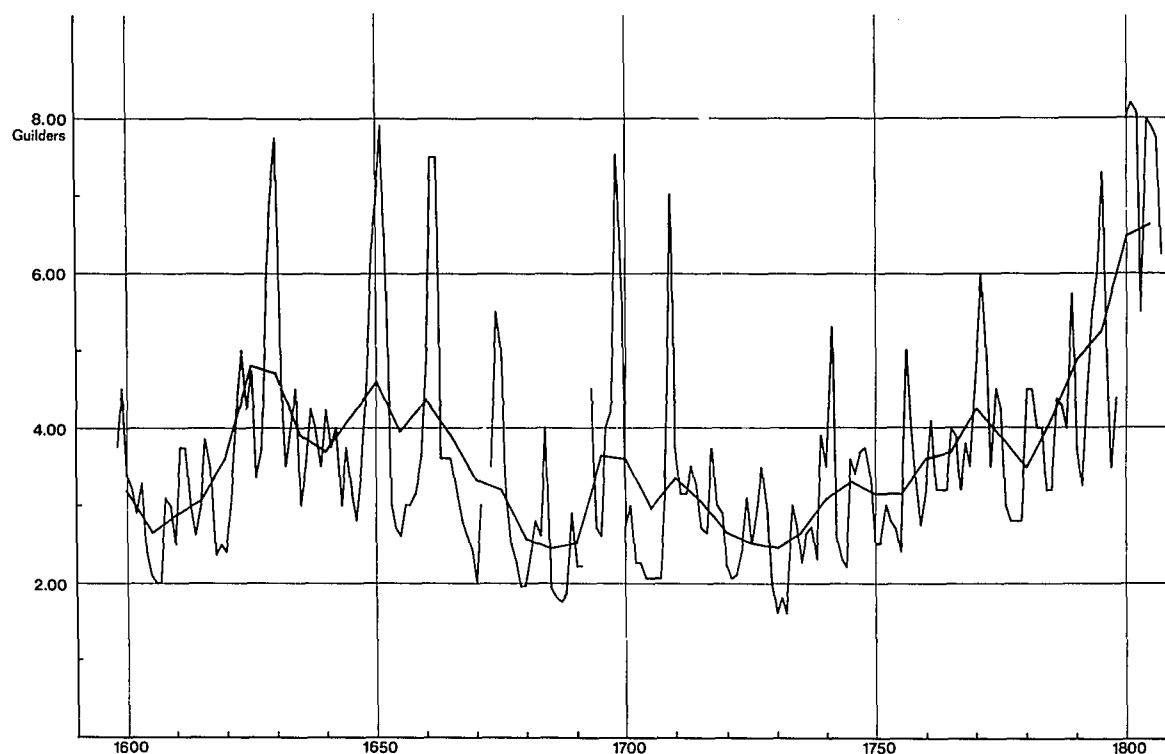


FIGURE 2

Annual prices of rye in Drenthe (1598-1807) in guilders per mudde (1 mudde = 0.91 hl) and the ten-year moving average

prices of agricultural products. We were lucky to find a series of rye prices in the accounts of the stewards' office of the government (see Fig 2). It was quite amazing to find how closely the prices in Drenthe followed those of Prussian rye on the corn exchange in Amsterdam. Farmers were indeed very dependent on the prices reached on this important international market. It also became clear how the period of depression between 1650 and 1750 affected the farmers. This long period was only interrupted by two short periods of recovery around the turn of the century during the Nine Years War (1688-97) and the War of the Spanish Succession (1701-14). When prices were at their lowest the difference between the two price series was the greatest. This price lag was probably mainly caused by the cost of transport and the amount of grain that regions like Drenthe could produce.

Unfortunately we do not have reliable price series for meat or cattle; the ones we do have are not complete or are not usable for other reasons.

But farming results depend not only on prices but also on costs. And in the period we are talking about these costs of production were not constant. After the real-estate tax had been introduced in 1643, and especially after 1670, the government was forced to raise its rate. New taxes were introduced and others were doubled. All this happened because Drenthe had to contribute its share to the wars the Republic was fighting. But all these taxes placed a heavy burden on the farmers. Just after the turn of the century the tax burden became extremely heavy because of the very low corn prices.

Fig 3 shows the yield of five imposts and four other taxes, calculated in the equivalent quantity of rye according to

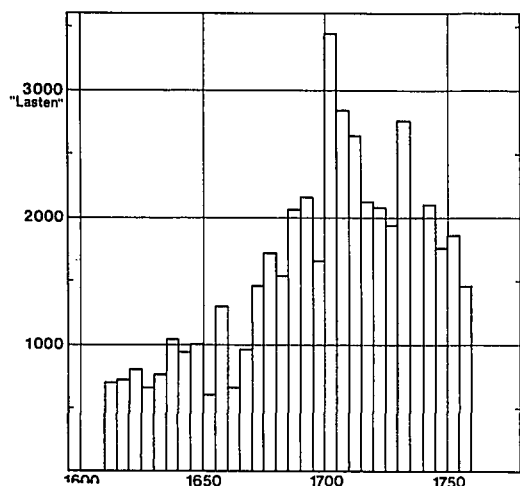


FIGURE 3
Increase of the tax burden in Drenthe in the period
1610-1759. Total yield of five imposts and four taxes
expressed in lasten (1 last = 30 hl); five-year moving
average

market prices. It shows that just after 1700 the actual tax burden was about three to four times higher than it had been during the first half of the seventeenth century. After 1750 the almost constant tax burden in money was compensated by increasing corn prices. Although it is still rather hypothetical we have reason to believe that the extreme burden of taxation was one of the forces that gradually changed the farming system in the open field region. We do not know exactly to what extent these taxes were a part of the total costs a farmer had to meet, but it seems plausible to assume that in order to cope with this heavy burden of taxes during a period of low prices, farmers were forced to increase the productivity of their farms. This could not be done by enlarging their farms. Between 1650 and 1750 the area of arable land increased by less than 4 per cent. The only way left to them to increase production was to intensify their farming system. As a result the number of cattle in the open field region slowly decreased while arable farming increased. By 1800 there were hardly any farms left that had twenty-four or more cows. Common grazing on the

stubble was abolished or limited. The folding of sheep behind hurdles for some nights after the harvest was the only thing that remained of the common grazing of all livestock. Farmers were now able to cultivate their arable land much better. They could plough and harrow their land more often and in doing so they could better control weeds. As a result yields increased. In the early seventeenth century the average yield ratio was about 1:3, but by the early nineteenth century we find yield ratios mentioned of about 1:6 or even 1:8 in good years. So within the framework of traditional farming, farmers had managed to double their average yields. This was also achieved by more intensive turf-manuring. Sods were cut from the waste and brought into byres as litter where they became mixed with the animal droppings. It was then taken to the fields. In the course of time, more and more sods were mixed with the manure. The farmers hoped that by bringing more vegetable humus to their fields they would get a better yield. By-laws of the hamlet of Anloo support this theory. In 1700 a farmer was allowed to cut two cartloads of sods per quarter share in the common land. Some thirty years later this number was raised to six, while in 1810 we hear complaints of farmers cutting twenty cartloads or more per quarter share.

During this process of intensification, farmers in the open-field region gradually managed to enlarge the comparative area under winter rye, which was their cash crop. At the same time buckwheat became more important, and they tentatively started growing spurry and turnips. In the early nineteenth century the main crops and their relative area were: winter rye 64 per cent; summer rye 10 per cent; barley 1 per cent; buckwheat (sand) 14 per cent; oats 5 per cent; potatoes 6 per cent.

How large was the cultivation of buckwheat on the moorlands within the total framework of the agriculture in Drenthe?

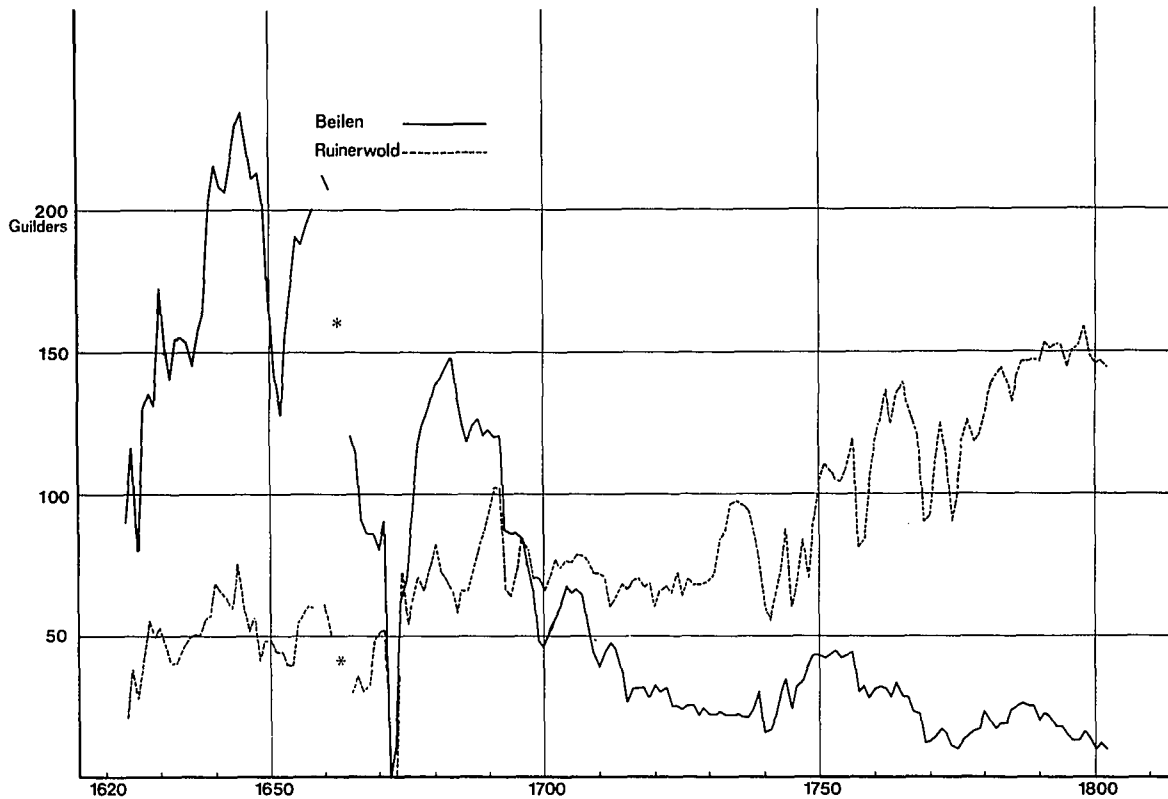


FIGURE 4

Export of cattle (mainly bullocks) and pigs based on the annual yield of the impost on the *uyt drift van ossen en verckens* (1624-1802) from the parishes of Beilen (open-field region) and Ruinerwold (linear village)

Although the method of cultivating moorland by draining, burning of the top layer and sowing buckwheat immediately after was already known by the beginning of the seventeenth century, it was probably not until the middle of the eighteenth century that this crop was sown on a larger scale. The culture of moorland buckwheat reached its peak in 1877. In 1850 the moorland buckwheat cultivation was 18.5 per cent of the total sown area compared to other main crops.

So far we have tried to show how the rural community in the open field region changed in the seventeenth and eighteenth centuries and how the farming system gradually changed at the same time. These changes were caused to a great extent by a rise in production costs due to increased taxes. As a result, more emphasis was placed on the arable farming. Along the

lower fringes of the plateau however, especially in some of the linear villages, farmers were forced to intensify their pasture. By the beginning of the nineteenth century these regions had become important centres for dairy farming. In parishes like Ruinerwold and Nijeveen — both linear villages — the area of arable decreased between 1650 and 1832, while at the same time the number of horned cattle increased. In Nijeveen, the only village of which we have an early seventeenth-century record showing the number of horned cattle, this number increased from 357½ (younger cattle counted as half) in 1615 to 580½ in 1800; an increase of 62 per cent. At the same time the percentage of farms with six or more cows rose from 24 to 40 (see Table 2).

The different ways in which farming evolved in the open-field region on the one

TABLE 2
Number of farms in the linear village of Nijeveen in south-west Drenthe in 1615 and 1800, classed by number of cattle (younger cattle counting as half)

Number of cattle	Number of farms	
	1615	1800
1	3	13
2½	11	18
3-5½	48	27
6-10½	19	23
11-15½	1	12
16-20½	—	3
Total	82 (100%)	96 (117%)
Total number of cattle	357½ (100%)	580½ (162%)

hand and in the lower parts along the plateau on the other, can be seen in the figures. Fig 4 shows the yield of the impost on the exportation of cattle in the parish of

Beilen, in the open-field region, and in the linear village of Ruinerwold. It shows in what way the significance of the *uitdrift* decreased dramatically after 1660 in Beilen while in Ruinerwold it increased.

Fig 5 shows the decrease and increase of the impost on horned cattle and the total number of cattle in the same parishes. This last graph also shows the three periods when the cattle-plague infested the country to a great extent. Unfortunately we do not have any exact records showing the damage done by these epidemics in Drenthe. But by examining data concerning the neighbouring provinces we can assume that mortality among cattle must have been very high in the *Landschap* too.⁴

III

Although we have already mentioned the

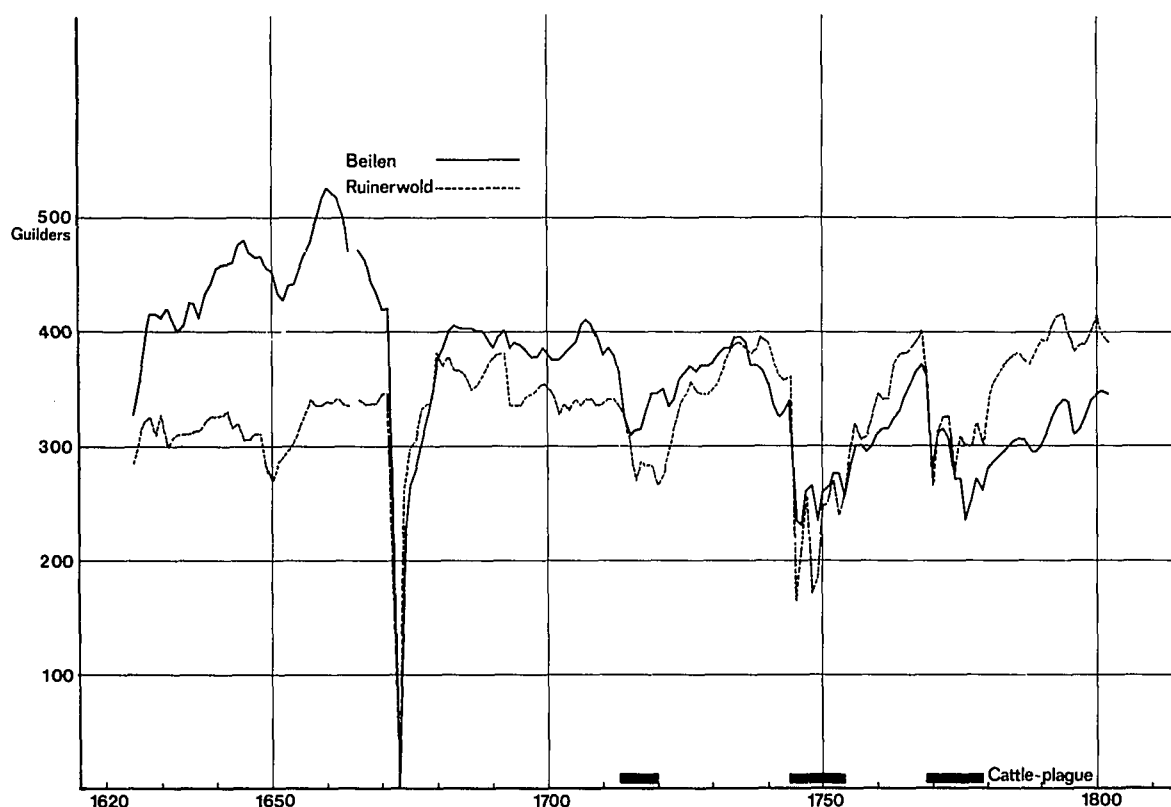


FIGURE 5

Horned cattle population in the parishes of Beilen (open-field region) and Ruinerwold (linear village) based on yield from the impost on horned cattle (1625-1802)

TABLE 3
Number of farms classed by number of cattle in March 1800

	1-3	4-6	Number of cattle			15	Total number of farms
			7-9	10-12	13-15		
Open-field villages							
— churchvillages	868	360	166	131	84	86	1695
— other than churchvillages	456	360	190	263	252	287	1808
Subtotal	1324	720	356	394	336	373	3503
Linear villages							
Group I	37	35	17	24	25	111	249
Group II	102	84	53	44	36	49	368
Drenthé	1827	1027	525	530	454	634	4997

differences in the social structure that could exist between the villages and hamlets in one and the same parish, we have been suggesting that the farming economy in the open-field region had an almost uniform character. However, in the north of Drenthé there were four parishes which deviated from this.

In these parishes the growing of hops was important. The parish of Peize, which had about eighty-seven households in 1630 was socio-economically almost completely dependent on the hop culture. More than half of the hop hills in north Drenthé were to be found in this village. Around the middle of the seventeenth century eighty-seven hop growers cultivated an average of 1050 hop hills per household. The four parishes together had about 161,400 hop hills. In Peize hops employed 14 per cent of arable land. Because of a decrease in beer consumption in the seventeenth and eighteenth centuries the cultivation of hops had almost vanished by the beginning of the nineteenth century.

Finally the way in which the process of

differentiation in agricultural pattern developed by the beginning of the nineteenth century can be seen from the figures of the cattle census held in March 1800.

These figures show the distribution of farms in classes according to the number of cattle that were kept. First it clearly shows the difference between the main villages in the parishes and the remaining hamlets in the open-field region. It shows to what extent the small farmers and cottagers dominated the social structure of these churchvillages. In these villages more than 50 per cent of those who kept cattle had no more than three cows (including calves and heifers). I have already mentioned that there were hardly any farms left in the open-field region with the traditional number of twenty-four cows. The other figures show to what extent cattle husbandry had developed in some of the linear villages like Ruinerwold (Group I). Other linear villages (Group II) show an almost similar pattern to that of the open field region as a whole.

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Dearth and the Marketing of Agricultural Produce: Oxfordshire c.1750-1800

By W THWAITES

A MAJOR problem for anyone contemplating a local study of marketing and internal trade is to find a significant collection of source material. In fact, almost no evidence at all is available from periods of good or average harvests, moderate prices and adequate supplies. When staple items were reaching the consumers at prices they could largely afford to pay, very few people ever bothered to analyse such everyday concerns as the sale, purchase and consumption of food. Thus, N S B Gras suggested that the 'people' failed to recognize the value of the corn middlemen, 'because in times of plenty they do not consider the matter at all'.¹ It seems that only when the system was unable to achieve its task of satisfying the needs of the consumer was serious attention paid to the process of marketing and internal trade. It is consequently to periods of harvest failure and supply difficulties that one must look for the principal data on which to base studies of marketing, particularly the marketing of corn.

Much of the material which proved most useful in my study of the marketing of agricultural produce in the inland, food-producing county of Oxfordshire² was produced during the four major periods of dearth in the second half of the eighteenth century, 1756-7, 1766-8, 1794-6, and 1800-01. The aims of this article are two-fold. The first is to examine the types of material surviving from these periods and

to indicate how it can be used to reveal patterns in marketing and trade prevailing in non-crisis periods. The second is to point out when the evidence may not be representative of normal times, by showing the role which scarcity itself played in influencing marketing and trading practices. Dearth will be seen to have had not only a radical short-term impact on marketing and trading practices but also a possible longer term effect, providing a stimulus to new developments while causing neglected practices to be re-established.

I

The range of evidence surviving from periods of scarcity is considerable. At the national level each crisis witnessed the publication of numerous books and pamphlets offering analyses of the causes of the scarcity and possible remedies. While these are usually too general to be of value in a local study, it is nevertheless almost always possible to find one or two using evidence from the particular area one is researching. Thus, J S Girdler, whose *Observations on the Pernicious Consequences of Forestalling, Regrating and Ingrossing* was published in 1800, lived at Hare Hatch, near Maidenhead and used examples to illustrate his points from the nearby town of Henley on Thames. There is, for example, a description of what might be termed an inverted corn riot, when in 1796, Girdler attended Henley market to buy oats and was attacked by farmers and mealmen over his attempts to enforce

¹ N S B Gras, *The Evolution of the English Corn Market, from the Twelfth to the Eighteenth Century*, Cambridge, 1915, p 206.

² W Thwaites, 'The Marketing of Agricultural Produce in Eighteenth Century Oxfordshire'. Unpublished PhD Thesis, University of Birmingham, 1980.

traditional laws for consumer protection.³ Also included is a detailed account of a case of regrating at Henley, when Richard Jemmett was convicted for buying wheat at 85 shillings per quarter and selling it in the same market on the same day for 100 shillings.⁴ Central government bodies investigating dearth likewise drew evidence from all parts of the country. The *Committee of the House of Lords Appointed to Enquire into the Scarcity of Provisions Sessions 1765*,⁵ for example, collected some valuable data on the size of the corn measures used in Oxfordshire markets. This is essential information for anyone contemplating an analysis of price series.

The several Public Record Office collections normally used in studies of popular disturbances are also informative. Classified under Assizes, Home Office, Privy Council, War Office and Rail⁶ one finds much of the legal data and correspondence generated by food shortages. Letters are available on riots and on local authority responses to the difficulties; on attempts by the major urban and industrial areas to procure supplies; on the protection demanded by millers, farmers, dealers and wharf supervisors; and on dietary habits. All such documents throw at least as much light on the operation of marketing and trade as they do on the behaviour, composition and suppression of the eighteenth-century crowd.

At the local level newspapers always turned their attention to marketing and trade during dearth. *Jackson's Oxford Journal* contains very full accounts of the mid-century food riots and while more circumspect in its reporting of disturbances by the 1790s still includes, during the later crisis years, letters on a whole range of

subjects connected with food prices and supplies. Details of local authority measures to deal with the crises, accounts of prosecutions for marketing offences and descriptions of the operation of charitable schemes to relieve the poor are also always available. With the exception of the correspondence, Quarter Sessions bundles and record books contain a similar range of material.

A number of individual market towns are generally well-documented. The borough records of Henley on Thames, for example, contain detailed accounts of changes made in the physical arrangements of the market.⁷ Once again, however, a greater range and quantity of evidence survives from periods of dearth. Henley's records include a detailed opinion on purchasing corn outside the market place written in 1768,⁸ an account of a case of forestalling pigs in 1800,⁹ and a bundle of twenty papers on a variety of subjects relating to the high price of bread and provisions in the years 1795, 1799 and 1800.¹⁰

II

While all the evidence detailed above was produced in what were essentially abnormal circumstances, it is nevertheless possible to deduce much about the normal situation and standard practices from it. A few examples will suffice to show this.

First, it is not easy to discover the exact location of food dealing in the eighteenth century: were corn sales still centred on the market place or had they, as many writers suggest, shifted to the inns and wharfs with their superior facilities and valued privacy? An examination of the location of riots and

³ JS Girdler, *Observations on the Pernicious Consequences of Forestalling, Regrating and Ingrossing* . . . 1800, p 210.

⁴ *Ibid.* p 214.

⁵ 'Papers and Letters of the Committee of the House of Lords Appointed to Enquire into the Scarcity of Provisions Sessions 1765', House of Lords Record Office.

⁶ For the records of the Oxford Canal Company.

⁷ 'Henley Borough Assembly 1722-1799', Oxfordshire Record Office (ORO), Ms D D Henley A V 8.

⁸ 'Mr Hayes Opinion about Forestalling', ORO, Ms D D Henley A XXII 3.

⁹ 'Town of Henley upon Thames. Case of Forestalling Pigs', ORO, Ms D D Henley A XV 11/1.

¹⁰ 'Bundle of Twenty Papers Relating to the High Price of Bread and Provisions 1795, 1799 and 1800', ORO, Ms D D Henley C IV 7.

the specific targets of riotous crowds can help to pinpoint the changes which took place. Thus, riots which occurred in Oxford in 1693 were centred firmly on the market place.¹¹ However, in 1757 a riotous crowd in the city visited three inns, the King's Head, where they seized two loads of wheat, the Mitre and the Star.¹² In conjunction with the evidence that a notable corn dealer, Richard Williams, was master of the King's Head from 1772,¹³ this would suggest that by the mid eighteenth century City inns had definitely come to play a central role in Oxford's corn trade. Again, during the Banbury riots of 1800, the Red Lion inn, occupied by the corn dealer William Pratt, was set on fire by, 'a Mob of (the) Town joined by Boatmen of the Canal'.¹⁴ This would suggest that the inn, certainly the centre of corn dealing in Banbury in the nineteenth century,¹⁵ was already by the late eighteenth century closely connected with the town's corn trade.

The organization of the long-distance corn trade is another subject for which evidence is not normally available. However, in the 1790s persistent rumours among a disturbed populace that local mealmen and dealers were engaged in exporting corn to France forced several of them to defend themselves by issuing denials of the charges in the newspapers. These statements provide important insights into the normal business dealings of local food processors and dealers. In 1795, for example, an Oxford corn chandler, John Borlase, declared, 'my Dealings in Corn, Grain, or Flour, were and have been with Persons who resided within the Distance of Coventry, Birmingham and Dudley'.¹⁶ William Atkins, a Chipping

Norton mealman, produced a similar statement swearing that his dealings, 'are and were with those in this Part of the Country and with Bakers within the Distance of Birmingham and Coventry'.¹⁷ Finally, demonstrating that even in this period there were still dealers concerned solely with their own localities, Thomas Hudson, a mealman of Wood Green near Witney, declared that so far from being concerned with exporting, his trade has been confined to Witney and its vicinity.¹⁸ Statements made by Atkins and by Hudson concerning their dealings with bakers also help to illustrate the declining role being played by the baker in the late eighteenth-century corn market.

Finally, an analysis of the foodstuffs which rioting crowds either seized or regulated in price can be very revealing of changes in the dietary habits and purchasing behaviour of the poor. For example, in all food riot years between 1693 and 1766 crowds in Oxford and the County's other towns appropriated wheat or fixed the price at which it was to be sold to the poor. On the other hand, in all food riot years from 1766 onwards rioting crowds fixed the prices at which bread, flour and meal were to be sold or seized these products in addition to or instead of corn.¹⁹ Moreover, several periods of disturbance from 1710 onwards saw moves to ensure that bakers, as well as consumers, were provided with corn and from 1767 onwards witnessed attempts by the poor to influence the setting of the assize of bread.²⁰ This shift in the interest of the urban crowd from unground corn to wheat derivatives by the disturbances of the 1760s is almost certainly indicative of a change in their purchasing behaviour during normal times and is much the most useful data available to suggest the period in which poor consumers ceased to be purchasers of wheat.

¹¹ Thwaites, *op cit.*, pp 468-9.

¹² *Ibid.*, pp 474-9. During the same riots the wharfs were also visited.

¹³ *Ibid.*, p 317.

¹⁴ 'David Hughes to Duke of Portland, 15 September 1800', Public Record Office (PRO) Home Office HO 42:51, 154.

¹⁵ A Crossley (Ed), *The Victoria History of the County of Oxford*, X, Banbury Hundred, Oxford, 1972, p 60.

¹⁶ Jackson's *Oxford Journal* (JOJ) 11 July 1795.

¹⁷ JOJ 1 August 1795.

¹⁸ JOJ 8 August 1795.

¹⁹ Thwaites, *op cit.*, p 213.

²⁰ *Ibid.*, pp 211-12.

In the examples outlined above it is almost certain that the picture revealed during the period of dearth was the one which prevailed at normal times. The information is too incidental to have been the product of the manipulative reporting so common during scarcity. The emotions and moral considerations to which dearth gave rise are most unlikely to have distorted witnesses' perceptions of the location of riots or the foodstuffs seized during disturbances. Moreover the patterns in marketing and trade found to have prevailed in Oxfordshire are much the same as the patterns described in regional and national studies. It is also possible to find occasional extra data from non-dearth periods to support the arguments.

However, it is equally certain that not all of the evidence surviving from periods of scarcity can be used to indicate normal practices and attitudes. Thus, the very conditions which caused people to investigate the subject of the food supply may have been causing a distortion of normal patterns. Dearth was exceptional and the behaviour it produced must often have been exceptional also.

There is much evidence that marketing and internal trade did operate along different lines during a period of high prices and food shortages. Many contemporaries believed that crop failures and food shortages had no real existence. This view was doubtless unduly cynical. Nevertheless, there is no doubt that scarcity, by acting both to encourage and to facilitate various types of speculative activity, did acquire an artificial element. Berthold Brecht's comment, 'Famines do not occur, they are organized by the grain trade',²¹ illustrates clearly the view, as relevant in the eighteenth as in the twentieth century, that scarcity can be exploited for profit. Crude attempts might be made to keep up or enhance already inflated prices. For

example, in 1800 a case of conspiracy to enhance the price of wheat was brought before the County Quarter Sessions after a yeoman had tried to persuade a vendor of corn at Bampton fair to raise his asking price from 35 to 40 pounds the load.²² Rumours of farmers and dealers holding back corn from the market in the hope of generating further price rises or maximizing profits by offloading as prices peaked, were also rife, although firm documentary evidence of speculative hoarding is difficult to find. In fact, when the Earl of Guilford required the steward of his estate at Wroxton to discover if the crisis of 1767 had encouraged his tenants to hold back corn in the hope of increasing the price, the steward reported that there was no evidence of hoarding.²³ However, a reference to a sale of 'old' wheat in Oxford market in February 1757 suggests that in that particular crisis some farmers had waited eighteen months and for prices in excess of eight shillings per bushel before they sold.²⁴

Better documented is the way in which dearth conditions produced an extension in the area which looked to Oxfordshire for supplies of foodstuffs. In 1795, for example, not merely was there greatly increased demand for corn from Birmingham, Warwickshire and Staffordshire but there is also evidence of the acquisition of Oxfordshire corn for Derbyshire and Lancashire with which trade seldom normally took place. Thus, Christopher Willoughby, a county Justice, referred to the 'vast export of grain' from Oxfordshire to Lancashire and Derbyshire²⁵ and complained that, 'A great deal of *our* wheat has

²² 'Quarter Sessions Bundles, Michaelmas 1800' ORO.

²³ 'Letters from Stewards of Estates 2. 1765-1800', Bodleian MS North d 3, p88.

²⁴ 'Corn Book of the Clerks of the Market 1751-1767', Oxford University Archives MR 3/5/2. I am indebted to the Keeper of the University Archives for permission to refer to this material. Further research on farm accounts might reveal more on the extent to which farmers held back their corn from market.

²⁵ 'Christopher Willoughby to Duke of Portland, 29 June 1795' PRO. Privy Council PC 1:26 A 51.

²¹ Quoted in S George, *How the Other Half Dies. The Real Reasons for World Hunger*, Harmondsworth, 1977, p 46.

lately been purchased for Liverpool',²⁶ his emphasis suggesting that this was an unusual threat to local supplies. Accompanying complaints of upsurges in demand for Oxfordshire corn were references to the activities of dealers or jobbers. An analysis of the clientele of Oxford City market for the period 1692–1800 shows a corn market dominated by the local community. City food processors, particularly bakers, formed easily the majority of the purchasers.²⁷ However, in 1757 we find a reference to the 'locusts' buying corn in Oxford market and preventing local bakers from purchasing.²⁸ Again, from June 1795 we have the comment by Christopher Willoughby, 'Wheat is 10/6 the bushel and Dealers from Derbyshire, Staffordshire, Warwickshire etc etc now attend our Markets and will give the Farmers their own price'.²⁹ He provided the stress on the word now, making it clear the problem was exceptional. Not merely was it felt that the open markets were threatened by the dealers but it was also firmly believed that these non-local dealers and factors were buying corn at the farm gate and making contracts for crops still growing in the fields. In 1795 Willoughby reported that it was a '*positive fact*' that dealers from the Midlands and North, 'buy up all our wheat from the Farmers *at their own price and without taking it to Market*'.³⁰ Even if the anxiety aroused by famine caused some exaggeration and unreliability in reporting, there is sufficient evidence to indicate that dearth conditions led to greatly increased pressure on local resources and an upsurge in speculative activity.

This shift to more aggressive and competitive marketing techniques was counter-balanced by a return by the authorities to a

policy of enforcing the old regulations for consumer protection. Regulation had, in fact, been very largely a response to dearth from the sixteenth century onwards. Thus, A Everitt suggests that even in the sixteenth and early seventeenth centuries little restraint was imposed on the activities of private traders in times of plenty.³¹ Moreover, N S B Gras,³² J Chartres,³³ and J Walter and K Wrightson³⁴ all indicate that the enforcement of regulations to control marketing and internal trade in the Tudor period and the seventeenth century was primarily a response to dearth. Eighteenth-century Oxfordshire magistrates seem on the whole automatically to have followed the approach which had been evolved during the previous two centuries.

The authorities did not always require the spur of scarcity before enforcing the law, however.³⁵ Commitments to ensuring minimum standards of honesty from traders and hygiene and good order in the market place were very largely unrelated to price levels. The assize of bread continued to be set regularly throughout the period in Oxford and in Henley no pattern is visible in prosecutions for offences connected with the sale of bread. Moreover, the Committee responsible for the control of the covered provisions market in Oxford seems always to have possessed a firm commitment to public marketing institutions; an antagonistic attitude towards speculation and even a belief that the concept of a 'just price' might have a permanent validity.

Nevertheless, the enforcement or attempted enforcement of most types of

³¹ A Everitt, 'The Marketing of Agricultural Produce' in J Thirsk (Ed.), *The Agrarian History of England and Wales, IV, 1500–1640*, Cambridge, 1967, pp 579, 581.

³² Gras, *op cit*, p 229.

³³ J A Chartres, *Internal Trade in England 1500–1700*, 1977, pp 60–4.

³⁴ J Walter and K Wrightson, 'Dearth and the social order in early modern England', *Past and Present*, 71, May 1976, pp 37–42.

³⁵ These conclusions have been drawn by using tables illustrating the chronological pattern in the enforcement of various types of law and regulation in conjunction with tables of Oxfordshire corn prices. For the tables see Thwaites, *op cit*, pp 398–466; Appendices, Oxfordshire Corn Price Material.

²⁶ 'Christopher Willoughby to Duke of Portland, 5 July 1795', PRO, HO 42:35, 93.

²⁷ Thwaites, *op cit*, pp 183–8.

²⁸ JOJ 18 June 1757.

²⁹ 'Christopher Willoughby to John King, 28 June 1795', PRO, HO 42:35, 54.

³⁰ 'Christopher Willoughby to Duke of Portland, 29 June 1795', PRO, PC 1:26 A 51.

regulation was almost entirely dearth related. Thus moves to enforce the statute, 5 and 6 Edward VI c 14, repealed in 1772, and to prevent the common law offences of forestalling, engrossing and regrating or in C R Fay's phrase 'the unpopular manipulation, in time or place, of the people's food',³⁶ were made in response to scarcity. In addition, the reintroduction of measures for the protection of the local consumer and the restoration of the 'just' price of the type detailed in the *Book of Orders*,³⁷ was also closely related to food crises.

However, the statement that regulation was a response to dearth is incomplete. Thus, there is no evidence of a return to regulation in Oxfordshire during the crisis of 1740-1. In fact, for law enforcement to take place the presence of an additional pressure was usually required, the compelling one of popular disturbance.

Under three sets of circumstances it would appear that it was the food riot rather than scarcity *per se* which precipitated the return to regulation: first, when the authorities actually admitted that their measures were to appease rioters; second, when the announcement of law enforcement was accompanied by a commitment to prevent riots; and third, when an attack on marketing abuses occurred, after an outbreak of rioting, in an area in which regulation was otherwise wholly exceptional.³⁸

Disturbances and crowd pressure must then bear responsibility for a whole series of measures. Thus, almost all announcements from 1757 onwards that the authorities were intending to suppress speculative dealings in corn or to restrict the trade in corn to the market place were made in response to outbreaks of rioting. Two attempts to protect the interests of

local consumers and the supplies of the local community in 1766 were also designed to appease the crowd. Again, except perhaps in Oxford,³⁹ attacks made in 1800 on the forestalling, engrossing and regrating of all types of provisions seem to have resulted from disturbances. All announcements of measures to reduce prices made in 1766, 1795 and 1800, almost the only years in the eighteenth century which witnessed attempts to bring about price reductions, appear to have been made at the instigation of food rioters. Moreover, and perhaps most unexpectedly, moves to ensure that correct weights and measures were employed in the towns of Woodstock and Witney in 1800 seem to have been a concession to the crowd. Finally, a sudden upsurge in prosecutions for assize of bread offences in 1757-8 may have been influenced at the very least, by disturbances in Bicester. Thus, five of the ten prosecutions which were at county level took place in Ploughley Hundred of which Bicester was a part and one of those who gave evidence was almost certainly the wife of a Bicester food rioter. It is also possible that the pro-consumer slant given to the assize of bread in dearth years was partly an attempt to appease riotous crowds and there is no doubt that the crowd was able to influence the assize by bringing about reductions in the price of wheat on which it was set.

III

Hitherto it has been suggested that the patterns in marketing and trade revealed during a dearth period can be regarded as either standard or very specific to the scarcity period itself. Other patterns which emerge are much less easy to interpret in either of these two ways. Under two sets of circumstances more caution is required

³⁶ C R Fay, *The Corn Laws and Social England*, Cambridge, 1932, p 54.

³⁷ According to N S B Gras the *Book of Orders* consolidated in one document, 'the regulations embodying the Tudor policy of restraint'. Gras provides a summary of the 'Book'. Gras, *op cit*, pp 237-40.

³⁸ For evidence on these points see Thwaites, *op cit*, pp 522-4.

³⁹ The more complex relationship between crowd action and measures by the authorities to control marketing and internal trade in Oxford is discussed in Thwaites, *op cit*, pp 499-504.

in handling the material surviving from a dearth period. The first is when the earliest evidence on a particular process or development comes from a scarcity period but when the pattern continues to be found after the crisis subsides. The second is when a specific pattern in marketing or trade which had apparently been abandoned re-emerges during a crisis and, unlike the measures which were definitely dearth-related, continues to prevail after the problems of scarcity have been overcome. The first type of developments will be called progressive because they were new and forward-looking. The second type will be called retrogressive because they looked back to past models rather than breaking new ground. In this context retrogressive does not necessarily mean backward-looking in the sense of merely old-fashioned or inappropriate.

Several examples show progressive changes being recorded initially in a period of dearth. Thus, our first evidence on the canal-borne corn trade with the West Midlands comes from 1795, although the canal was opened from Banbury to Warwickshire in 1778 and from Oxford in 1790. The trade continued to be mentioned after 1795. Again, the period May–October 1795 provides four reports that short-weight butter had been seized in Oxford. Further cases appear in *Jackson's Oxford Journal* between 1796 and 1798,⁴⁰ and there is considerable evidence that short-weight butter was seized by the Clerks of the Market in the early nineteenth century.⁴¹ Before 1795, however, only one case was recorded, in March 1783, itself a high price period. Moreover, the earliest Oxfordshire evidence on practices generally thought to have become prevalent in the eighteenth century is frequently found in a period of scarcity. Thus, the first unequivocal

account of an urban tradesman purchasing at the farm-gate on a casual basis occurs in *Mr Hayes Opinion about Forestalling* in 1768: 'One Pitman, a Maltster in Henley went to a Farmer's House at Shiplake and at his Barn Door purchased sixteen quarters of Barley'.⁴² Again, the first eighteenth-century account of the speculative purchase of growing crops comes from J S Girdler, who recorded the purchase by a maltster and farmer of Benson of eleven acres of wheat growing on a farm at Roke during the crisis of 1795.⁴³

There are a number of ways in which the evidence might be explained. For example, we may simply be seeing the effects of the publicity which standard and well-established marketing and trading practices suddenly received in dearth. Thus, no one may have thought it necessary to comment on the development of the canal-borne trade with the West Midlands while that trade was having no significant impact upon local consumers. However, once the trade appeared for the first time to threaten supplies required in the locality, public attention became focused upon it. Interest and emotions were perhaps seldom stirred until the adverse side-effects of a new development became apparent. Certainly, an Oxfordshire farmer who mentioned the canal trade in 1795 did so in tones suggesting that it had become established before the crisis of that year: 'Some corn has certainly been purchased within these few years for the use of Birmingham, and the various manufacturing places in Staffordshire and its neighbourhood, more particularly since a communication has been opened by a canal to those countries'.⁴⁴

The publicity given to the long-distance

⁴⁰ *Ibid.*, pp 411–13.

⁴¹ 'Perambulations of the Clerks of the Market, 1808–1828', Bodleian Ms Top Oxon f 2. 'Papers relating to the Clerks of the Market and their Work, 1821–1851', Bodleian Ms Top Oxon e 98.

⁴² 'Mr Hayes Opinion about Forestalling', ORO, Ms D D Henley A XXII 3.

⁴³ Girdler, *op cit.*, p 289.

⁴⁴ An Oxfordshire Farmer, *A Reply to the Instructions given by the Common Council of Oxford to F Burton and A Amesley Esqrs their Representatives in Parliament, on the Present Scarcity of Provisions* . . ., 1795, p 12.

corn trade was likely to exacerbate popular discontent. To counter this, local authorities may sometimes have decided to publicize equally standard procedures which operated in the interests of consumers. This may provide the explanation for other apparently new developments. Thus, seizures of short weight butter may have been a normal occurrence in eighteenth-century Oxford, reported in the newspapers in years of high prices, not because they were unusual but because of their possible soothing effect on an outraged public.

However, it is possible that dearth may sometimes have had a greater impact than simply helping to focus attention on normality. It may also have provided a challenge to old-established methods of conducting business and a stimulus to look for new and more efficient ways of organizing marketing and internal trade. Like war it may have played an active role in generating change. In our present state of knowledge it is not really possible to say. Nevertheless, it is conceivable with both farm-gate selling and the pre-harvest contractual sale that dearth did do more than simply encourage an ignorant populace to interpret normal and acceptable business practices as sinister and amoral. It may well have acted as a spur to a relative increase in these private sales techniques. J S Girdler, for example, certainly felt that there was a considerable increase in the practice of buying growing crops between the crises of 1795 and 1800.⁴⁵ Moreover, if the pressures of scarcity encouraged tradesmen and dealers to explore new markets and new trading techniques there is little likelihood these would have been discarded had they proved profitable or convenient.

In addition to its effects on the commercial community, dearth may also have influenced local authorities to pursue progressive change. Thus, we have evidence

that the authorities in Oxfordshire only implemented certain new and forward-looking laws several years after they were passed and during the next period of scarcity subsequent to their passage. For example, the Act requiring the appointment of Inspectors of Corn Returns was passed in 1791 but it was not until September 1795 that an inspector was appointed for the City of Oxford.⁴⁶

Turning to retrogressive change, we again find several examples of this type of development recorded during scarcity periods. Thus, attempts to revive decayed open markets were rare in eighteenth-century Oxfordshire. Apart from two moves to re-establish a cattle market in Oxford, only three other revival attempts were recorded, at Charlbury in September 1800 and at Bampton in both November 1766 and October 1800. The notice concerning Bampton in 1766 declared,

Whereas the Market at Bampton . . . hath for some Years been discontinued This is to inform the Publick that the said Market is now going to be revived, and will be kept every Wednesday for Corn, Cheese, Butter, Eggs, Fish, Poultry and all other Provisions,⁴⁷

showing clearly that a traditional, local, open market was envisaged. It cannot be coincidental that the only recorded attempts to restore the old open market ideal were contemporary with the most difficult periods of two of the major food crises of the eighteenth century. Moreover, in support of the view that we cannot afford to regard such measures as necessarily inappropriate, we may note that R Dumont and N Cohen in *The Growth of Hunger*, concerned with an appropriate agriculture for the 1980s, suggest 'local markets selling local goods',⁴⁸ as one acceptable solution to the problems. The market revivals in Oxfordshire were prob-

⁴⁵ Girdler, *op cit*, p 289.

⁴⁶ *JOJ* 12 September 1795.

⁴⁷ *JOJ* 8 November 1766.

⁴⁸ R Dumont and N Cohen, *The Growth of Hunger. A New Politics of Agriculture*, 1980, p 198.

ably only marginally successful although both Charlbury and Bampton did retain the remnants of their markets throughout the first half of the nineteenth century.

Again, on the whole, the eighteenth century witnessed a decline in the old pitched markets, to which farmers had taken all their corn to sell in bulk and saw their replacement by sample markets, to which farmers took only purses filled with wheat, disposing of entire crops on the strength of these examples.

In Oxford, which had certainly possessed a pitched market in the 1740s, sample-selling must have begun by 1755, when corn dealers using the City's market declared their opposition to the practice.⁴⁹ Their action appears to have had little impact, however, for by the crisis of 1757 the development was again arousing hostility. During the Oxford riots of that year a crowd in the City stopped a waggon outside Trinity College and, alleging that the wheat the waggon contained had been illegally bought up by sample, shared out the contents.⁵⁰ After a quiet period, the crisis of 1766 brought revived opposition to the sample markets. Persons interested in the corn trade declared their determination, 'not to suffer Wheat or other Grain to be sold as formerly, by Sample, in the several Markets of (Oxfordshire) and the adjacent Counties',⁵¹ and in January 1768 the authorities in Henley expressed the fear that, 'if persons are allowed to buy at Barn-Doors and by sample, Henley will only have the name of a market Town without the Use or Profit of it'.⁵²

In spite of the severity of the problem, however, bulk sales continued at Oxford until approximately 1780⁵³ and Henley retained a large and notable pitched market into the nineteenth century.⁵⁴ Under these

circumstances, it seems likely that the adverse publicity received by sample-selling during the crises of the mid-fifties and mid-sixties had helped to ensure that the final extinction of bulk-selling was postponed.

Finally, it is possible, that the dearth of 1757 may have led to a revival in the enforcement of the laws requiring the licensing of provisions dealers, corn badgers and cattle drovers. This cannot be stated with certainty because licence data are not always easy to interpret.⁵⁵ Nevertheless, while there is little evidence to suggest that the laws were enforced between 1696 and 1757, they were certainly observed in Oxfordshire throughout the 1760s and until their repeal in 1772.⁵⁶

In conclusion, unlike the progressive developments which seem, at the most, to have been accelerated by the pressure of scarcity, retrogressive changes may well not have taken place at all without the influence of dearth. Scarcity appears to have made consumers and local market authorities very aware of the changes which had gradually been taking place in their relationship with the business community. Brought up sharply against the erosion of traditional rights and protections, which had occurred virtually unnoticed in previous years, they were occasionally able to restore aspects of the old system and so stave off for a few years the growth of a more impersonal economy.

IV

The final question to examine is whether the implementation of crisis measures and interventionist policies was appropriate in the peculiarly difficult circumstances of dearth or whether a return to restraint involved damaging and unacceptable interference with perfectly reasonable business practices.

⁴⁹ *JOJ* 18 October 1755.

⁵⁰ *JOJ* 18 June 1757.

⁵¹ *JOJ* 18 October 1766.

⁵² 'Mr Hayes Opinion about Forestalling', ORO, Ms D D Henley A XXII 3.

⁵³ Thwaites, *op cit*, pp 252-3.

⁵⁴ *Ibid*, pp 40-1.

⁵⁵ *Ibid*, pp 391-4.

⁵⁶ *Ibid*, pp 430-8.

While doubts about the value of traditional measures for consumer protection were definitely beginning to be expressed by the mid-eighteenth century, it nevertheless remained the policy of the central government to recommend the enforcement of the sixteenth-century protectionist statutes up to the dearth of 1766. It was only after the repeal of the laws in 1772 that the authorities in Oxfordshire and most notably in the City of Oxford found that their attitudes were no longer necessarily in accord with government thinking. This discussion is therefore confined to the period when the views of central and local authorities had diverged and the question of which policies were the most beneficial for Oxfordshire is a relevant one.⁵⁷

The first point is the rather obvious one that the most serious dearth years, 1795 and 1800, witnessed genuine local crises. There was considerably increased demand for Oxfordshire corn, particularly in 1795, and this when crops had already fallen short.⁵⁸ Prices were vastly inflated. Food riots were widespread. In 1795 Oxford, Henley, Burford, Banbury, Deddington, Bloxham, Witney and Long Hanborough were all affected. In 1800 disturbances occurred or were threatened at Oxford, Henley, Woodstock, Weston-on-the-Green, Bicester, Burford, Banbury, Witney, Charlbury and Fawler. Not only were the forces of law and order inadequate but magistrates were also aware that they could not afford to suppress disturbances too harshly when they had to continue to live in the community afterwards. Given this combination of circumstances it was obvious that, as John Bohstedt declared

over Devon, 'social peace required a durable solution of popular grievances'.⁵⁹

Central government guidelines were clear. First, it was openly admitted by a Home Office representative to an Oxfordshire magistrate in 1795 that the government was not really in a position to assist an inland county like Oxfordshire:

It is difficult to know in what manner to convey any quantity of wheat for the use of the more interior parts of the kingdom — the expence of the carriage and the time which it will require to convey it to distant places by land, or by canals would render this relief both uncertain and difficult.⁶⁰

In spite of this, however, it was expected that Oxfordshire magistrates should protect those removing grain from the county. Thus in 1800 the Duke of Portland criticized the Mayor of Oxford for permitting a crowd to enter the canal wharf when it was his duty, 'to have protected the free progress of grain and other provisions, from one part of the country to the other'.⁶¹

Second, the government produced an emphatic denunciation of the paternalist view. After rioting had died down in Oxfordshire in 1800 the Duke of Portland declared to the Vice-Chancellor:

I incline to hope . . . that the people in general begin to be convinced that perfect security of property and the discouragement of those pernicious and destructive opinions which attribute the dearness of Provisions to engrossers and forestallers etc are absolutely and indispensably necessary to ensure a tolerable supply of the Markets.⁶²

It was also stressed that all attempts to influence price levels were unjust, foolish or illegal.⁶³

A major problem with these government guidelines was that the crowd found

⁵⁷ For more general accounts of changing attitudes see, E P Thompson, 'The moral economy of the English crowd in the eighteenth century', *Past and Present*, 50, February 1971. A W Coats, 'Debates. Contrary moralities: Plebs, paternalists and political economists', *Past and Present*, 54, February 1972. E F Genovese, 'Debate. The many faces of moral economy. A contribution to a Debate', *Past and Present*, 58, February 1973. D E Williams, 'English Hunger Riots in 1766', Unpublished PhD Thesis, University of Wales, 1978.

⁵⁸ Letters concerning the shortfall in the crops of 1794 and 1795 can be found in PRO Home Office 42:36.

⁵⁹ J Bohstedt, 'Devon Food Riots and the Politics of Community Conflict ca. 1800', unpublished paper, p 48. I should like to thank Dr J Bohstedt for allowing me to use this paper.

⁶⁰ John King to Christopher Willoughby, 3 July 1795, PRO, HO 43:6, 507.

⁶¹ 'Duke of Portland to David Durrell, 19 September 1800', PRO, HO 43:12, 144.

⁶² 'Duke of Portland to Vice-Chancellor, 4 October 1800', University of Nottingham, 3rd Duke of Portland. Copies of Private Letters July 1797-1801, PWV III.

⁶³ JOJ 1 November 1800.

them unintelligible. Thus, in 1800 David Hughes of Jesus College confided to Portland a remark he had overheard in Oxford, 'the House of Commons despaired of doing any good with the farmers — so we must do it ourselves — Mr. Pitt had said so — Mr. Pitt had said everything must be left to find its own level'.⁶⁴ Moreover, Cyril Jackson, the influential Dean of Christchurch felt that such confusion was not unreasonable. He complained to the Home Office that, 'Government is strongly remiss in informing the publick mind', and that, 'They seem to me not given to know the importance of doing so'.⁶⁵

Of course, even had the crowd been able to understand the government viewpoint it is most unlikely they could have accepted it. Thus, riots were in part about adequate food supplies and an insistence on the free movement of grain and that the activities of the engrosser were essential if markets were to be supplied could not be acceptable in a county like Oxfordshire where the implementation of such a policy in dearth would ensure that corn *needed* by the local community would be sent away to feed distant consumers. As Christopher Willoughby declared very simply in 1795: 'If Government had wished to have had corn from this country, care should have (been) taken in the beginning to satisfy the inhabitants that sufficient was left for their own consumption'.⁶⁶ Moreover, Warwickshire magistrates who were suffering through the protectionism in the neighbouring county could, at least, appreciate this point of view:

I cannot believe the Country Gentlemen in Oxfordshire will act heartily in protecting Corn or Flour sending out of their neighbourhood whilst the price is so high as very much to distress their own Poor.⁶⁷

⁶⁴ 'David Hughes to Duke of Portland, 7 September 1800', PRO, HO 42:51, 60.

⁶⁵ 'Cyril Jackson to Home Office, 21 October 1800', PRO, HO 42:52, 202.

⁶⁶ 'Christopher Willoughby to Thomas Carter, 7 August 1795', PRO, HO 42:35, 368-9.

⁶⁷ 'Samuel Garbett to Heneage Legge, 29 July 1795', PRO, PC 1:29, A 64.

Riots were also about prices and the right and need of the poor to be able to afford sufficient food to avoid hunger. Under these circumstances it cannot be supposed that the view that the farmer should be allowed to charge whatever he wished for his corn would have been appreciated by the crowd. Commitments to the ideal of the 'just' price may not necessarily have brought long-term advantage but in serious crises short-term price reductions were often sufficient to pacify the poor until charitable schemes for their relief could take over the task of feeding them. Thus, in 1800, ultimately even those who concurred in government thinking finally acceded to crowd demands. For example, in Banbury, where the Mayor was apparently in agreement with the Duke of Portland, rioting did not actually subside until the free market economy had ceased to operate and farmers had agreed to sell their wheat at the reduced price of ten shillings per bushel.⁶⁸

Coupled with the desire for food at prices they could afford, was the idea of justice, E P Thompson's 'moral economy' of the crowd. The poor expected to see the authorities preventing the exploitation of dearth conditions and if the officials failed to suppress market 'abuses' no alternative philosophy on marketing would dissuade the crowd from regulating the markets for themselves.

So on the purely practical grounds that it helped to restore order while preserving good relationships within the community a return to the old protectionist regulations was necessary.

More complex an issue is whether it had a deeper justification. A decisive answer would be difficult, but there are a number of points which might be made.

First, if as has been suggested, marketing and trade operated differently in dearth,

⁶⁸ 'R Bignell to Charles Butler, 16 September 1800', enclosure in, 'George Isted to John King, 17 September 1800', PRO, HO 42:51, 230.

with an upsurge in speculation and profiteering, it was perhaps not inappropriate that different policies should have been applied to these crisis periods. Moreover, in times of rapid inflation, it is possible that the offences which the old protectionist legislation operated to prevent did, in fact, lead to price increases. Thus, in 1795 the Oxford Market Committee stated categorically that regrating had been responsible for an increase in the price of meat.⁶⁹

Second, central government seems to have been at fault in two ways. Less seriously it almost certainly over-reacted to the dangers both of riots and of the enforcement of protectionist legislation. They do not seem, as was suggested, to have discouraged agricultural investment.⁷⁰ Moreover, the farmers and even to some extent the commercial community who presumably preferred the principle that their profits and activities should not be restricted seem nevertheless to have been prepared to go along with the view that in dearth their prices should be reduced and their produce dispersed through the local markets. Sometimes, indeed, such groups actually appear to have taken the initiative in the reintroduction of protectionist measures, as in 1795 when farmers around Burford agreed to sell their corn only to mealmen and bakers consuming the corn locally and not to supply dealers sending corn from the county.⁷¹ More seriously, central government seems to have taken insufficient care to protect the interests of consumers in producing counties. Underlying their attitudes was the dangerous principle that, if necessary, the urban, industrial consumers should feed at the expense of the rural, agricultural workers.

Arising from this last point is the question of whether leaving agricultural prod-

ucts to a free market economy and treating them as 'commodities in the interest of profit',⁷² is a morally defensible policy. It was seen in the eighteenth century, as now, that *laissez-faire* both permitted the commercial communities to profit from necessity and prejudiced automatically in favour of the wealthier, more influential consumers. As Barbara Ward declared recently, 'Leave grain to an uncontrolled market and only the rich will eat'.⁷³ For many in the eighteenth century these factors rendered the idea of a free market for food in a period of scarcity morally unacceptable. It is difficult to avoid the conclusion that one is still looking at an ethical problem.⁷⁴

Finally, it should perhaps be noted that, in Oxfordshire, there may not have been a full commitment to the free-market economy even in times of reasonable prices and adequate supplies. Thus, it has already been suggested that Oxford's covered market was very carefully regulated and, as late as 1824, one can find the market committee attempting to prevent forestalling, engrossing and regrating.⁷⁵ Moreover, in other towns, authorities were sometimes prepared to offer farmers incentives in the form of toll abolition, the construction of new market buildings or premiums on the sale of certain commodities, to persuade them to use public marketing institutions. Perhaps where authorities found it practicable to continue with the old methods of conducting marketing and trade there was an acceptance that this was still desirable.

V

In conclusion, unless we are simply the victims of the way in which evidence has survived, dearth and developments in marketing, internal trade and market regu-

⁶⁹ 'The Book of the Oxford Market Committee, 1771-1835', Oxford City Archives (OCA) FF 2.1a, pp 99-100.

⁷⁰ Thwaites, *op cit*, p 516.

⁷¹ JOF 4 July 1795.

⁷² Dumont and Cohen, *op cit*, p 44.

⁷³ Quoted in *ibid*, p 44.

⁷⁴ C Tudge, *The Famine Business*, Harmondsworth, 1979, p 9.

⁷⁵ 'Papers of the Market Committee, 1774-1824', OCA D3 11 (26).

lation were related to each other in a complex and significant way. We do not see simply a smooth transition to the free market economy interrupted by short periods when consumer action caused a repressive straitjacket to be placed on the activities of farming and commercial communities. Dearth was, in fact, a time during which both consumers and market authorities became conscious of the organization of marketing and trade and how changes in organization had affected them. Farmers and commercial communities were made aware of the social implications of their marketing and trading policies and were expected to face the moral as well as the material aspect of food sales. The building blocks of which marketing and trade were made were taken apart and examined and when the crisis was over they were rarely reassembled in precisely the same way. A new consensus had developed. Apparently old-fashioned and unacceptably rigid practices were given a new lease of life. The need for more modern consumer protection was brought home to the authorities. Farming and

commercial communities were given the challenge of exploiting new markets and finding quicker and more efficient means of supplying distant population centres while simultaneously having to accept their duties to the people amongst whom they lived. A period of dearth should not therefore be seen as wholly negative in effect or as wholly against the normal flow of events but as a time in which awareness developed, changes were assimilated or rejected and future patterns were thrashed out.

Acknowledgements

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Notes and Comments

SPRING CONFERENCE, 1986

The Society's Spring Conference is to be held at Scale-Hayne College of Agriculture, Newton Abbot, from 7-9 April 1986. The full programme and booking forms will appear in the next issue of the *Review* but the Conference will feature a discussion of *The Agrarian History of England and Wales Volume V, 1640-1750* in addition to at least five other papers and an excursion to some farms owned by the Duchy of Cornwall.

SEMINAR ON LATE MEDIEVAL ECONOMY AND SOCIETY

This meeting, to be held from 25-28 July 1986, is

organized under the aegis of the Historical Geography Research Group and is a sequel to the Exeter Conference convened on the same theme in July 1983. It is conceived as a discussion forum for those with active research interests in this period. As the emphasis will be upon the presentation of substantial papers in seminar format attendance will be limited to 50. Papers will be given by Dr Alan Carter, Dr Paul Glennie, Dr John Langdon, Dr Christopher Dyer, Dr Derek Keene, and Dr Richard Smith. Professor Guy Bois will give a guest lecture. Booking forms will be available in April 1986 from the Convenor, Dr Bruce Campbell, Department of Geography, Queen's University, Belfast BT7 1NN.

(continued on page 146)

A Neglected Scottish Agriculturalist: the 'Georgical Lectures' and Agricultural Writings of the Rev Dr John Walker (1731–1803)

By CHARLES W J WITHERS

THE eighteenth century witnessed many changes in Scottish agriculture. Several related components of change may be identified. New ways of managing and working the land — for example, the more widespread adoption of enclosure and use of lime, and changing practices of rotation — occurred alongside a variety of shifts in Scottish rural society involving such things as the passing of the 'fermtoun' and the move from single to multiple tenancies. These changes were paralleled by, and were, in part, the result of the active involvement of forward-thinking 'improving' landowners and farmers. These themes occurred together with an increase in the number of scientific, predominantly agricultural, 'improvement' societies, and a growth in the literature on Scotland's agriculture and rural economy.¹

The improving movement in agriculture found its first institutional expression in The Honourable the Society of Improvers in the Knowledge of Agriculture in Scotland, begun in 1723. Other bodies concerned with agricultural topics such as the Edinburgh Society for Encouraging Art, Science, Manufactures and Agriculture, the Edinburgh Philosophical Society and the

important and prestigious Highland and Agricultural Society, founded in 1784, epitomize the close links between institutionalized scientific enterprise and the development of Scotland's rural economy in this period.²

Published works on agriculture likewise mirrored the widespread interest in the local and national improvement of the land. Books and pamphlets outlining the established methods of husbandry or urging the adoption of new practices and better principles had appeared before 1700, but it was in the eighteenth century in particular, and in concert with these other elements, that changes in rural society and on the land were increasingly reflected in papers in societies' transactions and in published books.³

Important as these trends are, any appreciation of the advances made in agriculture in eighteenth-century Scotland should also consider the role played by prominent individuals whose membership of improving societies, practical involvement in land management and authorship of agricultural texts marks them as key figures in

¹ There are a number of general works on agricultural improvement in eighteenth-century Scotland, several of which are footnoted throughout the text. Recent works include M L Parry and T R Slater (eds), *The Making of the Scottish Countryside*, 1980; D Turnock, *The Historical Geography of Scotland since 1707*, Cambridge, 1982 (esp ch 4); G W Whittington and I D Whyte, *An Historical Geography of Scotland*, 1983.

² S Shapin, 'The audience for science in eighteenth century Edinburgh', *History of Science*, XII, 1974, pp 99–104.

³ A number of important works may be noted in this regard: Lord Belhaven's *The Countryman's Rudiments*, Edinburgh, 1699; W Mackintosh, *An Essay on Ways and Means for Inclosing, Following, Planting etc*, Edinburgh, 1729; F Home, *The Principles of Agriculture and Vegetation*, Edinburgh, 1757; Dickson's two volume *Treatise of Agriculture*, Edinburgh, 1770; H Home (Lord Kames), *The Gentleman Farmer*, Edinburgh, 1776; A Wight's six volume *Present State of Husbandry in Scotland*; and not least, J Sinclair (ed), *Statistical Account of Scotland*, published in twenty-one volumes between 1791 and 1799.

this period. Henry Home, Lord Kames, author of *The Gentlemen Farmer* (1776), and *The progress of flax-husbandry in Scotland* (1776), a committee member of the managers of the Forfeited Annexed Estates and of the Board of Trustees for Fisheries, Manufactures, and Improvements in Scotland, and himself an improving landlord is perhaps the best example. Less known to us now, but much involved at the time in all the areas mentioned above, was the Rev Dr John Walker.

John Walker was born in Edinburgh in 1731 and died there in 1803. He was, at various times of his life, a mineralogist, botanist, a parish minister and Moderator of the General Assembly of the Church of Scotland, and, from 1779 to 1803, Professor of Natural History in the University of Edinburgh.⁴ Throughout his life, and during this quarter-century in particular, he was also greatly concerned with the improvement of Scottish agriculture. This involvement is apparent in a number of ways. Walker was the first person in an English-speaking university to give lectures on agricultural topics as part of his natural history course.⁵ He was a candidate for the Chair of Agriculture in Edinburgh in 1790. Several of his essays on the agriculture and natural productions of Scotland appear in the early *Transactions of the Highland and Agricultural Society*.⁶ He was a medal winner of the Edinburgh Society for Encouraging Art, Science,

Manufactures and Agriculture for an essay on marls and of the Highland and Agricultural Society for an essay on peat.⁷ His lecture notes also reveal his appreciation, shared by other writers, of the practices of plantation and woodland management. Walker may also lay claim to be the principal agent behind the establishment, in 1783, of the Royal Society of Edinburgh which, in its intended plans at least, considered agricultural improvement part of their scheme for 'extending useful knowledge'.⁸ As a teacher, Walker tutored Robert Darwin (Charles Darwin's father), Tobias Smollett and Robert Jameson and several men who rose to prominence in American science in the late eighteenth and early nineteenth centuries. Among his correspondents were Linnaeus, Arthur Young and William Cullen. In addition, Walker carried on an extensive correspondence with improving landowners and farmers throughout Scotland and with several like-minded men in England. Some, like Archibald Bruce, who was both a correspondent and a student of Walker's, were themselves to produce texts upon agriculture;⁹ others, like George Drummond of Kincardine, put what they learnt from Walker to more practical use. Prominent among his contacts was Henry Home, Lord Kames.

Both Kames and Walker shared a deep interest in the improvement of Scotland's agriculture through the establishment of better principles of management and the promotion of practical advances: both were part of that scientific community in late eighteenth-century Scotland for whom agricultural improvement was the basis of national prosperity. Kames was both friend

⁴ Biographical sources for Walker include: H Scott (ed), *John Walker: Lectures on geology, including hydrography, mineralogy and meteorology*, Chicago, 1966, pp xvii-xlvi; G Taylor, 'John Walker, DD, FRSE, 1731-1803', *Transactions of the Botanical Society of Edinburgh*, XXXVIII, 1959, pp 180-203; *Dictionary of National Biography*; W Innes Addison, *A Roll of the Graduates of the University of Glasgow 1727-1897*, Glasgow, 1898, p 625; M M McKay (ed), *The Rev. Dr. John Walker's Report on the Hebrides of 1764 and 1771*, Edinburgh, 1980, pp 1-30.

⁵ H W Scott, 'John Walker's lectures in agriculture (1790) at the University of Edinburgh', *Agricultural History*, XLIII, 1969, pp 439-45. William Cullen, himself a farmer on a small scale, had given some lectures on agricultural topics on a private basis in 1758; see Shapin, *op cit*, p 103.

⁶ A Ramsay, *History of the Highland and Agricultural Society of Scotland*, Edinburgh, 1879, pp 35, 46, 449. Curiously for one so involved in agricultural affairs, Walker was not an original member of this society.

⁷ Ramsay, *op cit*, p 35; H Mackenzie, *Prize Essays and Transactions of the Highland Society of Scotland*, Edinburgh, 1803, II, pp 1-137.

⁸ S Shapin, 'Property, Patronage, and the Politics of Science: the founding of the Royal Society of Edinburgh', *British Journal for the History of Science*, 25, 1974, p 25; N Campbell and R Martin S Smellie, *The Royal Society of Edinburgh (1783-1983)*, Edinburgh, 1983, pp 41, 103, 113, 116, 118.

⁹ A Bruce, *A General View of the Agriculture of Berwick*, Edinburgh, 1794.

and patron to Walker.¹⁰ In his capacity as a commissioner to the Forfeited Annexed Estates and member of the Board of Trustees, Kames, in 1764, directed Walker to tour and report on the Scottish Highlands. Walker made six trips to the Highlands from 1764 to 1786, the most important being those of 1764 and 1771. The observations made and the material collected were important in the improvement of those areas as well as being of value to Walker as a botanist and geologist.¹¹ Moreover, the information formed the basis to Walker's two published works, both of which appeared posthumously.¹² Walker's reputation as a scientist and his observations upon Scotland's rural economy made him a valuable source of information. Several letters to Kames show Walker advising his patron on a variety of agricultural topics: on the siting and growing of fruit trees, for example, and on the climatic limitations to plant growth.

The inclusion of agricultural topics in his lecture syllabus, his correspondence on agricultural matters and his friendship with Kames and others suggest Walker to have been an important figure in agricultural circles in eighteenth-century Scotland. Yet apart from brief mention of his lectures,¹³ and an edition of his Hebridean reports,¹⁴ little attention has been paid to Walker and his agricultural work. It is the purpose of this paper to draw to the notice of a wider audience the agricultural writings and work of the Rev Dr John Walker. Three related themes are examined in this respect: the agricultural content of his Natural History lecture course and its relationship with contemporary agricultural writing in

eighteenth-century Scotland; the extent and nature of his correspondence on agrarian topics; and his friendship with Lord Kames. To understand the man and his significance as an agriculturalist, however, it is necessary to set Walker and his ideas in the wider context of scientific enterprise and agricultural knowledge in that period.

I

The improvement of agriculture in the eighteenth century was part and parcel of broader changes affecting Scotland at that time. In literature, chemistry and *belles lettres*, in manners as much as on the land, Scotland was embracing a whole variety of new 'ways of doing': ideas of 'cultivation' and 'improvement' meant modifying the native Scots language as well as bettering yields. Yet changes in farming were perhaps the most dramatic of all: as Fenton has noted, 'The net effect . . . of the general creation of farms with enclosed fields and new buildings was to give Lowland Scotland a face-lift that was probably more thorough-going than in any other country of Europe in the course of the eighteenth century'.¹⁵

Though Lord Belhaven had written as early as 1699 how 'There needs no Rhetorick to illustrate the many and great Advantages that accresce [*sic*] to a Nation by the diligent Practice and due Incouragement of Husbandry',¹⁶ the transformation of Scotland's agriculture and rural landscape was particularly apparent in the second half of the century. Donaldson, writing in 1795, expresses an opinion that had increasingly found favour during the century: 'By agriculture, barren deserts are converted into fertile fields, covered with innumerable herds and luxuriant crops, or are clothed with stately timber. The industrious husbandman not only enriches him-

¹⁰ It is uncertain when the two men were first acquainted. Walker's early essay on marls would have drawn him to Kames's attention. McKay, 1980, *op cit*, p 1 has suggested they met when Walker was at Glencorse as a minister from 1758, and there is no reason to doubt this.

¹¹ McKay, 1980, *op cit*.

¹² J Walker, *An Economical History of the Hebrides and Highlands of Scotland*, Edinburgh, 2 vols, 1808; *Essays on Natural History and Rural Economy*, Edinburgh, 2 vols, 1812.

¹³ Scott, 1969, *op cit*.

¹⁴ McKay, 1980, *op cit*.

¹⁵ A Fenton, *Scottish Country Life*, Edinburgh, 1976, p 16.

¹⁶ Lord Belhaven (J Hamilton), 1699, *op cit*, p 1.

self, but also advances the general prosperity of the community'.¹⁷ This 'utilitarian impulse' to agricultural advancement was itself part of the expansion of scientific enterprise in Scotland, most notably the development of a Scottish earth science tradition embracing geology, chemistry, mineral discovery and natural history.¹⁸ The universities, with the development of a lecturing tradition and the undoubted ability of men such as Joseph Black, William Cullen and John Walker, were an important influence behind the development of a scientific foundation to the improvement of Scottish culture and economy. And societies and cultural institutions such as the Highland and Agricultural Society and the Royal Society of Edinburgh were important agencies by which new knowledge and new techniques — in ploughing, crops, methods of nutrition and rotation — were mediated through an elite group of land-owning gentry and disseminated into principles and practice for the benefit of the nation. Shapin has pointed to a common interest in the themes of horticulture, agricultural chemistry and the scientific basis to agriculture held by those improving individuals dominating scientific societies in Edinburgh.¹⁹ As society member and university professor, Walker holds a position of special interest.

Walker was elected to the Chair of Natural History in Edinburgh in November 1779, a position he held until his death. Natural history at that time was not as we know it. The subject was based upon a strict system of order, classification, and practical observation; themes likewise apparent in Walker's works in mineralogy and botany as well as on agriculture. Walker understood natural history to be 'the arrangement, description & history of

the works of creation contained in the terrageous globe'.²⁰ The subject was divided into six branches; Meteorology, Hydrography, Geology, Mineralogy, Botany and Zoology: 'The three first, constitute the History of the Terrageous Globe in general: that is, of the *Atmosphere*, of the *Waters*, and of the *Earth*. The three last, contain the History of what are called the three Kingdoms of Nature: the *Fossile*, the *Vegetable*, and the *Animal Kingdom*'.²¹ Walker's agricultural sections fall within 'Botany' in the 'Vegetable Kingdom'. Underlying all of Walker's work and his remarks on botany, the 'vegetable kingdom' and agriculture in particular is the utilitarian philosophy of the eighteenth-century improver. Walker noted that 'The enquiries respecting the vegetable Kingdom in general will be concluded with a specific account of such plants as are possessed of any rare or remarkable properties or are useful or noxious to Mankind'.²² His treatment of natural history and, in turn, of agriculture was explicitly utilitarian. His lectures aimed at a specific audience and were set within a social and cultural context geared to improvement and economic advancement.

My leading idea in Natural History is to render it subservient to the Purposes of Life; to which great End, it is indeed eminently adapted. With this View, when I first drew out the general Plan, I was to follow in teaching; I engrossed in it three favourite Subjects; Agriculture, Plantation, and Gardening . . . I had Experimented and written to a considerable Extent, upon these Subjects and wished greatly to teach them . . . I have for some time proposed; to give a Course of Georgical Lectures upon Agriculture . . . I expected, that among the Gentlemen of the Parliament House, the Landed Gentlemen residing in Edinburgh, their Sons pursuing a general Education, and among the Intelligent Farmers in this

¹⁷ J Donaldson, *Modern Agriculture; or, the Present State of Husbandry in Great Britain*, Edinburgh, 1795, p 4.

¹⁸ R Porter, *The Making of Geology: Earth Science in Britain 1660-1815*, Cambridge, 1977, pp 147-56.

¹⁹ Shapin, 1974, *op cit*.

²⁰ *Institutes of Natural History containing the Heads of the Lectures in Natural History* J Walker, Edinburgh, 1792 MS in the Walker Collection, Special Collections Room of the Library of the University of Edinburgh.

²¹ *Ibid*.

²² Edinburgh University Library (hereinafter EUL), Ms Dc.10.33.

neighbourhood, I might find an Audience that would reward my Labour.²³

Walker appreciated that he could not treat of all agricultural themes equally.

The Topics in this Syllabus are so numerous, that they must necessarily vary much, in their Degree of Importance. Some of them perhaps, might be entirely omitted; and many of them may require to be only slightly touched. But those certainly are entitled to the fullest Illustration, which are most material to the Interest of the Country.²⁴

The following section, quoted at length from Walker's manuscripts, illustrates the material covered by Walker in his 'Georgical Lectures' and the utilitarian emphasis he gave it.²⁵ The *Syllabus of a Course of Lectures on Rural Oeconomy*²⁶ affords a more detailed picture of the structure and content of Walker's lectures (see Appendix).

As a course of Lectures of this kind should be of public as well as private utility every opportunity should be embraced that can in any way be applied to the advantage and improvement of the useful arts — and such an opportunity occurs here.

The observations to be made & the principles to be established from the several subjects now enumerated may be of great use in the several arts dependent on Georgics.

These consist of two parts

1st The Cultivation of Plants

2d The management of domestic Animals

Of Georgics the first & most important branch is Agriculture, which tho only an art in its practise may be justly considered a science in its Theory and Principles . . .

We shall treat of the nature of soils in general & of these in Scotland in particular, with their particular properties and names & distinguishing marks, & the particular plants each of them is fitted to rear.

Of the operation of Natural and Artificial Manures especially of Quicklime. Of the effects of Tillage.

Of the differences between Horse and other methods of husbandry.

Of the structure of Roots. Of the change of Species & rotation of Crops. Of the comparative merit of the different grains & other profitable crops. Of their different effects on the soil & of the nature

propagation & destruction of weeds. Of pasture & meadow lands, of the culture of Artificial grounds.

Of the discovery of some grounds & other plants not now in use, but which are fitt to be tried as Green or Dry forage.

Of the reclaiming of wild land, & to these we shall add a review of those obstacles which obstruct the improvement of Agriculture in Scotland.

There is another Agrestic Art which is nearly allied to Husbandry as depending on the Natural History of plants viz^t Gardening.

Here we will begin with observing the effects of cultivation on plants which in consequence of the variation of climate & the course of ages exhibit to us that vast variety & considerable improvement which nature may be brought to when assisted by art.

[Gardening to include] the stiles of gardening; the Kitchen & flower Garden; the management of the fruit Garden; the construction of Fruit Walls & the different sorts of shelter for Fruit Trees: the Orchard, the Shrubery, & the Botanic Garden; the Green house, the dry & Cork stoves & other conservatories for tender plants. & the propagation of valuable fruits.

We shall then bestow some observations on that higher species of Gardening the laying out of pleasure ground, an Art that not only requires an extensive knowledge of natural history but of the human heart

Lastly, we shall come to the art of planting, & this requires particular attention in a Country which like this is advancing & give way to fields & pastures We shall attempt a history of the rise and progress of plantations in Scotland with remarks on its present state, & the means of its further advancement.²⁷

Given the importance of these lectures and the social and scientific context in which they were given, it is pertinent to examine their relationship with the work and ideas of contemporary agricultural writers.

II

There is no doubt that Walker's lectures were highly regarded. The *Caledonian Mercury* carried the passage below on 3 April 1790.

LECTURES ON AGRICULTURE

On Thursday last, Dr. Walker, Professor of Natural History in the University here, concluded the first course of lectures on Agriculture, which has ever

²³ EUL, MS La III 352/3.

²⁴ *Ibid.*

²⁵ For a general review of Walker's utilitarian views in the broader field of earth sciences, see Porter, 1977, *op cit.*

²⁶ Aberdeen University Library, MS 56.

²⁷ EUL, MS, Dc. 10.33.

been delivered in Britain as a branch of Academical education. The gentlemen who attended that class invited him afterwards to an entertainment, that they might have an opportunity of expressing to him collectively their acknowledgements and thanks for the instruction they had received; and at that meeting an Agricultural Society was projected, which under his patronage and direction, may prove essential service to the practical farmer, and tend to the general diffusion of Georgical science over the country.

The Edinburgh Agricultural Society was established that year and it is through his involvement in this body that Walker engaged in correspondence with Scottish farmers (see below). But Walker was far from being the sole source of knowledge on 'Georgical science'. In his emphasis upon the 'Chymical Principles of Plants' and the 'Chymical Analyses of Soils' and on manures, Walker is of significance for his advocacy of a scientific approach to agriculture and the search for principles behind the practice, but he is also mirroring the work of others.

Francis Home's *The Principles of Agriculture and Vegetation* (1757) was a pioneer work in the scientific study of agriculture. His book considers a number of topics shared by Walker: the natural and artificial methods of providing manure and vegetable food, the effects of climate and plant diseases, farming instruments, and types of crop in relation to soil. Though the limited nature of contemporary knowledge on chemistry and plant physiology prevented him from a detailed understanding of the scientific basis to agriculture, Home's work is nonetheless of great importance in the history of Scottish agriculture.²⁸ The topics of soil fertility and sterility, the virtues of particular plough types and the chemical basis to artificial manures, particularly marls, are also important topics in the agricultural manuscripts of James Hutton.²⁹ Liming and the regular application

of artificial manures and fertilizers was becoming increasingly common in the latter half of the century.³⁰ Donaldson in his *Modern Agriculture* of 1795 noted that the subject of manures was 'of the greatest importance; for on a thorough knowledge of it depends, in no small degree, the further extension of agricultural improvements'.³¹ Lord Kames, perhaps more than anyone else, was concerned with the scientific underpinnings of agriculture.³² Like Francis Home, Hutton, Donaldson, Wight, Ure (to name only a few), and Walker, Kames recognized the virtues of what may be termed agricultural chemistry: 'To be an expert farmer, it is not necessary that a gentleman be a profound chymist. There are however certain chymical principles relative to agriculture, that no farmer of education ought to be ignorant of'.³³ Kames's *The Gentleman Farmer* reveals the author to be conversant with agricultural subjects through years of practical involvement and as a theorist. In his preface, Kames writes 'I have not mentioned a single article as certain, but what I have practised many years with success: the instructions contained in this book, are founded on repeated experiments and diligent observation'.³⁴ His aim, 'of combining deep philosophy with useful practice' in agriculture was also assisted by the scientific knowledge of men such as William Cullen and Joseph Black, both professors of Chemistry, and Walker. (Kames even tried to persuade Black to

²⁸ See, for example, R A Dodgshon, 'Land improvement in Scottish farming: Marl and Lime in Roxburghshire and Berwickshire in the Eighteenth Century', *Ag Hist Rev*, XXVI, 1978, pp 1-14. Dodgshon cites several authors contemporary with Walker, including Kames; see, for example, D Ure, *General View of the Agriculture in the County of Roxburgh*, Edinburgh, 1794, p 26.

²⁹ Donaldson, 1795, *op cit*, p 202.

³⁰ On Kames's significance as an agriculturalist and in the wider context of improvement in eighteenth-century Scotland, see G Bryson, *Man and Society: the Scottish Inquiry of the Eighteenth Century*, Princeton, 1945, pp 53-77; Handley, 1953, *op cit*, pp 140-1; J E Handley, *The Agricultural Revolution in Scotland*, Oxford, 1963, pp 39-49; W C Lehmann, *Henry Home, Lord Kames, and the Scottish Enlightenment*, The Hague, 1971; I S Ross, *Lord Kames and the Scotland of his day*, Oxford, 1972.

³¹ Home [Kames], 1776, *op cit*, p 292.

³² *Ibid*, p ix.

²⁸ J E Handley, *Scottish Farming in the Eighteenth Century*, Oxford, 1953, p 129.

²⁹ J Hutton, 2 vols MS *Principles of Agriculture*, The Royal Society of Edinburgh.

include agricultural topics in the latter's chemistry course: '... the principles of agriculture will in your hands be one of the most interesting articles of a course in chemistry'.³⁵ Kames cites Walker on the question of climatic influences on the growth and flowering of plants in *The Gentleman Farmer* and in correspondence between the two, Kames more than once seeks Walker's advice on horticultural matters.³⁶

Given the common interest in agricultural matters, it is not surprising that such writings exhibit common themes. In this respect, the *Syllabus of a Course of Lectures on Rural Oeconomy* is perhaps less important for what it reveals on the content of Walker's lectures than as a summation of the views held by like-minded agricultural writers. As we have seen, Walker was part of an intellectual community in late eighteenth-century Scotland, centred in Edinburgh around the university and scientific societies: a community whose membership was very largely made up of landowning gentry and for whom agricultural improvement, itself part of the extension of scientific enterprise, was of particular concern. Walker's agricultural lectures may thus be considered as a review of agricultural knowledge and practice in contemporary Scotland; a consensus of those topics to be considered in the improvement of Scotland's rural economy and a guide to the wider audience of the enlightened landowning and farming classes as to the best way to proceed.

III

Though his *Syllabus* also represents the culmination and synthesis of Walker's agricultural work, assessment of his signifi-

cance as an agriculturalist must also focus upon other facets of his work, principally his status as a scientist, his travels to the Highlands of Scotland and remarks on the rural economy of that region, and his correspondence with landowners and farmers. In all these areas, he was skilled and conscientious. He himself noted that 'more knowledge may be obtained by the eye than can be convey'd by the ear';³⁷ his detailed observations on husbandry in the Highlands reveal the truth of this remark. Much of this material is collected in Walker's *An Economical History of the Hebrides and Highlands of Scotland*, published in two volumes in Edinburgh in 1808, and dedicated, by his executors, to the Highland Society of Scotland and to the Board of Agriculture. This work, and Walker's other major published work, *Essays on Natural History and Rural Economy*, were the result of several trips to Scotland's north and west under Kames's patronage. These areas of Scotland were to be improved in matters of industry and trade as well as in agriculture, and several of Walker's manuscripts record the detailed way he enquired into aspects of society and culture as well as agrarian traditions and practices.

His *Queries concerning the North of Scotland*, record thirty-eight questions on the agriculture of the Highlands.³⁸ Walker enquired into such topics as 'the present manner of tillage and the succession of crops', the advantages arising from the use of the spade or *cas chrom* in the Highlands as opposed to the plough, the rents of different kinds of land, and what parts of the country might be improved by draining. His travels in the Highlands provided him with material for several of his essays on

³⁵ EUL, MS Gen 873/1/83-4; see also Gen 875/1/79F-82F.

³⁶ EUL, MS La III 352/4.

³⁷ *Lectures on Natural History given in Edinburgh University 1792*, 12 vols MSS, in the care of the Library of the Royal College of Physicians, Edinburgh.

³⁸ EUL, MS Dc 2 36, fols 13-45.

agricultural topics: on kelp,³⁹ on peat,⁴⁰ on cattle and corn in the Highlands⁴¹ and on the scarcity of grain.⁴² The Highlands had been badly affected by crop failure in 1783,⁴³ and, in 1800, much of Scotland was likewise affected by a scarcity of grain. Walker's conclusion, put forward in a paper dated 26 December 1800⁴⁴ was that the increase of pasture land for grazing at the expense of arable for grain was the chief cause of scarcity.

In his *Queries concerning the North of Scotland*, two topics were considered of particular relevance to those parts: enclosure and artificial grasses.

In what Tracts of the Country would Inclosures be most advantageous? Where they should be begun & encourag'd, and in what manner they should be executed.

In what parts should Fallowing, and the cultivation of Artificial Grasses be introduced?

Note. These are the two leading steps of Improvement, in the uncultivated parts of Scotland, & yet are unknown in many places, where they might be beneficially practis'd. They are introductory to every Sort of polish'd Culture, & urge the Farmer to inclose; not only from Interest, but through Necessity.⁴⁵

His search for the most effectual methods of improvement, in the Highlands and elsewhere, was made easier by his detailed scientific knowledge, particularly of botany.⁴⁶ In the matter of pasture grass, he

noted that 'Exact observations are much wanted, for ascertaining the Plants w^{ch} serve as wholesome Forage, to the different kinds of Cattle'.⁴⁷ He corresponded on the topic with Linnaeus who had been engaged in 'Observations of this sort'.⁴⁸ Plants were of particular interest to Walker; 'I have been from my cradle fond of vegetable life':⁴⁹ the opportunity to put his botanical knowledge to practical use was of double importance. Walker's Highland trips produced plenty of material: he refers in one letter to '... a Harvest of Plants I had never before seen, many of which have not as yet been viewed by Botanick Eyes. I have augmented my Collection of Plants even beyond what I expected'.⁵⁰ Though much of what Walker collected and observed probably had little practical value, there is no doubt that his scientific background sought utilitarian ends where possible: 'It is the task of a Botanist to discover unknown plants with a view to their future usefulness . . . It is the business of a *naturalist* to discover useful qualities in those that are already known'.⁵¹

Whilst observations 'obtained by the eye' were an important source of information to him, so too were the landowners and farmers of his audience and with whom he corresponded, before and after his lecture course. Walker's correspondence shows him as an important central figure within the community of scientifically-minded agricultural writers and improvers: to some persons imparting knowledge and counsel (disseminating principles of management) while enquiring and asking advice of others (accumulating

³⁹ 'An Essay on Kelp: containing the rise and progress of that manufacture in the north of Scotland; its present state; and the means of carrying it to a greater extent', *Prize Essays and Transactions of the Highland Society of Scotland*, 1799, pp 1-31. (This paper was delivered to the Society in 1788.)

⁴⁰ 'An Essay on Peat, containing an account of its origin, of its chymical principles, and general properties. Its properties as a manure, and as a manured soil. The different methods of its cultivation. Its usefulness in plantation and gardening, and as a soil', *Prize Essays* . . . II, 1803, pp 1-137.

⁴¹ 'On the cattle and corn of the Highlands', *Prize Essays* . . . II, 1803, pp 164-203.

⁴² EUL MS Dc 1 57, fol 101 *et seq.*; see also 'Concerning the Present Scarcity of Grain in Scotland', *Essays*, 1812, pp 617-29.

⁴³ Documents relative to the Distress and Famine in Scotland in the year 1783, BPP 1846, XXXVII.

⁴⁴ *Essays*, 1812, pp 617-29.

⁴⁵ EUL MS Dc 2 36, p 19.

⁴⁶ Linnaeus held Walker's ability as a botanist in particular in high regard; several letters to Walker from Linnaeus ask for Walker's help in securing plant specimens from the Highlands: Walker, in turn, was a devotee of the Linnaean system of classification and, in

one letter, terms Linnaeus ' . . . a famous gentleman and Golden Knight', EUL MS La III 352/1, letters of 22 Feb 1762; 12 Oct 1762; 20 June 1763. For Walker's anticipatory advances in the classification of algae, see R K Greville, *Algae Britannicae*, Edinburgh, 1830, p iii.

⁴⁷ EUL MS Dc 2 36, p 33.

⁴⁸ See note 46 above.

⁴⁹ Quoted in his entry in the *Dictionary of National Biography*, XX, p 531.

⁵⁰ EUL MS La III 352/1.

⁵¹ EUL MS Dc 10 33.

information based on the practical experience of others).

In January 1792, for example, the Jedburgh Farmer Society asked Walker's advice on the sort of topics 'to be taken under Consideration by a Society of Country Farmers who meet here Monthly to Communicate to one another such Observations as Cast up to them in the Course of their practice'.⁵² To a request for advice from the Presbytery of Shetland in May 1790 on behalf of farmers there concerning the prevalence and treatment of sheepscab, Walker took the time to reply in two letters: the first a series of twelve questions enquiring as to the exact nature of the disease in those areas and the remedies that were currently practised; the second a recommendation to smear the sheep with tar and butter. Such a practice was, according to Walker, then unknown in Shetland; 'But I well know from long Observation, that in the South Country, its chief if not sole use is to preserve the sheep from Diseases, & especially from the Scab'.⁵³

Walker's surviving correspondence also contains letters on the draining and management of moorlands,⁵⁴ the most efficient method of weeding,⁵⁵ and the rotation of crops.⁵⁶ On this last topic, Walker communicated with several farmers and improvers. One lengthy letter from Thomas Scott, a farmer in Midlothian, documents the way Scott had, since the 1750s, varied crops to increase the yield over his farm. Scott records the annual rotations he tried, from 1752 on, in the growing of potatoes, oats, barley, hay, and wheat in a field divided into two plots 'which for

Distinction sake [I] shall call N^o 1 & 2 resolving to have Potatoes & Wheat upon them alternately, and always to dounge [dung] to the Pottatos Crop the preceding year'. He writes to Walker of how the yield increased, then, despite rotation, declined dramatically when the land was insufficiently dunged or kept in one crop too long: 'Thus [writes Scott] I found that what will appear very promising in Theory, may turn out Very Differently in practice'.⁵⁷ Scott's letter shows Walker as the gatherer of information, adding to his own experience through detailed correspondence. More usually, Walker was the source of knowledge, a role he owed to his reputation as lecturer and scientist.

George Henderson of Craigtoun near Kirkliston in Midlothian, an important farmer in the area, wrote to Walker in April 1791 over the matter of his son, Peter, attending Walker's lectures in the following year: 'Your fame for Knowledge in Natural History, One of the more usefull and Entertaining Studies, Draws on you this Trouble'.⁵⁸ George Drummond, actively involved in the draining of Kincardine Moss, wrote to Walker expressing disappointment and surprise at the news of an appointment of a professor of agriculture: 'If unfortunately this should put a Stop to the delivery of your Lectures; I flatter myself, at least, that it will not do so the Publication of them — And in all Events I trust, it will not interfere with your new Agricultural Society'.⁵⁹ William Matthews, secretary to Bath Agricultural Society, wrote to Walker in June 1790 to praise the Highland Society's work and to make Walker an honorary member of their institution given the 'high sense this Society entertains of your Abilities'.⁶⁰ To Captain Charles Williamson, who had been corresponding with Walker on the

⁵² EUL, MS La III 352/3, 4 January 1792.

⁵³ *Ibid.*, 12 May 1790.

⁵⁴ *Ibid.*, 26 April 1790 (from George Drummond on the progress of Kincardine Moss); 9 May 1790 (from John Buchanan of Cambusmae on the state of his improvements); 7 July 1790 (from Alix Blackadder on Blair Drummond Moss).

⁵⁵ *Ibid.*, 25 February 1791 (from William Brodie, Upper Raith).

⁵⁶ *Ibid.*, see especially the letters from P Nelson (2 April 1789); David Wight (5 May 1790); A Bruce (3 November 1790); J Fell (2 March 1791); Fell in his letter addresses Walker as 'Professor of Agriculture'.

⁵⁷ *Ibid.*, Letter from Thomas Scott (5 May 1790).

⁵⁸ *Ibid.*, Letter from George Henderson (11 April 1791).

⁵⁹ *Ibid.*, Letter from George Drummond (26 April 1790).

⁶⁰ *Ibid.*, Letter from William Matthews (7 June 1790).

relative merits of reaping with sickle or scythe, Walker's advice and comments were likewise highly regarded: 'The scheme you mention for advancing the knowledge of agriculture [his lecture course] is certainly the best that can be adopted'.⁶¹ These letters should be seen as an indication of the high regard in which Walker was held by the audience for scientific improvement: as an agricultural scientist of the first importance whose prestige depended both upon his own intellectual abilities and upon the social group and utilitarian context of which he was part. By the early years of the nineteenth century, however, Walker was worn out by his labours. By 1803, his sight was '... so far gone I can neither Read nor Write', and, on 31 December that year, he died.

IV

Given his involvement in Scottish agricultural affairs — as a lecturer, and practical scientist of considerable reputation, as an experienced observer in the field and as a correspondent on agrarian topics — the question may be asked why Walker is not better known to us today. No single reason may be advanced, but several clues are available which, taken together, suggest that despite being so active in agricultural and other affairs (and perhaps as a result of being so involved), Walker was dilatory in the publication and dissemination of his results and ideas outside of his lectures. In an age and social environment when published essays and works on agrarian topics were crucial sources of information, and conferred status on the author, Walker's failure to put words and notes into print was a major hindrance to any long-term recognition. Several influences combined to deflect Walker from publication during his lifetime: his travels in the north of

Scotland; his university position, particularly his curatorship of the museum; and other scientific work. To these may be added his involvement in the Church of Scotland and failure to gain the professorship of agriculture in the very year he gave lectures in the subject.

Walker's Highland journeys were costly in time and energy. In a letter of 10 December 1764, Walker informed Kames that he had sailed 1263 miles, 'rowd in open boats 280', ridden 1087 miles and walked a further 528.⁶² Much of the material collected was for the benefit of the Board of Trustees and the Commissioners of the Forfeited Annexed Estates in their management of the Highlands, but Walker noted also in the letter that he had '... materials also for a separate treatise upon agriculture, fisheries and the linen manufacture of the North, in which these subjects would be considered upon more general principles'.⁶³ The sheer amount of information, collected over a trip of seven to eight months, presented difficulties: he wrote thus to Kames;

The Hardships I met with, were greater indeed than I would have chosen, but they were what I expected, & were in most Cases unavoidable. The rich entertainment I had from the Business I was engaged in, & the surveying a sort of new World, made me even bear them with Pleasure, & I expect still more in reflecting upon them. I am now employed in preparing for the View of the annexd Board, what I have written upon my Expedition, which is a great Quantity, but it lies in great Disorder'.⁶⁴

Despite this workload, Walker could be an amusing as well as informative correspondent: Kames notes, in one letter of 1776, how 'Doctor Walker is so delightful as a literary correspondent that I could scarce wish him so near as to make writing unnecessary'.⁶⁵

But Walker could be indifferent and neglectful in his correspondence and in the

⁶² EUL, MS La III 352/1, Letter to Kames (10 December 1764).

⁶³ *Ibid.*

⁶⁴ EUL, MS La III 352/1; see also EUL, MS Dc 1 18/5.

⁶⁵ EUL, MS La III 352/4, Letter from Kames (29 July 1776).

⁶¹ *Ibid.*, Letter from Captain Charles Williamson (12 June 1790).

publication of material. In a letter of 1782, William Cullen noted how Walker seemed '... to be obstinately resolved against answering letters'.⁶⁶ Kames, in a letter of 1778, chastises Walker in similar fashion: 'you are dilatory in the affairs of other people, as well as in your own'.⁶⁷ The clearest indication of Walker's tardiness in the matter of publication appears later in this same letter, in regard to the chair in natural history then still held by the first incumbent, Robert Ramsay. In Kames's view, Walker's delay in publishing would stand against him: 'If you are disappointed, which I am afraid will be the case, blame none but yourself. Had you announced the natural history of Scotland [see note 12], and published part of it, according to my repeated solicitations, all the world would have been for you; you would not have had a single competitor. Take a hint to what is past: proceed to your publication; and then you will be prepared for what may cast up'.⁶⁸ But Walker did not thus proceed during his lifetime; even his plans to produce a general text on the botany of Scotland were laid aside, after much field work and thought, following the publication, in 1777, of Lightfoot's *Flora Scotica*.

His position as university professor involved lecturing and curatorship. The university museum had been begun in 1697 with material from Sir Robert Sibbald's collection. By 1780, there was, in Walker's words '... really nothing to keep'.⁶⁹ 'By attention and many personal Applications', as he put it in a letter of 1793, Walker sorted and improved the collection. Doing so necessitated correspondence with contacts in many countries. 'The new Professorship in which I am placed here, obliges me indeed to intrude upon every Acquaintance I have in distant parts of the

World'.⁷⁰ This work was doubtless useful to his natural history lectures, but drew him away from his agricultural writings: 'The Preparation and Preservation of the Bodies in this Collection, and recording them in a Register has for Six Years employed much of my Time'.⁷¹

Moreover, his early years in the professorship were spent while still a parish minister in the village of Moffat in Dumfriesshire. Walker had been ordained as a minister in the Church of Scotland in 1754 and given the charge of Glencorse near Penicuik in 1758. From 1762 until 1783 he was minister at Moffat and it was as parish minister that he made his journeys to the Highlands. In 1783 he was moved to Colinton parish near Edinburgh. His church duties — he was, in addition, moderator of the General Assembly of the Church of Scotland in 1790 — do not seem to have been hampered by his absence in the Highlands or the long periods he spent while in Moffat walking the local hills to search for plant specimens. His parishioners considered him a picaresque figure: his frequent botanical excursions earned him the sobriquet 'the mad minister of Moffat'.⁷² But his twin involvement as church man and utilitarian scientist, the one role demanding local residence and the other necessitating lengthy absences from parish or notebooks, meant that Walker had little time in which to pull together his manuscripts into publishable form.

Even allowing for these commitments, it is difficult to know why he was not elected to the professorship in agriculture in 1790.⁷³ His lectures were well-received; he

⁶⁶ EUL, MS La III 352/4.

⁶⁷ EUL, MS La III 352/4, Letter from Kames (2 February 1778).

⁶⁸ *Ibid.*

⁶⁹ EUL, MS La III 352/2, Letter from Walker to Robert Dundas (2 September 1793).

⁷⁰ National Library of Scotland, MS 5540, f. 34, letter from Walker to R Liston, Minister Plenipotentiary, Madrid (24 January 1784).

⁷¹ EUL, MS La III 352/2, *Ibid* (see note 69).

⁷² J Kay, *Original Portraits*, II, Edinburgh, 1842, p. 179.

⁷³ The Chair was endowed by Sir William Pulteney. The first incumbent was Andrew Coventry who held the position until 1841: Coventry's two works are themselves valuable sources for the agricultural history of early nineteenth-century Scotland; *Discourses explanatory of the lectures on agriculture and rural economy*, Edinburgh, 1808; *Notes on the culture and cropping of arable land*, Edinburgh, 1811.

had considerable status within the élite and cultured circles of Edinburgh and a reputation as a scientist. His age probably stood against him and his failure to produce a text on the agriculture of Scotland or the rural economy of the Highlands despite the knowledge and experience almost certainly did. One further reason may be put forward in regard to Walker's failure to secure the chair of agriculture in 1790 and to his being little known in the longer term. In the 1760s and 1770s, Lord Kames had set in motion a project to survey the state of agriculture throughout Scotland. Perhaps because he was absent during the planning, or engaged in other work or because Kames was trying to reduce the commitments upon his friend, Walker was not selected to undertake this work. The person who was, Andrew Wight, himself a successful and enthusiastic farmer, was initially instructed to enquire into the state of agriculture on the farms of the forfeited and annexed estates. The survey was later extended to include the remainder of Scotland. Though published over a period of years, Wight's

Present State of Husbandry in Scotland is valuable for the picture it reveals at a crucial stage in the evolution of Scotland's agriculture.

It is, of course, difficult to know whether any involvement by Walker in this project and the resultant publication would have secured for him the professorship in 1790 and whether that in turn would have guaranteed a more lasting place in Scotland's agricultural history. That Walker is not more widely known may stem quite simply from his own breadth of interests and laxness in preparing work for publication despite the patronage of Kames and the support of important cultural and scientific institutions. What cannot be doubted is that such work as Walker has left us — both published and in manuscript form — reveals him to have been, as lecturer and agricultural scientist, utilitarian philosopher and tutor to the 'improving classes', a figure of considerable significance in an important period in the history of Scottish agriculture.

⁷⁴ Handley, 1953, *op cit*, p 143; 1963, *op cit*, p 39.

APPENDIX

Syllabus of A Course of Lectures on Rural Oeconomy

I

Vegetation

- 1 Organical Parts of Plants
 - Their constituent Parts
 - The Chymical Principles of Plants
- 2 Seeds
- 3 Roots
- 4 Stems
- 5 Bark and Wood
- 6 Pith
- 7 Leaves
- 8 Fructification
- 9 Sexes

10 Nutrition of Plants

11 Vegetable Oeconomy

2

Agriculture

Introduction

- 1 Leases
- 2 Farm Buildings
- 3 Instruments
 - a Ploughs
 - b Harrows
 - c Roller

- d Fanner
- e Semoirs
- f Thresher
- g Farm Carriages
- 4 Inclosures
 - a Walls
 - b Hedges
 - c Draining
- 5 Soils
 - a Staple of Earth
 - b Chymical Analyses of Soils
 - c General Division of Soils
 - d Causes of Sterility
 - e Means to procure Fertility
- 6 Manures
 - a Animal Manures
 - b Vegetable Manures
 - c Fossile Manures
 - d Water
 - e Composts
 - f Operation of Manures
- 7 Tillage
 - a Ridges
 - b Deep & Shallow Ploughing
 - c Ribbing
 - d Bouting
 - e Prociision
 - f Sarrition
- 8 Crops
 - A White Crops
 - a Wheat
 - b Barley
 - c Oats
 - d Rye
 - B Green Crops of Grain
 - a Beans
 - b Peas
 - c Buckwheat
 - C Green Crops for Summer Forage & Hay
 - a Red Clover
 - b Rye Grass
 - c Lucern
 - d Sainfoin
 - D Grass Crops to be introduced
 - E Green Crops for Forage in Winter
 - a Turnips
 - b Coleworts
- c Turnip Cabbage
- F Roots
- G Flax and Hemp
- H Crops for Manufacture & Medicine
- I Crops for Thatch, Litter &c
- K Diseases of Crops
- 9 Weeds
- 10 Rotations
 - a Fallowing
 - b Horse Hoeing
 - c Meliorating & Deteriorating Crops
 - d Succession of Crops
- 11 Husbandry of the Romans
- 12 The Old and New Husbandry
- 13 Sowing
 - a Choice of Seed
 - b Change of Seed
 - c Steeps
 - d Season
 - e Quantity
 - f Depth
- 14 Reaping
- 15 Qualities of Grain
- 16 Preservation of Grain

3

**Management of Grass Grounds,
and of Cattle**

- 1 Hay
- 2 Pasture
 - a Pasture Plants
 - b Pasture Grounds
 - c Summer & Winter Feeding
- 3 Black Cattle
 - a Breed
 - b Fattening
 - c Stall Feeding
 - d Diseases
- 4 Dairy
- 5 Sheep
 - a Breed
 - b Food
 - c Stock
 - d Summer & Winter Feeding

- e Smearing
- f Wool
- g Diseases

5

Gardening

History

- 6 Horses
- 7 Hogs
- 8 Goats
- 9 Plants poisonous to Cattle
- 10 Rabbits
- 11 Poultry
- 12 Bees
- 13 Fish Ponds
- 14 Animals to be introduced into Scotland

4

Plantation

Introduction

- 1 Plantation in General
- 2 Culture of Trees
 - a Seminary
 - b Nursery
 - c Transplanting
- 3 Pruning
- 4 Evergreens & Perdifols
- 5 Progress of Trees
 - a Age
 - b Size
 - c Growth
- 6 Qualities of Timber
 - a Felling
 - b Duration
 - c Mechanical Properties
- 7 Products from Forest Trees
 - a Bark
 - b Charcoal
 - c Potashes
 - d Resin
 - e Tar
- 8 Management of the Forest Trees in Scotland
- 9 Fruit Trees in Plantations
- 10 Underwood
- 11 The Culture of Willows
- 12 Forest Trees to be introduced into Scotland
- 13 The Cyder Orchard

- 1 Situation — Soil — Manures
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 - a Slipping
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 - a Kitchen Garden
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 - a Standards
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- 13 Idea of an Ornamented Farm
- 14 The Formation of a Village

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Notes and Comments

(continued from page 131)

ANNUAL CONFERENCE AND AGM, 1985

The Spring Conference saw a return to the College of Ripon and York St John at Ripon from 1-3 April 1985. On Tuesday Mr Richard Hoyle examined the Pilgrimage of Grace in some detail, discussing whether or not it could be classed as a peasant movement; Dr John Chapman reported some of the results of his analysis of a 10 per cent sample of parliamentary enclosure awards while later in the day Dr Brian Outhwaite speculated on notions of progress and backwardness in English agriculture during Tawney's century in a paper which succeeded in provoking its after-dinner audience. Mrs Christine Hallas led a most successful excursion into Wensleydale and Swaledale which she prefaced by a paper on Monday evening describing agricultural change in the two dales during the nineteenth century. Finally, on Wednesday, Dr Cormac Ó Gráda continued his explorations of Irish demographic history with a paper on farmers and demographic adjustment after the famine, and Dr John Perkins demonstrated how commentators are conditioned by their own experiences in a discussion of German views of British farming before 1914.

The thirty-third AGM was held on 2 April 1985. Dr Thirsk was re-elected as President of the Society, Dr Collins re-elected as Treasurer and Dr Overton re-elected as Secretary. Dr Chartres was re-appointed as Editor of the *Review*. The four vacancies on the Executive Committee were filled by the retiring members; Dr Baker, Mr Havinden, Professor Mingay, and Dr Phillips.

The Chairman of the Executive Committee, Mr Havinden, presented the Committee's report. Membership of the Society stood at 845 on 1 January 1985, a net decrease of 2 over the year during which 40 new members joined the Society. The Executive Committee had decided that Dr George Fussell and Miss Gillian Beazley be made the first Honorary Members of the Society. Once again the Society's finances were in a healthy state and no increase in subscription was necessary. Some 20,000 copies of a leaflet advertising the Society were to be distributed with *History Today* in exchange for an advertisement in the *Review*. The next Winter Conference was again to be held jointly with the Historical Geography Research Group in London

on 7 December and the 1986 Spring Conference was to be at Seale-Hayne College, Newton Abbot, from 7-9 April.

The Treasurer presented the audited accounts of the Society to the meeting which demonstrated that finances were satisfactory in that income roughly equalled expenditure. Sales of the volume on *Horses in European Economic History* had gone very well as had the bibliography, *Farm tools, implements, and machines in Britain*. The accounts were adopted and the meeting congratulated the Treasurer on his skilful handling of the Society's finances.

Dr Chartres reported that the healthy state of the balances enabled the size of the *Review* to be maintained at 112 pages for Volume 33 part 2. The flow of articles continued at a satisfactory rate and the Society would be publishing a supplement to the *Review* in due course.

At the conclusion of the meeting thanks were expressed to the staff at the College of Ripon and York St John for their hospitality and to Dr Chartres for organizing a most successful conference.

WINTER CONFERENCE, 1985

Booking forms for the 1985 Winter Conference to be held jointly with the Historical Geography Research Group of the Institute of British Geographers on 7 December 1985 at the Institute of Historical Research, Senate House, Malet Street, London WC1E 7HU, should be inserted in this issue of the *Review*. The theme of the Conference is 'Regionalism in agricultural practice and agrarian society'. Additional booking forms may be obtained from Dr A D M Phillips, Department of Geography, The University of Keele, Keele, Staffordshire ST5 5BG.

WINTER CONFERENCE, 1986

From 1986 Winter Conferences will be organized by Dr M E Turner, Department of Economic and Social History, The University of Hull, Hull HU6 7RX. The 1986 Conference will again be a joint one with the Historical Geography Research Group on the theme of 'Agricultural statistics'.

'A Fiendish Outrage'?

A Study of Animal Maiming in East Anglia: 1830-1870*

By JOHN E ARCHER

THE study of animal maiming has been, and still is, a subject which social historians have ignored. The standard works on rural protest by Dunbabin, Horn, Hobsbawm and Rudé invariably make a brief reference to this crime but in so doing they create misconceptions.¹ The reader is left with the impression that cattle, in the non-legal sense, more than any other animal, were singled out for maiming, and furthermore, that maiming consisted largely of hamstringing or 'hocking' their forelegs. The purpose of this paper is to examine animal maiming in East Anglia between 1830 and 1870 when the crime was at its peak in order to identify the different types of animals maimed and the diverse methods employed by the maimers. It will be possible then to put forward some explanations for this peculiar, complex and universally condemned activity.

Before endeavouring any further, a word or two needs to be said on the reticence of historians. Without doubt they tend to echo the sentiments of contemporaries. They feel little sympathy with, let alone understand, the perpetrators of such 'abominable acts'. The maimers were and are seen as perverted and inexplicably cruel. It takes little imagination on the reader's part to re-enact, let us say, the stabbing of a carthorse with a dung fork.

Maiming could be a bloody business as well as a noisy and tiring one, especially if the maimer was attempting to subdue the struggling animal within earshot of the farmhouse or the proverbial sleeping guard dog. While it is difficult to conceal a sense of outrage when reading of the many and varied tortures the animals had to suffer, moral outrage on the historian's part does not add to our understanding of this crime. It would be best therefore to restrict moral value judgements to an absolute minimum.

There are other reasons which have kept maiming from historical scrutiny. First, the common assumption that rural people have a certain affinity for animals, either of a sentimental nature, or more commonly of a hard practical kind that would ill-dispose them to harm or maltreat their own or others' sources of profits. Second, maiming was neither as common as incendiarism nor was it so widely reported in the local newspapers. If there was such a thing as submerged crime then animal maiming was the epitome of it. It is possible to state with conviction that the examples cited below formed only a part of what actually took place, how large a part is impossible to tell. Animal maiming remained especially secret because it bore all the semblances of vengeance crime 'par excellence'. It was a more personal act of violence by the maimer on the victim than any other protest crime. One can view it almost as a form of symbolic murder, and the animal's owner was little inclined to publicize the existence of some private feud. In short maiming could be an extreme form of psychological terror

* This article is taken from chapter five of the author's thesis: 'Rural Protest in Norfolk and Suffolk 1830-1870', unpublished PhD, University of East Anglia (1982).

¹ J P D Dunbabin ed., *Rural Discontent in Nineteenth Century Britain* (1974); *ibid.*, chapter by A J Peacock, 'Village Radicalism in East Anglia, 1800-1850'; P Horn, *The Rural World, 1780-1850: Social Change in the English Countryside* (1980); E Hobsbawm and G Rudé, *Captain Swing* (Harmondsworth 1973).

which could leave the victim appalled and fearful for his own safety.

Despite the obvious difficulties in collecting evidence, a cursory glance at the newspapers, by far the best source material, has shown that nearly every conceivable type of animal from the domesticated cat to the most important working animal, the horse, was a target. One should not be misled by the phrase 'cattle maiming' for this term was sometimes used in the narrow legal sense to include all kinds of domesticated animals and not simply bulls, cows, heifers and so forth.² Another misconception was that animal maiming was an act of social protest rather like incendiarism. It will be shown that maiming was not always committed by the working class against members of the ruling class. Finally, it became evident that in order to understand maiming it was necessary to understand animal care and grooming. Although opposites the two had a close relationship as will be seen below.

I

Animal maiming was never a common crime. In East Anglia, more especially Norfolk and Suffolk, between 1830 and 1870 only 176 separate cases have been documented, eighty-nine in Norfolk and sixty-eight in Suffolk. A further nineteen cases were known to have occurred in the Cambridgeshire villages close to the Norfolk-Suffolk border.³ Reference to Table 1 below shows that the incidence of

² For example see 3 Geo. IV c. 71 1822 Act to Prevent the Cruel and Improper Treatment of Cattle; 'Whereas it is expedient to prevent the cruel and improper treatment of Horses, Mares, Geldings, Mules, Asses, Cows, Heifers, Steers, Oxen, Sheep and other Cattle

³ Sources consulted during the course of this research were: *Bury and Norwich Post* (BNP), *Cambridge Chronicle* (CC), *East Anglian* (EA), *Ipswich Journal* (IJ), *Norfolk Chronicle* (NC), *Norfolk News* (NN), *Norwich Mercury* (NM), *Suffolk Chronicle* (SC), Public Record Office (Kew): HO 64/2-3 (Correspondence Rewards and Pardons); HO 27/36, 52, 68, 76, 88 (Criminal Registers); HO 73 (Constabulary Commission 1836-38), PRO (Chancery Lane): Assi 33/12-14 (Norfolk Circuit Gaol Delivery Books); Assi 35/285 pt. 1 (Assize papers South East Circuit). Assize records for Norfolk and Suffolk are not extant and the Quarter Session papers were of very limited value and gave little additional information.

TABLE I
Cases of Animal Maiming in Norfolk,
Suffolk and parts of Cambridgeshire
1830-1870

Year	No of Cases by County			Total
	Norfolk	Suffolk	Cambridge-shire	
1830	4	2	1	7
1831	0	3	0	3
1832	1	1	0	2
1833	2	3	0	5
1834	5	5	1	11
1835	1	2	1	4
1836	3	6	0	9
1837	1	3	1	5
1838	1	1	0	2
1839	7	1	3	11
1840	2	3	0	5
1841	3	1	0	4
1842	4	2	0	6
1843	0	2	0	2
1844	3	5	1	9
1845	2	1	0	3
1846	2	1	0	3
1847	3	2	0	5
1848	3	1	2	6
1849	8	2	0	10
1850	4	2	1	7
1851	1	1	1	3
1852	1	0	0	1
1853	2	2	1	5
1854	0	3	0	3
1855	1	0	0	1
1856	0	1	0	1
1857	2	0	0	2
1858	2	0	0	2
1859	0	0	1	1
1860	1	0	1	2
1861	2	0	2	4
1862	2	0	2	4
1863	2	4	0	6
1864	2	2	0	4
1865	0	3	0	3
1866	1	0	0	1
1867	0	1	0	1
1868	1	0	0	1
1869	2	1	0	3
1870	0	1	0	1
Total	81	68	19	168
Unspecified Year	8	0	0	8
TOTAL				176

Sources: See footnote 3 for details of local newspapers and PRO documents. Norfolk papers can be found at the Norfolk and Norwich Local History Library (NNLHL); Suffolk papers at Ipswich and East Suffolk Record Office (IESRO) and the West Suffolk Record Office (WSRO) at Bury St Edmunds.

the crime followed no immediately obvious pattern, except to say that in Suffolk it declined after 1854 with the notable exception of 1863. In Norfolk the same general pattern is discernible but to a lesser extent.

Suffolk experienced a more than usual amount of maiming in the three-year period 1834-6, and later in 1844 and 1863. Norfolk had only two peaks in 1839 and 1849; in the latter year there were eight trials. If the figures for the two counties, together with Cambridgeshire, are combined we find peaks in 1834, 1836, 1839, 1844, 1849, thereafter the magnitude dropped off considerably until 1863. Some of these peaks coincided with periods of extreme tension and social protest as in 1834, 1836, 1844 and 1849 when incendiaryism and anti-Poor Law disturbances were frequent.⁴ The 1839 peak is misleading to some extent because one individual was responsible for six separate acts of maiming in the village of Buxton, Norfolk.⁵

Further research may show that animal maiming along with other forms of individual protest expanded in the third and fourth decades of the nineteenth century. Three small yet significant pieces of evidence suggest as much. First, uncompleted research on the 1815-30 period seems to suggest that maiming was becoming a regular, albeit infrequent, East Anglian speciality in the mid to late 1820s.⁶ Second, up to and until 1830 there had been in

existence for many years associations for the prosecution of felons. These self-help societies, made up of farmers and landowners, turned their attention after 1830 to the capture and prosecution of sheep stealers, incendiaries and animal maimers. In 1834, in the Fakenham area of Norfolk, maiming became such a serious problem that a meeting was called to form an association 'for the mutual assurance against loss by the felonious killing or maiming of Horses and Cattle'. Norfolk's leading landowner, Thomas William Coke, presided over this meeting which had pretensions of forming a county-wide association. The newspaper report on the meeting interestingly linked incendiaryism and maiming. A part of the report ran:

... and in the actual commission of several similar outrages just ground for apprehending that the Incendiary, finding his diabolical acts fail to inflict individual injury to any extent in consequence of the protection afforded by the offices established for Insurance against Fire, would probably seek to gratify his malignant passions against Individuals engaged in Agriculture by the even more fiendish outrage of killing or Maiming Horses and Cattle...⁷

A few weeks later all the leading landowners attended another meeting at Fakenham where an association was formed whose subscription was 1/2d/acre.⁸ About fifteen months later in Suffolk another association was called for in the Mildenhall district, after William Poulter of Worlington had two cows and a filly stabbed, a sheep's throat cut and a donkey maimed, and his farming implements cut to pieces.⁹

Animal maiming is commonly referred to as cattle maiming. This was and is obviously a misnomer as the following Table 2 shows. All forms of animals, domestic pets, game and farm animals were targets.

⁴ The number of incendiary fires in Norfolk and Suffolk in 1834 was fifty; in 1844 218 fires; 1849 seventy-eight fires. 1836 was a year of widespread anti-Poor Law rioting in the region. 1839, however, was a very quiet year as there were only five fires. See J E Archer, 'Rural Protest in Norfolk and Suffolk, 1830-70,' unpublished PhD, UEA (1982), chs 3-4.

⁵ See p 154 below.

⁶ Research on the pre-1830 period shows so far that there were six cases in 1825, eight cases in 1826, five cases in 1827 and nine cases in 1828.

⁷ NC 8 November 1834. Peacock, op cit, p 45 also believes the crime increased in the 1830s.

⁸ NC 29 November 1834.

⁹ BNP 13 January 1836.

TABLE 2

Number of Animals Maimed in Norfolk and Suffolk, 1830-70

<i>Animal</i>	<i>No Maimed</i>
Horses (all types)	180 plus
Sheep	157 plus
Game	112
Pigs	82
Cattle (all types)	76 plus
Dogs	23 plus
Poultry (various)	23 plus
Donkeys and Asses	12
Cats	a number
Fawn	1
Others unspecified	47
Total	713 plus

Sources: Table 2 was constructed on the evidence from the local press. For horses, poultry and cats no exact number can be given and therefore the figures quoted represent minima.

It should be pointed out that although the killing of game appears high on the table, there were in fact only two cases, one at Denham, Suffolk, and the other at South Runcton in Norfolk.¹⁰ As a general rule the smaller the animal the easier it was to maim in larger quantities at a single stroke, as in the cases of sheep, pigs and poultry. The larger animals, such as horses, cattle and donkeys were rarely maimed in large numbers, unless a certain method of maiming was employed.¹¹

The method employed by the maimer was as diverse as the number and type of animals he chose to focus his attention on. Again a misconception has grown up that hamstringing was the most frequent form of injuring animals. This was far from the truth as the following Table 3 shows.

Without wishing to go into unpleasant detail some examples of each method would be both helpful and explanatory of the terms used in Table 3. In the first

category; stabbing, a colt belonging to G Holl of New Buckenham, Norfolk, was found on the common with a 10½ inch piece of a rat catcher's spear in its side to the depth of eight inches. The animal died two days later. In a similar case at Denston, Suffolk, in 1848, a pony was seen wandering with its entrails hanging from its belly and dragging along the ground. Sheep were often killed by having their throats cut, as in the case of four owned by King of Gazeley, Suffolk in 1844.¹² Horse poisoning will be dealt with in greater detail later in the paper but one example taken from 1847 is representative of its type. Three horses were found dead at Rattlesden, Suffolk, after eating their bean meal which had been impregnated with arsenic. In other cases of poisoning, cattle, pigs, dogs, cats and game were found dead.¹³ The third category of tail and mane cutting was not as serious as it sounds, in fact it was the only form of maiming which did not seriously injure the animals. For this and the following reasons it could be argued that tail cutting was not maiming at all but theft. In these cases the hairs from the tails and manes of horses and cattle were drawn or cut. Apart from giving the animals a slightly unusual appearance no other damage resulted. The hair was presumably sold by the maimer. This activity was carried out on a large scale, for example at Kilverstone, Norfolk, in 1830 farmer Wright had the tails and manes of nineteen of his horses cut. In the same year Gilding of Tuddenham, Norfolk, had the same done to sixteen of his horses and bullocks.¹⁴ However not all tail cutting was theft as fifteen pigs found to their cost and pain in 1857.¹⁵

The shooting of animals was far less ambiguous. In 1839 at Buxton, Norfolk,

¹² NC 17 July 1841; NM 27 May 1848; BNP 6 March 1844.

¹³ Ibid 3 March 1847; *ibid* 3 June 1862, *ibid* 8 February 1863.

¹⁴ NM 20 February 1830; EA 26 October 1830. This type of theft virtually disappeared in the 1830s.

¹⁵ NN 20 June 1857. The pigs belonged to Fyson of Sculthorpe, Norfolk.

¹⁰ Denham — JJ 23 April 1842 when six brace of pheasants were poisoned; for South Runcton see BNP 14 December 1842 in which 100 pheasants died.

¹¹ See below for examples of mane cutting and hair drawing.

TABLE 3
Different Methods of Maiming and Number of Animals Maimed

Type of Animal	horses	cattle	asses	dogs	cats	poultry	pigs	sheep	game	fawn	others	TOTAL
<i>Method of Maiming</i>												
Poison	56	23	0	21+ ^a	1+	19	65	0	112	0	0	296+
Stabbing & throat												
slitting	37+	23	5	1	0	0	1	32	0	0	0	99+
Tails cut	42+	9	2	0	0	0	15	0	0	0	0	68
Drowning	0	0	0	0	0	0	0	51+	0	0	0	51+
Shooting	8	5	0	1+	0	0	0	0	0	0	0	13+
Tongue-cutting	6	0	1	0	0	0	0	1	0	0	0	8
Hamstringing	2	6	0	0	0	0	0	0	0	0	0	8
Stick thrusting	5	1	0	0	0	0	0	1	0	0	0	7
Suffocation	3	2	0	0	0	0	0	1	0	0	0	6
Run over	0	0	0	0	0	0	0	22	0	0	0	22
Beaten	2	0	0	0	0	0	0	38	0	0	0	40
Bones broken	1	0	0	0	0	0	0	3	0	0	0	4+
Ears cut off	1	0	1	0	0	0	0	0	0	0	0	2
Burnt alive	0	0	0	1	0	0	0	0	0	0	0	1
Savaged	0	0	0	0	0	0	0	0	0	1	0	1
Decapitation	0	0	0	0	0	0	0	1	0	0	0	1
Innards drawn	0	0	0	0	0	0	0	1	0	0	0	1
Others unspec.	17+	7+	3	0	0	4+	1	6+	0	0	47	85
TOTAL	180+	76+	12	24+	1+	23+	82	157+	112	1	47	713+

Sources: based on local newspapers as in Table 1. +^a denotes an unspecified number

five leading landowners and farmers had animals shot during three summer months. The Norwich police had to be called in to investigate.¹⁶ Sheep were deliberately drowned in the Fens by being driven into the many ditches, pits and dykes found in that area.¹⁷ Suffocation of animals required rather more personal attention from the maimer than did shooting or drowning since the perpetrator of such acts had to stuff wool down sheep's throats, or block the windpipes with large stones, or construct a complex series of nooses in the stalls which would eventually hang the beasts.¹⁸ Horses were invariably the victims of the tongue-cutting which was carried out in a number of ways. It varied from the slitting of tongues up the middle, the cutting of the tongues in half, to the

even more painful wrenching out of the complete tongue, as occurred at Stowe, Norfolk, in 1866.¹⁹ Moving further down the anatomy we come to hamstringing which is, as the name suggests, the cutting of the leg muscles of horses and cattle so as to make them lame. Three horses were cut at Sporle, Norfolk, in 1841 in this manner, and again a year later, Aldous of Redenhall had two bullocks mutilated in this fashion.²⁰ A horse and a number of sheep had leg and neck bones broken,²¹ whereas donkeys were maimed in rather a peculiar manner. Their ears were cut off at the base where they met the head. An example of this occurred in 1838 at Lavenham, Suffolk, where two donkeys were stolen and later found at Harling mutilated in this manner.²²

¹⁶ NC 18 May 1839 and 24 August 1839.

¹⁷ *Ibid* 23 February 1839.

¹⁸ BNP 10 January 1844; NN 8 May 1869 a horse strangled at Narborough; NM 8 June 1844 at Sotterley, Suffolk.

¹⁹ NN 20 January 1866; see also BNP 13 November 1850 at Wepstead; NM 16 October 1830 at Wimbotsham.

²⁰ NC 1 January 1842; *ibid* 31 December 1842.

²¹ *Ibid* 18 November 1837; BNP 6 March 1844.

²² NC 8 December 1838.

We come now to those acts of mutilation that outraged people's sensibilities more than any other form of maiming. The anatomical region of horses and cattle which held a strange fascination for maimers, who in these instances may have been in need of psychiatric attention, were the genital organs. Maimers resorted to the use of two-foot knotted sticks in the case of mares which they then thrust into the animal's womb and proceeded to vigorously rent it out. A nine-year-old boy was found guilty of such a crime at Nayland in 1842. The same occurred at Bodney, Norfolk in 1845.²³ At Bressingham, Norfolk, in 1840 labourer John Long entered the stable with a knife where he cut the penises of a cart horse and donkey and then cut the 'bearing' of a mare. He was transported for fifteen years.²⁴ In one other case it is difficult to escape an emotive term to describe the form of maiming. The only descriptive term to come to mind is savage. It involved labourer Robert Key of Reydon, Suffolk, who tore out a sheep's entrails with his bare hands from the hind parts of the animal. He was transported for ten years.²⁵

In most of the examples briefly outlined above the maimers played an active part in the maiming or destruction of animals. There was, however, an example where the maimer played a slightly more passive role. Near the Fenland town of Downham someone drove 107 sheep onto a railway line, hurdled them in and left the train to do the rest. Twenty-two were run over.²⁶ There were, however, rarely mass killings where blood ran freely.²⁷ Maiming was on

the whole a fairly bloodless affair unless attention was focused on one particular animal.

II

The method of maiming, the choice of target and the ownership of the animals all provide valuable clues as to the interpretation and nature of this little known and little understood crime. Peacock has argued emphatically that animal maiming was a crime of protest. There was, he said, 'no other way of explaining some of the dreadful incidents that occurred'.²⁸ He had, however, failed to note a number of important features. In the case of donkeys and asses it should be remembered that they were commonly owned by working men. It is therefore not surprising to find the majority of donkey owners were labourers and craftsmen. We find examples of blacksmiths, a cordwainer, a butcher and labourers who suffered such depredations.²⁹ The fact that such cases existed would seem to suggest the maimings were due to personal feuds between members of the same social class. The poisoning of cats and dogs usually indicated that farmers and gamekeepers were clashing over the rearing of game birds. Farmer W Sewell of Caldecote, Norfolk, told the 1846 *Select Committee on the Game Laws* that he had had his dogs shot twice in one year. He presumed the gamekeeper was to blame.³⁰ The same occurred but on a greater scale in the Cambridgeshire villages of Cheveley, Stechworth and Wood Ditton for a number of years. Rewards were offered by farmers but to no avail. The fact that these three villages lay on one of England's most famous game estates, owned by the Duke of Rutland, may have been more than mere

²³ BNP 7 September 1842; *ibid* 2 November 1842; NC 26 July 1845. An interesting case has recently come to light at Dunstable, Beds, in which nine horses have suffered similar attacks, *The Observer*, 8 May 1983. A psychiatrist was called in to help the police investigations. Such cases bring to mind Peter Shaffer's play, *Equus*.

²⁴ NC 11 April 1840.

²⁵ NN 6 August 1853.

²⁶ BNP 24 July 1850.

²⁷ One of the bloodiest examples occurred at Worlington, BNP 13 January 1836, where a filly and two cows were stabbed, a sheep's throat cut and a donkey injured (by unknown method).

²⁸ Peacock, *op cit*, p 45.

²⁹ For examples of blacksmiths see BNP 17 October 1849, NN 7 April 1849; a cordwainer, NC 1 August 1835; a butcher, NM 27 May 1848; and labourers NN 23 October 1852, BNP 24 June 1846.

³⁰ *British Parliamentary Papers* IX Pt 1, 1846, p 440, qu 9052.

coincidence.³¹ There were other examples which appeared to be devoid of class hatred and social protest. At Beccles, Suffolk, two men killed a horse and then went to its owner and asked for the job of flaying the carcase.³² And again at Harling, Norfolk, a horsekeeper lost his patience with a restive horse and cut its tongue out in a fit of temper.³³

In a sizeable number of horse maiming cases, around fifty cases, there may not have been any ill-will intended. The animals' deaths may have been the result of accidents. East Anglia being an arable region had an enormous number of horses on the farms, the care and grooming of which were in the hands of the most skilled and highest paid labourers, the teamsmen or horsekeepers. George Ewart Evans in his oral history studies based on a more recent period has recorded the skills of such men whose pride in their work and the turnout of their teams was a by-word in dedication.³⁴ These men may have been members of secret societies which kept from the uninitiated the secrets of 'horse-magic' and recipes to make the horses' coats shine. Horsemen risked gaol in order to keep their horses up to a high standard of turnout, a standard forced on them not by their employers but through competition with other teamsmen. Lord Leicester's entire workforce of teamsmen was gaoled in 1863 for stealing corn with which to feed the horses. And the local newspapers were filled with other examples of gaoled teamsmen who were over-indulgent at their masters' expense.³⁵ Later in 1893 William Little in his *Royal Commission Report on Labour* wrote:

The regard for his horses and his pride in their appearance leads the horsekeeper into trouble, by tempting him to steal corn or oilcake for his favourites among them. In his code of ethics there is no immorality in taking the master's corn . . .³⁶

We have therefore on the one hand evidence to suggest that teamsmen pampered their horses to such a degree that gaol could often be the result, whilst on the other hand we have the simple fact that over 180 horses seemingly met their deaths or were severely maimed.

There would appear to be a contradiction. The answer may lie in the fact that many of the maimed horses were poisoned to death. One aspect of the teamsman's job was grooming. The end result of grooming was to achieve a 'bloom' or shine on the horse's coat. In order to create a good 'bloom' he needed more than mere brushing to achieve the desired result. Secret recipes or prescriptions were handed down from father to son, head teamsman to junior teamsman, which obtained a good shine on the horse's coat. The trouble with many of the secret recipes was that they often contained poisonous concoctions, which taken in small amounts, may not have seriously harmed the horses but if the measurements were wrong death was often the result. Among the poisonous ingredients two stand out, arsenic and brake root. The last mentioned root was put into the horses' litter by Robert Hewes of Market Weston, Suffolk. Hewes and other were imprisoned or fined for these accidents under the law, 39. Vict. 13.s.³⁷ This would explain those cases where horsekeepers left suddenly after the deaths of their teams. A gaol sentence awaited them whether or not the deaths were the results of accidents.³⁸ We must therefore treat some of the cases of horse maiming with extreme caution for

³¹ BNP 24 September 1861; *ibid* 3 June 1862.

³² NC 1 August 1840. In London gangs killed animals with the view to buying the carcasses for dog meat, see PRO HO 64/6, letter from Atlas Assurance Office 9 March 1836.

³³ NM 28 June 1845.

³⁴ See George Ewart Evans' books, especially *The Horse in the Furrow* (1960).

³⁵ Five teamsmen were gaoled for six weeks for stealing oats and peas. NN 21 February 1863.

³⁶ BPP, *Royal Commission on Labour*, General Report from the Senior Assistant Agricultural Commissioner, Mr W C Little, 1893-94, p 37.

³⁷ BNP 8 April 1835 and 22 April 1835; NC 7 July 1855; NN 3 May 1862.

³⁸ NC 9 December 1837; NM 7 March 1846.

they may have been the result of misplaced care and affection. There was, however, little doubt where mares had their wombs ripped out, or stallions their penises cut off, or where tongues were slit or cut in two. These acts either signified a serious breakdown in social relations between farmers and workers, or else were the result of some private vengeance feud of a more personal nature.

III

It is almost impossible to discover the motivation of animal maimers because over the whole period only forty-nine of them were found guilty, or twenty-eight per cent of all known cases. Their occupations, where known, are listed below in Table 4.

TABLE 4
Occupations of 24 Convicted Animal Maimers*

Labourers	11
Horsekeepers	8
Blacksmith	1
Builder's labourer	1
Farmer	1
Hawker	1
Shoemaker	1

* Sources: taken from local newspapers

Interestingly enough the average age of twenty-eight of those convicted, who were all male, was 18 years old. This is remarkably similar to the age grouping of the convicted incendiaries.³⁹ The most notable feature of the above table is that farm work oriented occupations provided the majority of those convicted maimers. Returning to the question of motivation one has an impossible task since the court cases were never reported in any great detail. How-

ever, significant statements in the press did appear which may lead us to certain conclusions. Only on one occasion did a convicted animal maimer actually state his reasons for committing the crime, and he did this in a defiant manner in the open court room. The case involved William Watts, who on receiving a sentence of transportation (he had already served seven years in the Antipodes) spoke from the dock that:

... he was perfectly satisfied with his sentence but to such a state had they brought the poor of this country by oppressing them with taxes, poor rates, and other things, that it was impossible for a poor man to live by honest means, and all this was to support big-gutted relieving officers, and other folks connected with them and the unions.⁴⁰

Watts had shot six horses and cattle in Buxton in the summer of 1839.⁴¹

In the following cases the motives were, to some extent, obscure, but their actions were the result of real grievances. The first example involved the only farmer suspected of maiming, Thomas Wilson of Cookley, Suffolk, who had been evicted from his farm at Michaelmas, 1835. He sought his revenge on the incoming tenant, a Mr Foulsham, by poisoning and killing seven horses. Wilson, however, skipped bail and fled to America.⁴² Others in official positions of authority in village life were obvious targets. Holmes, a constable at Monks Eleigh, Suffolk, had some animals maimed in 1831 as did an assessor at Wicken, Cambs, in 1859.⁴³ The rector and a preacher of Field Dalling, Norfolk, had one horse stabbed to death and another stolen in 1848.⁴⁴ The majority of cases, as with incendiarism, were disputes between employers and employees. 'Norfolk Jack' was held responsible for the death of seven horses in the Norfolk-Lincolnshire border

³⁹ The average age of convicted incendiaries in Norfolk and Suffolk between 1830-70 was 24 years, Archer, *op cit*, p 275. The average age of farm workers convicted of incendiary offences was 22 years, over one third of them were in the age grouping 17-21 years.

⁴⁰ NC 19 October 1839.

⁴¹ *Ibid* 18 May and 24 August 1839.

⁴² NM 16 January 1836.

⁴³ BNP 13 July 1831; NC 6 August 1859.

⁴⁴ NN 15 July 1848.

village of Elm in 1848. He had been given the sack a few weeks earlier.⁴⁵ Likewise Samuel Bolton jun. wounded his former master's horse after being given the sack.⁴⁶ Others felt aggrieved for a variety of reasons. David Norfolk's master had issued a warrant against him for poor work. Charles Winn's grievance was of much longer duration. After killing a lamb he confessed that Fowl (the owner of the lamb) 'had ill-treated him when a boy, and he had now only repaid a portion of the injuries he formerly received'.⁴⁷

In only one case did a convicted animal maimer leave behind some kind of written testament. Edmund Botwright, a farming blacksmith, left the following note to Watling, his employer, after he had hanged two bullocks.

Mr. Watlin Sir, — This come as a wornin for you and the police it is the entenshun [intention] if an alteration is not made verry quick you shall have a tutch of Carlton [reference to a village where an incendiary fire had recently taken place], for wee hav prepared ourselves for you all. I understand you have got a wheat hoe and wee have got a life hoe prepared for you and not you alone, but will the first if you do not make an altershun [alteration], we will make an exampel of you instead of you making an exampel for the pore to be kept alive, your Exampel is, to hav them all starved to deth you damd raskell. You bluddy farmer could not live it was not for the poore, tis them that kepe you bluddy raskells alive, but their will be a slauter made amongst you verry soone. I shoood verry well like to hang you the same as I hanged your beastes You bluddy rogue I will lite up a little fire for you this first opertunity that I can make, and I shoood lik to have their at the present time. If the pore be not employed different to what they have bin, it shall bee as the promos is made.⁴⁸

The basic grievance of Botwright's powerful letter was concerned with Watling's latest piece of machinery, a scuffling plough, referred to as a 'wheat hoe', which had replaced the labour intensive work of hand hoeing. Botwright was as good as his

word for two days later the barn, stables and four animals were burnt.

Animal maiming was a secretive method of protest. The larger animals were difficult to steal but easy to destroy, and as such, maiming had the added bonus of creating financial hardship for the owners. A good horse was worth anything up to 150 guineas and they were not so often insured as farm buildings were against destruction. Animals should also be regarded as property, farmers' property, and as such, they were also legitimate targets for protesters. It would be wrong to assume that country people had any sentimental attachments towards animals (generally speaking this is a nostalgic urban view of rural life) because the purpose of animals was to create or make profit for the farmers. E P Thompson suggested in his essay, 'Crimes of Anonymity', that animals were 'rarely' burnt in incendiary fires.⁴⁹ The evidence would suggest that this was far from the truth. In some accounts the incendiary went out of his way to work as much havoc and damage among the farming stock as possible. Before a fire at Stonham Aspal, Suffolk, in July 1844 the incendiary locked up six carthorses in a stable and then fired the building. And the events at Little Cornard, Suffolk, in the same year emphasized the country people's lack of regard for livestock. The incendiary in this case fired a sheep pen where 120 sheep were burnt. The newspaper report went on:

A number of labourers after the flames had nearly subsided, were seen cutting off the hind quarters of those less damaged, and afterwards carrying them away for their families to eat, but they were at length prevented from repeating so disgraceful an act.⁵⁰

Concern for animal life came in every case but one from the middle class, whose sentimentality was later to be depicted in Landseer's paintings. One anonymous farmer when writing to the Home Secretary

⁴⁵ *Ibid* 28 October 1848.

⁴⁶ *BNP* 1 August 1849.

⁴⁷ *NN* 28 July 1849; *BNP* 5 August 1846; *NN* 1 June 1850.

⁴⁸ *NM* 8 June 1844.

⁴⁹ D Hay and others (Eds), *Albion's Fatal Tree* (1975), ch 6, p 278.

⁵⁰ *Morning Chronicle*, 25 July 1844; *Times*, 17 April 1844.

in 1844 was presumably hoping to move the latter to action when he wrote:

I am sure sir if you had been the spectator of some fires as I have your heart would have been melted to hear the cry and groans of the dying animals burning by inches. I am a small farmer but I darst not put my horse in the stable at night not knowing how soon the hand of the incendiary may visit me.⁵¹

The Home Secretary, Sir James Graham, was, however, made of stronger stuff and remained unmoved by the events or the descriptions. There may well have been a close relationship between maiming and incendiarism as the above examples indicate. There were also two trials where defendants were tried for incendiary offences. In the first, it was reputed that Aaron Wright had declared to his friends that he was going to 'stick' a sheep, but eventually decided on firing a haulm stack much to their amusement. The second case involved three labourers who successfully evaded conviction for a fire at Winfarthing Lodge, Norfolk. The newspaper reported one of them as having confessed to the intention of wanting to cut the throats of twenty-three horses that same night.⁵² Maiming was also carried out in conjunction with other crimes of social protest, especially harness cutting. This occurred at Woodbridge, Suffolk, in 1832; Lavenham, Suffolk, in 1835; and Wacton, Norfolk and Worlington, Suffolk, in 1836.⁵³ In four threatening letters reference was also made to the killing of the stock if the writers' wishes were not carried out. The general tone of the letters ran along the following lines:

... and mind we dont poison your Warter and make ind of you and your stock.

... you are trettened to be burned and as shure as it is spoke it will be done and very soon By your corn

or Cattle and there is a fresh plan laid to distroye your sheep . . .

My intention is to kill your poney and to do you all the mischef I can . . .⁵⁴

IV

It is difficult to know where animal maiming lies in the hierarchy of protest crimes, if indeed a hierarchy existed. However in some instances maiming could have been the response to the most serious breakdown in personal relations between master and men. This was especially true of horsekeepers.⁵⁵ Maiming may therefore have been the nadir of social relations. This point can be further emphasized by interpreting maiming as a kind of symbolic murder of the farmer; Botwright had written, 'I shood verry well like to hang you the same as I hanged your beastes . . .' and the anonymous writer who wrote to Green threatening to ' . . . make ind of you and your stock'. Whether or not the maimer could actually bring himself to commit murder is not really the point. The farmer, when confronted with the carcasses of his dead stock in the early morning, probably did not question the subtleties of the maimer's motives and ultimate objectives. Dead animals meant an act of killing had occurred and it was only a question of time and degree before the maimer turned on him or his family. Maiming, as an act of transferred or symbolic murder and as a weapon of psychological terror, was, one has to admit, a powerful, effective and unequivocal statement.

The epitome not only of animal maiming, but perhaps of all crimes of social protest, was the destruction of small disposable and consumable animals such as poultry and sheep. It was the supreme act

⁵¹ PRO HO 40/59, 222-225. The exception concerned a convicted incendiary named Wodehouse who expressed sorrow at having burnt some pigs, *NC* 24 July 1858.

⁵² *CC* 26 July 1851. Wright's friends gave him some matches and asked him not to fire their homes. *EA* 22 May 1832.

⁵³ *NC* 27 August 1836; *BNP* 13 January 1836; *ibid* 16 September 1835; *ibid* 27 June 1832.

⁵⁴ PRO HO 40/29(2) sent to Green of Walpole St Peter, Norfolk, 1831; HO 40/29(2) sent to Oldroyde of Walpole St Peter in 1831; HO 52/10(35-36) sent to W Smythe of Brandon, Suffolk, 1830.

⁵⁵ No horsekeeper was convicted of incendiarism in the region between 1830-70. Shepherds, too, had a propensity to steal sheep rather than start fires.

of hatred and revenge in which an element of self-sacrifice (ie leaving the dead meat) was involved on the maimer's part. In only one form of maiming was there any profit accruing to the maimer and that was the cutting of horses' tails, for horse hair was at this time a valuable and saleable commodity.⁵⁶

To conclude then, animal maiming while never as common as incendiarism displayed similarities but it has to be emphasized that it was not always, as is usually thought, an expression of social or class hatred. In the case of horses, misplaced care and attention could often result in death. In other examples the grievances could be of a more personal and private nature. But where grievances existed maiming was, perhaps, a more successful

method of protest than incendiarism as animals were rarely insured against such attacks. It also had the added force of appearing much more evil and sinister since it involved the killing of living creatures, and not, as in many cases of incendiarism, the burning of inanimate objects. Historians must not lose sight of this fact and they should dwell for a second or two on the outraged sensibilities of Victorian farmers who experienced a mixture of horror and disbelief. The sufferer may also have thought that the death, often by very violent means, of his stock symbolized in some way a death or murder-wish directed at himself. Furthermore, before historians shudder at these violent deaths of animals and pass moral value judgements on the maimers, they should remember that the maimers often had grievances and that the death of an animal was, perhaps, preferable to the murder of a human being.

⁵⁶ However see footnote 32 which suggests that in urban areas animal killing may have been connected to the dog meat trade.

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Harvest Fluctuations in an Industrializing Economy: Japan, 1887-1912

By P K HALL

THE question of how fluctuations in the harvest of the staple cereal affect a newly industrializing nation has long been discussed within the context of English history without a firm consensus being reached.¹ Explanations differ concerning the influence of abnormal harvests on births, deaths, and marriages, on the level of prices, farmers' incomes, the fortunes of certain industries, and on the level of activity in the economy. Research into these problems might be advanced by extending the geographical field of enquiry to Japan.

During the Meiji period (1868-1912), Japan's economic structure was not unlike that of eighteenth-century England. Population increase was moderate, but there was a marked expansion in urban areas.² Although by 1912 the economy had achieved a degree of complexity, much of the advance came during and after the Russo-Japanese War (1904-05). Yet textiles remained foremost among the modern industries, and important processes continued to be carried on in cottages and

workshops.³ At the opening of the twentieth century, the mercantile marine was small, and few modern ships were constructed. While there were many 'country banks', and a number of city financial institutions, branch banking was little developed. As in eighteenth-century England, agriculture was an important if relatively declining sector, and was commercialized.⁴ It produced a staple grain, rice, which, though other grains and root crops were cultivated and were important in the diet in certain regions, exceeded in volume and value any other farm product. Rice was nationally marketed, and as most settlements were on the coastal plains much was transported by sea, though a railway network evolved from the mid-1880s. Dependence on foreign trade, while still limited, was growing; and, like England earlier, Japan changed from exporting to net importation of the food staple, though normally the great bulk of supply was home grown.⁵

For the student of harvest fluctuations, Meiji Japan has one advantage over eighteenth-century England, where the only available evidence consists of grain prices, contemporary impressions and unsystematically compiled yield figures

¹ Among works touching on these questions are: T S Ashton, *An Economic History of England: The Eighteenth Century*, 1955 and *Economic Fluctuations in England, 1700-1800*, Oxford, 1959; J D Chambers, *Population, Economy and Society in Pre-Industrial England*, 1972; W G Hoskins, 'Harvest Fluctuations and English Economic History, 1620-1759', *Ag Hist Rev*, XVI, 1, 1968, pp 15-31; E L Jones, *Seasons and Prices: The Role of the Weather in English Agricultural History*, 1964; E A Wrigley and R S Schofield, *The Population History of England 1541-1871*, 1981; W Bagehot, *Lombard Street*, 1915; T Tooke, *A History of Prices and of the State of the Circulation from 1793 to 1837*; preceded by a *Brief Sketch of the Corn Trade in the Last Two Centuries*, 1838, Vol I.

² Population growth per annum was: Japan, 1873-1912 — 0.95 per cent; England, 1761-1801 — 0.81 per cent. The urban percentage of the population was: Japan, 1888 — 12.9, 1912 — 27.6; England, 1750 — 15-16, 1801 — 25. See I Taeuber, *The Population of Japan*, Princeton, 1958, Tables 6, 9; P Deane and W A Cole, *British Economic Growth 1688-1959*, Cambridge, 1964, p 7, Table 2.

³ Textiles' percentage contribution to manufacturing output was: Japan 1874 — 26.4, 1912 — 33.8; England 1770 — 36.0, 1800 — 40.0. See K Ohkawa et al, *Estimates of Long Term Economic Statistics of Japan since 1868* (hereinafter *LTES*), Tokyo, 1965, Vol 10, Table 1; Deane and Cole, *op cit*, p 163.

⁴ Agriculture's percentage share of national output was: Japan 1885 — 42, 1912 — 36; England 1761 — 45, 1801 — 32. See *LTES*, Vol I, Table 9, and Deane and Cole, *op cit*, Tables 35, 36.

⁵ Exports as a percentage of national income were: Japan 1874 — 3, 1913 — 15; England 1700 — 5.5, 1800 — 13. See W W Lockwood, *The Economic Development of Modern Japan*, Princeton, 1954, p 315; Deane and Cole, *op cit*, p 309.

TABLE I

Cereal Production in Years of Abnormal Rice Harvests

Year	Rice	Output (000 koku)		Percentage of trend (trend = 100)		
		Other Cereals	Total	Rice	Other Cereals	Total
1889	33194	18337	51531	84.35	95.46	87.99
1890	43084	19820	62904	110.09	102.67	107.64
1897	33039	20661	53700	82.70	94.17	86.77
1898	47388	23382	70770	116.51	105.62	112.67
1902	36932	20715	57647	85.86	94.81	88.88
1904	51430	21997	73427	114.19	98.84	109.11
1905	38173	20930	59103	83.43	93.78	86.82

Note A: Trend values obtained from a seven-year moving average.

Note B: Other cereals — wheat, barley, naked barley, millets.

Source: K Ohkawa et al, *Estimates of Long-term Economic Statistics of Japan since 1868* (hereafter *LTES*), Vol 9, Table 12.

from a few localities.⁶ Dependent on a Land Tax for the bulk of its revenue, the Meiji government annually collected statistics of the area cultivated and production of the principal crops. Before the mid-1880s, however, the accuracy of the returns was questionable; and so this enquiry will be confined to the period 1887–1912.⁷

Abnormal harvests: definition, measurement, causes

An abnormal harvest has been defined as one where the crop diverges from the norm by at least ten per cent.⁸ Employment of a seven-year moving average to trace the trend reveals deviations in actual output of this order in seven of the twenty-six years between 1887 and 1912. As Table I shows, a bad harvest was immediately preceded or followed by a good one; thus its economic and demographic impact would have been lighter than that of a succession of poor crops. Serious rice production shortfalls were the result of unusually severe insect and disease attacks or an exceptionally cool summer,

typhoons and floods.⁹ Only the last two directly shut down industrial plants, and even they hampered manufacturing less than did frost and drought, causes of bad harvests in England.¹⁰

The output of other cereals: a compensating factor?

In the late Meiji period, rice was the preferred cereal, but wheat, barley, and millets were eaten, particularly by the poor.¹¹ Doubtless, people would have been prepared, when rice was scarce, to increase consumption of other grains. However, as Table I reveals, their harvest history was similar to that of the staple. Consequently, production of all cereals was 11–13 per cent below average in years of low rice yields, and between 7.6 and 12.7 per cent above when rice harvests were good.

⁶ The first agricultural census was in 1866.

⁷ See J Nakamura, *Agricultural Production and the Economic Development of Japan, 1873–1922*, Princeton, 1966; S Yamada and Y Hayami, 'Agriculture' in Ohkawa and Hayami (eds), *Economic Growth: The Japanese Experience since the Meiji Era*, Tokyo, 1973, Vol I.

⁸ Tooke, *op cit*, pp 12–13.

⁹ T Matsuo, *Rice Culture in Japan*, Tokyo, 1961, pp 72–3; G T Trewartha, *Japan: A Geography*, Madison, 1965, pp 213, 217; T Ogura (ed), *Agricultural Development in Modern Japan*, Tokyo, 1970, p 457.

¹⁰ T S Ashton, *Economic Fluctuations in England, 1700–1800*, p 34.

¹¹ Ogura, *op cit*, pp 181–2, 186–7, cites contemporary sources showing that rice in the main producing areas formed 80 per cent of cereal intake; elsewhere the 'lower class' ate a mixture of two parts of barley or millet and one of rice in 1885. By the 1900s, millet had disappeared from the diet. But Basil Chamberlain found that in the extreme south sweet potatoes still formed 'the chief food of the common people', *Things Japanese; being Notes on Various Subjects connected with Japan*, 1905, pp 21–2.

TABLE 2

Production and Supply of Rice and Total Food Grain Supply

Year	Quantity (000 koku)			Percentage of Trend ^a (trend = 100)		
	Rice Output	Rice Supply	All Cereals ^b Supply	Rice Output	Rice Supply	All Cereals Supply
1889	33194	34909	53246	84.35	89.39	91.39
1890	43084	42781	62601	110.09	109.69	107.36
1897	33039	38138	58799	82.70	93.06	93.45
1898	47388	46705	70087	116.51	111.66	109.57
1902	36932	42172	62887	85.86	91.42	92.51
1904	51430	56811	78808	114.19	116.51	110.97
1905	38173	41444	62374	83.43	86.64	86.59

Note a: seven-year moving average.

Note b: wheat, barley, naked barley, millets, rice.

Sources: LTES, Volume 6, Table 11; Volume 9, Table 12.

The influence of food grain imports on domestic supply

Of the grains, only rice was traded in notable quantities. In eight of the thirteen years between 1887 and 1899, Japan was a net exporter; thereafter it became a net importer. Through foreign commerce, supply fluctuations were normally modified: in 1889, 1897, and 1902, deficiencies in the total quantity of cereals amounted to no more than 6.5 to 8.6 per cent; hence in these years there was no widespread famine even if dearth afflicted some households and localities.

Abnormal rice harvests: regional differences

Seasonal swings in rice production wider than for Japan as a whole were experienced by the two regions and five prefectures selected for study (see Table 3). But whereas after 1901 yield oscillations in the south became more muted, in the northern region of Tohoku and the prefectures of Nagano and Aomori they strengthened. Although all the areas had lean and bumper crops when Japanese production was around its trend value, their output tended to move in the same direction as that of the country during years of abnormal national harvests; the districts suffering most in the denoted poor seasons doing rather better than others in times of national abundance.

The effects on local food supply, income, and demography of losses of one-third to one-half of the normal crop, experienced by Tohoku in 1902 and 1905, Aomori in 1902 and 1906, Saga in 1893, and Kagawa in 1894, certainly warrant an investigation beyond the scope of the present study.

Harvests and demography

While national data on births and deaths is available from 1872, and on marriages from 1883, compilation methods, as well as culture traits, limit its usefulness for an enquiry into possible links between harvests and demographic fluctuations.¹² Local returns were annual, not monthly. The births and deaths of many short-lived infants are thought to have gone unrecorded since infanticide continued to be widely practised, and published crude birth and death rates were well below those of more economically advanced nations. Some vital events were not registered in the year of their occurrence. For example, 1906 was unpropitious for female births; consequently, many were assigned a different date, and despite later official adjustments errors may remain. Analysis of nuptiality is frustrated by the custom of registering marriages months after the

¹² Tacuber, *op cit*, pp 42, 50-2, discusses the problem.

wedding ceremony, and only those which had proved 'suitable'.

What do the published statistics of vital rates reveal after removal of the trend by use of an eleven-year moving average? Between 1887 and 1913 there are no discernible extreme fluctuations in births and deaths. When death rates are high, as in 1893 or earlier in the Meiji era, they are associated with epidemic outbreaks, not bad harvests.¹³ Only two of the four worst crop seasons (1902 and 1905) are accompanied by mortality rates above trend (both deviations are small) whereas all were immediately followed by death rates below trend. A regression analysis demonstrated, not surprisingly, the absence of any statistically significant relationship between rice harvests and registered mortality in late Meiji Japan. But defects in the data may not be the cause. Accounts of the aftermaths of Tohoku's terrible crop seasons of 1902 and 1905 show why starvation-related deaths were probably rare.¹⁴ Farmers consumed wild plants and seed rice, slaughtered draught horses, and mortgaged property. Meanwhile, the authorities disbursed accumulated funds earmarked for famine relief to provide daily rice rations to the destitute. Suspension of land tax and reduction of rents lessened the number of applicants as the region's farm sector habitually planted rice well in excess of its own or local urban needs to meet these obligations. Water and rail transport were well developed, and eye-witnesses indicate that ample food supplies were available commercially, except in remote districts. There, famine indeed struck hard but the hundreds of deaths reported were

insufficient to noticeably affect national mortality figures.

Marriage registration rates were subject to several extreme swings — in 1896, 1898–1900, and 1905–06. The last was perhaps due to wartime conscription but the others may be partly the result of official efforts to improve recording of conjugal relationships. Understandably, as registration did not entail additional short-term social costs and referred to marriages previously entered into, no significant correlation between it and harvests emerges in the period 1887–1913.

Only fertility appears in any way sensitive to crop fluctuations. A regression of birth registrations lagged one year on below average rice yields indicates, with a 95 per cent level of confidence, that over one-third of their variance can be attributed to harvest size. Nevertheless, it should be noted that two of the three lowest birth rates were not associated with poor crops, and after one of the worst harvests the fertility rate was above trend, while not only the previous season's rice production but the Russo-Japanese War has to be considered in an explanation of the 1906 result, when the deviation below trend of registrations was at its maximum for the period.

Rice: crop fluctuations and prices

Exploration of the relationship between rice prices and harvests in late Meiji Japan might help assess the validity of the method adopted in England of using price as a proxy for production statistics. According to one proponent of this technique, a thirty-one year moving average eliminates the effects of monetary and population changes.¹⁵ Thus, an actual price signalled, if it was over 50 per cent above the trend value, a dearth; if 25 to 50 per cent, a bad harvest; 10 to 25 per cent, a deficient crop; whereas a price of 30 per

¹³ Cholera, which had afflicted three million Japanese between 1858 and 1860, killed 250,000 in Tokyo in 1860, raised the death rate to 17.5 and 21.1 per cent above trend in 1885–6, ceased to be a scourge after 1895. Mass vaccinations conquered smallpox. In 1893, the increase in all epidemic disease deaths raised the mortality rate by no more than 3.6 per cent above trend. See Tauber, *op cit*, p 51 and *Résumé Statistique de l'Empire du Japon*, Tokyo, Imperial Cabinet, various issues. Only at the time of the 1858–60 pandemic were rice prices rising rapidly.

¹⁴ See *Japan Weekly Mail*, Yokohama, XXXIX, 7, 14, 21 February, 7 March, 2 May 1903, 6, 20 January, 3 February 1906.

¹⁵ W. G. Hoskins, 'Harvest Fluctuations and English Economic History, 1480–1619', *Ag Hist Rev*, XII, I, 1964, pp 28–46.

cent or more below trend proclaimed an abundant crop; and one between 10 to 30 per cent below, a good harvest. A much earlier writer suggested that when price rose by 30 per cent, the crop was 10 per cent below average; while a price increase of 80 per cent indicated a deficiency of 20 per cent.¹⁶

The proposition that price movements are a mirror image of output changes has been tested against Japanese price and crop data. As rice is not harvested until September–November (and as crop year figures are unavailable before 1896), the price taken to be affected is that of the following calendar year. The thirty-one year moving average method detects the abnormal harvests of 1890, 1897, 1898, and 1904, but it fails to show up those of 1889, 1902, and 1905 (see Table 4). It also finds 'good' and 'abundant' crops when actual yields were not far from average, in 1891–4 and 1907–08. Substitution of a seven-year moving average or the use of the least squares technique produce no better results; while a twenty-five year moving average is even further off the mark.

The discrepancies noted may be due to weaknesses in the Japanese raw data but more probably result from the employment of a theory only applicable to a closed economy, where staple output equals marketed supply and no factor other than output of the staple changes. In late Meiji Japan, however, rice prices were affected by imports and exports, inventory changes, and the proportion of the crop retained by farmers for their own consumption, as well as by changes in income, the prices of other goods, and tastes. The thirty-one year moving average price technique, therefore, is an unreliable gauge of the annual oscillations in production during the period.

Harvest fluctuations and the farming community

Did Japanese farmers benefit or suffer financially as a result of abnormal harvests?¹⁷ Were fluctuations in rice earnings offset by changes in monetary returns from sales of other farm products? To answer these questions calls for some reference to the pattern of agricultural production at national and regional levels; the size distribution of farms; and the influence of changes in prices, wages, rents, taxes, and the value of money.

From production data and Shinohara's estimates of farmers' own consumption and seed requirements, the volume of rice sales can be calculated.¹⁸ The results show that in the poor years of 1889, 1897, and 1902 cultivators were able, because of favourable shifts in the rural/urban terms of trade, to moderate the cuts in their own consumption, and to reduce the proportion of the crop marketed. Conversely, it would seem, when nature was bountiful in 1890 and 1898, farmers could afford to let their share diminish and yet consume a larger quantity. As imports built up in 1904 and 1905, growers appear to have eaten more in the first year; while in the second they responded to a stronger market demand by lowering their own rice intake so that the quantity and share of the crop offered to the market did not decline as much as in previous bad harvests.

Aided by Shinohara's estimates, certain conclusions can be reached concerning money income obtained from rice deliveries. Measured in current prices, there were increases in both abnormally good and bad seasons before 1900, due to more acute inflationary pressures. But a deceleration in the upward movement of producer prices early in the present century led to falls in nominal earnings in 1902 and 1905, when

¹⁶ Gregory King, cited in Tooke, *op cit*, p. 12.

¹⁷ For conflicting views on how abnormal wheat harvests affected English farmers see: Ashton, *op cit*, pp. 42–4; Chambers, *op cit*, p. 30; Jones, *op cit*, p. 130; Tooke, *op cit*, pp. 12, 15.

¹⁸ LTES, Vol. 6, Tables 9, 12. Descriptions of data deficiencies and their treatment are given in this and other volumes.

farm sales were exceptionally light. In the three years of abundant harvests not only nominal but real earnings rose, whereas the years of sparse yields (other than 1889) saw, despite the generally improving rural/urban terms of trade, decreases in real terms. More generally, a delivery heavier than that of the preceding season produced a gain in purchasing power; a lighter one, in most instances, resulted in a loss. Thus, at the national level, the conclusion is that a good crop and an increase in sales were usually more beneficial to farmers than an enhancement of prices in poor seasons.

The general relationship between yield and income also applied in Kinki and Tohoku.¹⁹ However, in each of the nationally poor harvest years, except the third, Kinki producers' income from rice sales rose, as its crop losses were smaller than the average for Japan as a whole. In contrast, Tohoku's different yield pattern meant that region suffered revenue losses in two of the three nationally good seasons.

When the Japanese staple cereal harvest was bad did the agricultural community succeed in offsetting the fall in real earnings by obtaining higher returns from other farm products? The task was not easy for during the period rice provided 45 to 55 per cent of gross agricultural income; the only other important money earners were sericultural products (16–23 per cent) and industrial crops (13–20 per cent). As can be seen in Table 7, both rice and non-rice income, in real terms, rose in 1889 but fell in the period 1895–7, while in 1902 the gain from other produce sales did not cover the loss in staple grain deliveries. Even the 1905 result is unsatisfactory when compared not with the previous year but with 1903, a more normal rice season. Deflated by the farm household price index, total earnings from agricultural activities rose by 1.5 per cent in the first and last, fell by 9.6

per cent in the second, and by 13.3 per cent in the third nationally bad rice harvest period.

Regional experience would have varied in nationally abnormal seasons. Apart from differences in the degree of yield fluctuations, already noted, rice had a larger share in the cropping pattern in some areas. In 1907, it occupied 59.9 per cent of the cultivated land in northern Honshu, where the wildest swings occurred, but only 34.4 per cent in Kyushu, in which the Saga prefecture is located.²⁰

How did good or bad harvests affect large and small farmers? If we assume each household planted the same proportion of its land to rice and obtained the national average yield, then the contribution to total output of each scale of growers can be calculated. In 1900, some 37.2 per cent of households (those with farms of under 0.5 hectare) produced only 10.7 per cent of the crop.²¹ Hence, if they had the national average number of members and consumed the national per capita quantity of rice, even in an ordinary year they would have grown less than 43 per cent of their requirements.²² The remaining 62.8 per cent of households would all have produced some surplus, though 38 per cent of the total harvest was reaped by only 10.6 per cent of the farmers.

Use of national data on yields, farm prices, agricultural wages, labour requirements, and per capita consumption, permits charting of the effects of abnormal rice harvests on large and small producers.²³ The more normal crop years, 1895, 1901,

²⁰ Computed from data in *Résumé Statistique*, 23^e année, 1909.

²¹ For the 1888 statistics, see K Shibusawa (ed), *Japanese Society in the Meiji Era*, Tokyo, 1958, Vol 6, Table 10; for 1908, see *One Hundred Years of Agricultural Statistics in Japan*, Tokyo, 1969, Tables 3, 6.

²² S Tobata, 'The Japanese Rice Control', in W L Holland (ed), *Commodity Control in the Pacific Area*, 1935, pp 162–3, states that in 1930–1, 32 per cent of farm households had to buy some rice, and 22 per cent purchased more than three months' supply. In 1933, 49 per cent bought some rice. See T Yano and K Shirasaki, *Nippon — A Chartered Survey*, Tokyo, 1936, p 192.

²³ Data sources: *One Hundred Years of Agricultural Statistics in Japan*; *LTES*, Vol 6, Tables 8, 12; Vol 8, Table 25; H Seko, *Lowland Rice and Upland Farming in Japan*, Japan, Central Agricultural Station, 1923.

¹⁹ For yields, see Table 3. From 1892, prices are given in *Résumé Statistique*, annually.

and 1903, are taken as the bases for the comparison. The sizes of rice farms considered were: of 5 hectares, dependent on hired labour (a rarity); 1 hectare; 0.4 hectare, and 0.25 hectare; the latter three relying entirely on family labour. Results in the case of the largest farm are ambiguous. In money terms, income, minus labour costs, increased by 25 per cent in the bad harvest of 1897, and by 35 per cent in the good year of 1904, but fell by 35 per cent in the good harvest of 1898, and by 21 and 20 per cent, respectively, in the bad years, 1902 and 1905. However, deflated by the farm household price index, the gains in 1897 almost disappear, while the previously mentioned losses increase, in real terms. Evidence from land tax returns suggests that the larger farmers may have been disadvantaged by the abnormal harvests of 1889 and 1890 for fiscal land valuations were revised downwards, and in 1891 the number of rural landowners paying sufficient tax to be on the electoral roll fell by 16.6 per cent, the largest annual change between 1881 and 1894.²⁴ On 1 hectare and 0.4 hectare holdings gross money income from rice increased in abundant and declined in poor harvests. The 0.25 hectare plot owner, who had to work off the holding in order to purchase the balance of his family's food needs, would have had to increase time spent in outside employment by 75 to 200 per cent following the bad seasons of 1897, 1902, and 1905, whereas after the good harvests of 1898 and 1904 he could have reduced it to a quarter of the normal. In real terms, the income of cultivators of 1 hectare and 0.4 hectare plots would have been cut in all three bad harvests. Tenants, who usually had to hand over about half of their rice as rent, would, in many cases, be excused from paying part in a poor season.

Nonetheless, all probably preferred a heavy than a light crop.

In prefectures where yields were much lower than the norm in 1889, 1897, 1902, and 1905, farmers would have experienced losses irrespective of the scale of their operations. Likewise, where the yield did not rise above its norm to the national extent, income earned could be less than from the previous poor harvest, as happened in Aomori and Nagano in 1898. Thus, circumstances were sufficiently varied that the experience of some farmers and some localities would have run counter to the national perspective in any given year.

Many farm households derived income from non-agricultural activities.²⁵ Their prospects of increasing these earnings to offset crop losses were slight. Although continuous estimates of receipts do not exist prior to 1921, when the Farm Household Economic Surveys commenced, it should be clear from the next section of this study that rural industries suffered and the prospects of temporary urban employment were diminished following an unfavourable season.

Harvest fluctuations and the economy

It has been claimed that a good crop boosted and a bad harvest reduced activity in a newly industrializing economy not entirely unlike that of late Meiji Japan.²⁶ The scenario might well have run as follows. A bad harvest, by raising the price of demand-inelastic staple foods and because farmers hoarded windfall gains, brought about a shift in the pattern of personal consumption expenditure towards food and away from alcoholic beverages, clothing, and household goods. Subsequent rises in stocks of these latter commodities, obtained on bank credit by

²⁴ EH Norman, *Japan's Emergence as a Modern State*, New York, 1940. Those who organized rural industries suffered, too, from the subsequent trade recession.

²⁵ Rural textile production, petty trading, and temporary work in towns.

²⁶ See works cited in note 1.

distributors, would provoke a financial crisis leading to production cutbacks and falls in employment and earnings. These would result, as purchasing power declined, in further changes in consumption expenditure, and so would be set off another round of cuts in manufacturing output, employment, and earnings. Large quantities of grain might have to be imported, creating balance of payments difficulties and bringing about a specie outflow which would lead to further tightening of credit. The downward spiral would eventually be reversed, if not by stock replenishment, or an exogenous factor, such as war, then by a good harvest. A bountiful crop, by holding down food-stuff prices and hence manufacturing wages, would have allowed industrial products to be sold at lower prices, stimulating demand for them and thereby reviving activity in the economy.

Application of the above analysis to the Meiji economy would not be inappropriate. Of the goods produced (including buildings) in the period 1889 to 1903, more than two-thirds emanated from the agricultural sector, rice making up half of this figure. Over one-third of the manufacturing sector's 20 per cent share of total output consisted of textiles; processed foods provided another one-third.²⁷ Capital goods industries were still in their infancy. The urban proportion of the population — dependent on non-agricultural earnings — was small, 13 per cent in 1888 and 27 per cent in 1912. Very few townspeople were factory workers, many more were employed in workshops or at home, relying on merchants for credit, raw materials, and orders.²⁸ Much industrial production, in particular, of raw silk and cotton cloth, was undertaken as a rural by-employment. The rural sector, by its sheer size, was an

important market for the more common manufactured goods, such as clothing, processed foods, and household utensils. Calculations suggest that abnormal harvests would have directly increased or reduced the supply of goods by 4 to 8 per cent in Meiji Japan, though if services are included the immediate real GDP effect would have been only 2 to 3 per cent.

Factors other than abnormal harvests were also responsible for the long swings and short cycles found in the Meiji period.²⁹ Structural transformation, too, was occurring. Hence the influence of annual variations in the rice crop could be expected to alter as Japan became more industrialized and linked to the world economy, and as disturbing elements, such as wars, made their presence felt. The stage reached in the trade cycle when the abnormal harvest occurred also would have had some bearing on its effects.

In 1889, the poor rice crop was reaped when manufacturing was booming. The boom centred on the cotton industry: some 24 spinning mills started up between 1887 and 1889. Their advance, though partly at the expense of imports and hand spinners, was mainly stimulated by increased local demand, for there were then no exports. Capacity expansion at this rate would have eventually brought about over-production, but before this could happen disaster struck the rice fields.

In 1890, the retail price of rice rose by 54 per cent, and estimated expenditure on this staple by 50 per cent. Meanwhile, clothing and household goods prices dropped. Were rice excluded, the Consumer Price Index would have fallen 8 percentage points, instead it climbed by almost 7 per cent.³⁰ Food items, on average, increased by 19

²⁷ Computed from *LTES*, Vol I, Table 9; Vol 10, Table 1.

²⁸ According to S Tsuru, *Essays on Japanese Economy*, Tokyo, 1958, there were 113,000 factory workers in 1886; G C Allen, *A Short Economic History of Modern Japan*, 4th ed, 1981, Table V, shows 948,000 in 1914; many were in small establishments.

²⁹ See K Ohkawa and H Rosovsky, 'Economic Fluctuations in Japan. A Preliminary Analysis of Cycles and Long Swings', *Hitotsubashi Journal of Economics*, 3, 1, October 1962, pp 10-33; S Fujino, 'Business Cycles in Japan, 1868-1962', *Hitotsubashi Journal of Economics*, 7, 1, June 1966, pp 56-79.

³⁰ Unless otherwise shown, price information in this section comes from *LTES*, Vol 8.

per cent, and sake (rice wine) by 16 per cent. Efforts to maintain food consumption forced up the prices of other grains, and the poorer members of the community may have spent one-third of their income on cereals, compared with a norm of one-quarter. Foodstuffs' share in personal consumption expenditure nationally is calculated to have expanded from 60.9 to 66.3 per cent, while that of clothing contracted from 9.7 to 7.2 per cent.³¹ Purchases of clothing, sake, charcoal and fuelwood, furnishings and utensils, tea and shōchū, appear to have slumped.

Of the 34 manufactured commodities featuring in the *LTES* Volume 10 production time series, about one-quarter show a decline in output in a normal year. In 1890, half had production cutbacks, including sugar, flour, various alcoholic beverages, processed foods, wood products, oils and fats, paper, indigo, and cotton fabrics. Shionoya indicates that the output of stone, clay, and glass products also fell. He estimates that manufacturing production overall was reduced by more than 6 per cent.³² The official Statistical Yearbook records that the number of factory workers declined from 346,079, at the peak of the boom in 1889, to 321,624 in 1890, and, a sign that recovery was slow, to a low of 294,425 in 1892. Though statistics are unavailable, Tsuru considers unemployment in small workshops must have been more acute.³³

Fujino's dating, July 1890, of the start in the downturn in economic activity accords well with an explanation of harvest causation, as it allows an adequate time-lag for consumption expenditure pattern shifts and stock accumulation of certain goods.³⁴ Since February, there had been a severe

financial crisis which must be linked to the contraction of rice output. The bad harvest temporarily halted staple grain exports, which in the previous year had earned 11 million yen, and required expenditure on imported rice of 12.3 million yen, a total foreign exchange cost of 23.3 million yen. The trade balance, favourable since 1882, recorded a 25.1 million yen deficit, leading to a specie outflow of 12.6 million yen.³⁵ These changes in money income, specie reserves, and rice importers' credit demands descended on a banking system, which, due to generous assistance to share speculators in the boom, was already over-committed. Too late, the Osaka banks, in March, lifted their lending rate to 18.25 per cent. Initially unable to accept company stock as collateral, the Bank of Japan could not accommodate the commercial banks, thus many new firms collapsed.³⁶ A fall in raw silk export earnings of 12.8 million yen, due to currency appreciation following American legislation raising the price of silver, exacerbated the crisis.³⁷ But the silk trade's problems came in the second half of 1890. Undoubtedly, it was the bad rice harvest which set off the economic downturn. In Tsuru's words, 'It had the immediate effect of depressing the business outlook.'³⁸ The small gains the rural community made from rice sales were soon lost as earnings from raw silk, sake brewing, and cotton spinning and weaving declined.

Subsequent economic recovery owed much to the 1890 record rice crop, though a silver price downturn also helped. Exports of rice resumed, those of raw silk recovered, and the trade surplus in 1891 reached the 1889 figure. Yet despite some fall, the retail price of the staple cereal remained 26 per cent above its pre-1889 harvest level, delaying full restoration of

³¹ Consumption expenditure data, except where noted, is from *LTES*, Vol 6.

³² Y Shionoya, 'Patterns of Industrial Development', in L Klein and K Ohkawa (eds), *Economic Growth: the Japanese Experience since the Meiji Era*, Homewood, Ill., 1968.

³³ Tsuru, *op cit*, p 137.

³⁴ Fujino, *op cit*.

³⁵ For foreign trade statistics, see *LTES*, Vol 6 and *One Hundred Year Statistics of the Japanese Economy*, Tokyo, 1966, Table 114.

³⁶ T F M Adams, *A Financial History of Japan*, Tokyo, 1964, Part 1.

³⁷ Japan was on the silver standard until 1897.

³⁸ Tsuru, *op cit*, p 135.

the consumer spending pattern until 1892. The continued drop in bank loans and rise in deposits, seen in Tsuru's statistical series,³⁹ suggests that business confidence was slow to recover, even if industrial production in 1891 surpassed that of 1889.⁴⁰

The economic situation in 1898 was complex. Two years of poor crops pushed up the rice price by 51 per cent, and led to a shift in the consumer expenditure pattern: the share of foodstuffs went up from 61 to 64.7 per cent, whereas that of clothing dropped from 11 to 9.3 per cent. Signs of pressure on the lower and middle income groups can be seen in the statistics of the Post Office savings bank. Between 1896 and 1898, farmers, small manufacturers, merchants, factory operatives, and public servants withdrew deposits. The decline in funds held ranged from 20 per cent for cultivators to 40 per cent for officials. All sections, except farmers, closed a significant proportion of their accounts.⁴¹ However, forces countering the harvests' effects were operating. Unlike in 1890, rises in wages partly compensated for price hikes.⁴² Temporarily, Chinese reparations had eased constrictions on capital goods imports. Cotton spinners' successes in foreign markets enabled a 50 per cent expansion of yarn production.⁴³ Yet even if the volume of manufacturing output increased in 1898, there were more than the average number of goods, including shōchū, processed foods, tea, indigo, lacquer, oils and fats, camphor and waxes, paper, pig iron, and cotton fabrics, whose production contracted.⁴⁴ Overall economic activity was dampened between November 1897 and November 1898, and bad harvests must be held responsible for it. As

Haruki Yamawaki commented: 'Trade in general became greatly depressed on account of the poor crops of rice happening in successive years'.⁴⁵

Awareness of a bumper grain crop may have induced the speedy revival of business confidence in 1899. From a peak in August 1898, the rice price returned to the 1896 level. But government, too, seems to have assisted recovery by facilitating a considerable expansion of the money supply, which in turn induced a general fall in interest rates.⁴⁶ There was, as well, a big increase in exports, and a further sign of better times was an increase in the number of accounts held by each category of depositor in the Post Office savings bank.

Even in the early 1900s rice crop fluctuations could still disturb the economy. A British observer reported, 'The spending power of the people was exceptionally reduced by the extremely bad harvest of 1902 and this . . . may well have contributed to the present depression in trade.'⁴⁷ Retail prices of household goods fell by over 9 per cent as that of the staple grain climbed by 14 per cent. Output of yarn was down by 15 per cent, and of cotton cloth by more than 8 per cent. Annual reports of 45 spinning companies reveal that 22 made losses. Poor results stemmed in part from a Chinese devaluation affecting exports but were mainly due to a decline in domestic demand commencing in the last quarter of 1902 and attributed to the sorry situation in the paddy fields.⁴⁸ Funds accumulated in banks and lending rates had to be reduced.⁴⁹ Business activity tapered off after April 1903, but aggregate manufacturing output, which, according to Shionoya, declined between 1900 and 1902, did not shrink further in 1903, and by

³⁹ Tsuru, *op cit*, statistical appendix.

⁴⁰ Shionoya, *op cit*.

⁴¹ *Financial and Economic Annual of Japan*, IV, Tokyo, 1904, Table 54.

⁴² *LTES*, Vol 8, Table 25.

⁴³ S J Koh, *Stages of Industrial Development in Asia*, Philadelphia, 1966, statistical tables to chapter one.

⁴⁴ *LTES*, Vol 10, and Shionoya, *op cit*.

⁴⁵ *Japan in the Beginning of the 20th Century*, Tokyo, 1903, pp 581-2.

⁴⁶ See Shibusawa Eiichi, 'The Revolution of Banking in Japan', in Count Okuma, *Fifty Years of New Japan*, 1909, and *Financial and Economic Annual of Japan*, IV, Table 49.

⁴⁷ *Board of Trade Journal*, XLIV, January-March 1904, p 17.

⁴⁸ *Anglo-Japanese Gazette*, September 1903, p 57.

⁴⁹ *Japan Weekly Mail*, 12 September, 31 October 1903. Japan Brewery Company sales were also down.

December the recession was over.⁵⁰ An above average rice crop and an off-loading abroad of yarn stocks helped to cut it short.

The Russo-Japanese War had a much greater impact on the economy in 1905 than the abundant harvest of the previous year, though slightly falling rice prices reduced inflationary pressures. Taxes on textiles were introduced, saving was officially encouraged, production was affected by the absence on military service of several hundred thousand men, but war increased machinery imports and kept the manufacturing sector fully occupied.⁵¹ Despite the poor harvest of 1905, the cessation of hostilities was accompanied by unusual commercial activity, and 'cotton mills had their most successful year' with large dividends being earned and order books filled for several months ahead.⁵² One reason why the natural calamity had little effect was because stocks of imported rice, accumulated during the War, were released.

Clearly, by the mid-1900s a bad rice crop had become a much less economically significant event in Japan. Thereafter, rice was never again to constitute such a high proportion (15-17 per cent) of total imports as it had in 1889, 1898, and 1902. Furthermore, as the country became more industrialized and urbanized, the farming community's contribution to GDP and market demand steadily diminished. After 1912 there would be further fluctuations in Japanese economic activity, but exceptional harvests would cease to play any major role in them.

Conclusions

Several conclusions can be reached concerning the effects of abnormal staple grain harvests on the population and economy of newly industrializing Japan during the period 1887-1912. First, the

output of other cereals and rice imports only moderated, they did not eliminate, supply deficiencies after a bad rice crop. Secondly, shortages were not such as to cause a national famine, though the local impact of the far greater prefectural and regional yield variations deserves investigation. Thirdly, analysis of somewhat deficient data suggests below normal harvests influenced birth rates but reveals no association between oscillations in rice production and national mortality and nuptiality. Fourthly, statistical techniques using price as a proxy for output give unreliable results in the Japanese case. Fifthly, farmers appear to have varied rice deliveries in accord with crop and price conditions, and thereby generally increased their income. Sixthly, wide yield swings and differences in cropping patterns meant that some areas gained less or suffered more than the national figures indicate. Seventhly, in bad harvests, real earnings from other agricultural commodities did not increase sufficiently, except in 1905, to offset rice income reductions. As to whether farms employing labour would have profited from a poor national rice crop, the evidence is inconclusive owing to the unstable rice price/agricultural wage ratio. A light harvest undoubtedly injured small farmers, whereas a bountiful crop benefited them.

Abnormal harvests happened at different stages in the trade cycle and sometimes in the presence of stronger factors. The effects seem to have been most potent at the beginning of the period, when, with the forces behind the 1887-9 boom already largely spent, they played a significant role both in the serious recession and the subsequent recovery. In the mid period their impact on the economy was less. Industrial expansion continued through the first poor harvest season, in 1896, although that of 1897 appears to have brought on — along with government monetary restrictions — the temporary difficulties

⁵⁰ Fujino, *op cit.*

⁵¹ *Board of Trade Journal*, LI, October-December 1905, p 10.

⁵² *Board of Trade Journal*, LVII, April-June 1907, p 575; LVIII, July-September 1907, p 234.

experienced shortly afterwards. The brief period of prosperity in 1899 must be attributed to expansionist policies and new export opportunities, and not just to the good rice crop of 1898. Yet the deficient harvest in 1902 seems to have been the trigger for a brief recession in the early 1900s. On the other hand, the bountiful 1904 crop, because it coincided with a wartime boom, was a minor influence on economic activity, even if welcome to a government that had restricted expenditure on other consumption goods. This generous harvest, along with stockpiles of imported grains, partly explains why the

following poor season had no discernible effects. However, between 1889 and the early 1900s (even if the pattern of long swings was determined by other factors)⁵³ sharp fluctuations in rice yields initiated, accentuated or reversed several short-term cyclical movements, and in the newly industrializing Japan of that period the lives of bankers and businessmen, factory workers and farmers were all affected, to a greater or lesser degree, by the state of the harvest.

⁵³ See Ohkawa and Rosovsky, *op cit.*

TABLE 3
Rice Yields: Percentage of the Trend (trend = 100)

Year	Japan	Kinki	Tohoku	Nara	Nagano	Saga	Kagawa	Aomori
1887	109.4	115.6	109.3	101.7	115.3	117.4	116.6	103.9
1888	102.9	103.9	95.3	93.2	93.5	116.2	114.0	103.9
1889	84.4	75.8	89.5	75.5	87.4	70.0	70.6	88.8
1890	110.1	113.8	104.1	127.1	106.7	133.8	106.8	118.4
1891	97.5	99.7	97.6	111.2	102.9	90.0	89.6	86.4
1892	105.6	102.1	106.0	102.2	99.3	117.8	126.1	113.6
1893	93.8	96.3	95.1	80.9	99.6	46.3	108.9	74.5
1894	109.3	115.6	113.2	121.0	110.7	110.6	63.1	117.3
1895	100.9	101.0	107.8	100.3	102.6	94.2	110.3	110.9
1896	92.1	80.1	96.7	89.3	91.1	121.3	100.1	99.5
1897	82.7	83.9	78.8	83.8	87.6	96.0	70.5	88.0
1898	116.5	124.8	103.2	114.8	107.1	128.9	132.7	100.1
1899	98.7	91.6	101.1	96.3	96.5	90.2	79.3	112.2
1900	99.4	98.1	110.5	92.7	109.9	76.0	103.4	102.8
1901	105.8	106.8	114.4	111.8	105.3	88.1	105.4	111.6
1902	85.9	93.5	66.2	93.8	88.2	109.7	94.6	49.2
1903	105.7	98.8	116.4	97.4	106.7	115.6	96.7	113.5
1904	114.2	107.9	129.5	106.2	118.9	99.4	110.3	145.3
1905	83.4	96.0	55.3	97.8	75.5	80.2	97.6	80.0
1906	96.5	101.3	84.7	96.6	88.1	107.7	97.5	60.5
1907	102.2	96.6	112.1	99.0	107.3	108.9	100.1	112.8
1908	108.1	106.8	110.6	108.4	100.4	116.7	109.1	105.1
1909	105.4	101.4	112.9	101.6	117.5	92.7	107.1	107.6
1910	92.7	96.7	95.7	96.6	97.5	89.4	91.5	117.1
1911	100.5	99.7	104.6	103.3	102.9	101.6	100.9	115.6

Sources: computed from data in *LTES*, Volume 9, Table 12: T Ogura ed, *Agricultural Development in Modern Japan*, figs 24.2, 24.4.

TABLE 4
Rice Output and Price: Percentage of Trend (trend = 100)

Year	Output	Price: Percentage of Trend, based on:				Least Squares Trend Value
		31-Year Moving Average	25-Year Moving Average	7-Year Moving Average		
1889	84.4	101.4 A	106.3 A	134.0 B		131.3 B
1890	110.1	77.9 G	81.4 G	94.2 A		96.0 A
1897	82.7	132.0 B	139.7 B	129.8 B		135.1 B
1898	116.5	87.3 G	90.8 A	84.2 G		87.8 G
1902	85.9	108.7 A	112.9 D	109.7 A		107.6 A
1904	114.2	81.2 G	94.9 A	89.7 G		89.1 G
1905	83.4	88.8 G	101.4 A	102.0 A		98.4 A

Note a: Price is of the year following the harvest.

Note b: Hoskins' classification of the harvest: A — average, D — deficient, B — bad, G — good.

Sources: Prices: E H Norman, *Japan's Emergence as a Modern State*, New York, 1940, pp 41-2; Output: LTES, Vol 9, Table 12.

TABLE 5
Rice Production and Estimated Quantity Marketed (000 koku)

Year (1)	Output (2)	Consumed by Farmers (3)	(3) as a per cent of (2) (4)	Seed Reserve (5)	Farm Sales (2) - ((3) + (5)) (6)	(6) as a per cent of (2) (7)
1887	41308	21690	52.51	2065	17553	42.49
1888	39474	20218	51.22	1973	17283	43.78
1889	33194	18849	56.78	1659	12686	38.22
1890	43084	23388	54.28	2154	17542	40.72
1891	38181	20123	52.70	1909	16149	42.30
1892	41429	21591	52.12	2071	17767	42.89
1893	37267	19682	52.81	1863	15722	42.19
1894	41859	21361	51.03	2092	18406	43.97
1895	39960	19400	48.55	1998	18562	46.45
1896	36240	18213	50.26	1812	16215	44.74
1897	33039	18168	54.99	1651	13220	40.01
1898	47388	23203	48.96	2369	21816	46.04
1899	39698	19565	49.28	1984	18149	45.72
1900	41466	19883	47.95	2073	19510	47.05
1901	46914	23266	49.59	2345	21303	45.41
1902	36932	20631	55.86	1846	14455	39.14
1903	46473	25602	55.09	2323	18548	39.91
1904	51430	28433	55.28	2571	20426	39.72
1905	38173	19220	50.35	1908	17044	44.65
1906	46302	22930	49.52	2315	21057	45.48
1907	49052	23936	48.80	2452	22664	46.20

Source: computed from LTES, Volume 6, Tables 9 and 12.

TABLE 6
Farm Income from Rice Sales

Year	Estimated Farm Sales '000 koku	National Farm Price Yen/Koku	Farmers' Rice Income '000 Yen	Real Income '000 Yen	Farm Household Price Index (1887 = 100)
1887	17553	4.33	76004	76004	100.00
1888	17283	5.40	93328	88833	105.06
1889	12686	8.05	102122	90462	112.89
1890	17542	6.37	111742	104412	107.02
1891	16149	6.59	106421	96738	110.01
1892	17767	6.75	119927	107751	111.30
1893	15722	8.12	127662	111049	114.96
1894	18406	8.21	151113	119817	126.12
1895	18562	8.89	165016	121720	135.57
1896	16215	11.26	182580	117984	154.75
1897	13220	14.06	185873	111022	167.42
1898	21816	10.44	227759	143951	158.22
1899	18149	11.43	207443	117286	176.87
1900	19510	10.79	210512	121172	173.73
1901	21303	12.02	256062	142012	180.31
1902	14455	13.70	198033	104542	189.43
1903	18548	12.56	232962	120028	194.09
1904	20426	12.21	249401	121357	205.51
1905	17044	13.98	238275	115326	206.61
1906	21057	15.66	329752	145099	227.26
1907	22664	15.19	344266	157235	218.95
1908	24663	16.42	404966	192392	210.49
1909	25160	16.24	408598	193035	211.67
1910	22178	21.11	468177	206409	226.82
1911	24878	23.99	596823	249591	239.12
1912	23614	25.80	609241	246996	246.66

Sources: computed from data in *LTES*, Vols 6 and 8.

TABLE 7
Estimated Gross Agricultural Income ('000 yen)

Year	At current prices			Real income		
	Rice	Other	Total	Rice	Other	Total
1888	93328	93634	186962	88833	89124	177957
1889	102122	101790	203912	90462	90167	180629
1890	111742	106970	218712	104412	99953	204365
1895	165016	167933	332949	121720	123872	245592
1896	182580	160522	343102	117984	103730	221714
1897	185873	185701	371574	111022	110919	221941
1898	227759	193812	421571	143951	122495	266446
1901	256062	219599	475661	142012	121790	263802
1902	198003	235376	433409	104542	124254	228796
1903	232962	267098	500060	120028	137615	257643
1904	249401	262728	512129	121357	127842	249199
1905	238275	284668	522943	115326	137780	253106

Sources: computed from *LTES*, Volume 6; Volume 9, Table 12.

TABLE 8
Fluctuations in Vital Rates, 1887-1913

Year	Percentage of the trend (trend = 100)		
	<i>Births</i>	<i>Deaths</i>	<i>Marriages</i>
1887	96.18	95.18	102.52
1888	104.27	92.10	102.26
1889	105.84	96.83	104.48
1890	98.60	96.86	97.52
1891	93.55	100.19	91.81
1892	102.16	105.08	97.38
1893	97.48	109.57	96.76
1894	98.40	96.51	98.30
1895	100.16	96.73	99.20
1896	99.97	102.73	134.28
1897	99.74	97.37	96.06
1898	101.97	98.53	109.87
1899	101.06	102.55	123.03
1900	101.51	98.62	89.86
1901	105.72	99.08	96.09
1902	103.80	101.44	101.72
1903	99.97	96.88	93.52
1904	95.30	97.60	101.47
1905	93.78	101.59	86.50
1906	91.88	95.72	109.78
1907	101.92	101.06	103.94
1908	103.76	101.68	109.87
1909	104.72	106.12	102.39
1910	102.43	102.13	102.06
1911	102.65	98.53	98.21
1912	100.15	95.73	97.59
1913	99.85	91.20	96.36

Note: Derived from an 11-year moving average. Based on registrations.

Sources: computed from: *Résumé Statistique* various years, and Tacuber.

Trade Agreements and the Evolution of British Agricultural Policy in the 1930s*

By T ROTH

THE plight of the farming community during the depression was an important element in the protectionist campaign gathering momentum in the UK from 1929 onwards. Britain was caught up in the world crisis of primary producers. With her open market, she became a dumping ground for surplus world food production. Imports of commodities also produced by British farmers increased in volume by as much as seventeen per cent between 1927-9 and 1931.¹ In the three years from September 1929, farm prices fell by thirty-four per cent, and by June 1933 were back at the level they had been before the First World War. Although touching the sympathies of successive Ministers of Agriculture in the minority Labour administration of 1929-31, and of Ramsay MacDonald himself, proposals for assistance foundered on the rock of Snowden's opposition. The Conservatives, however, fully pledged to agricultural protection from October 1930, were a dominant force in the National Government which came to power in the autumn of 1931. When, in the winter of 1931-2, Britain abandoned free trade, an era of protection and subsidized support for farmers was inaugurated.

The measures taken by government have been discussed in several works, including Edith Whetham's authoritative account in

volume eight of *The Agrarian History of England and Wales*.² The availability of documents in the Public Record Office allows greater insight into the objectives of government and the way in which policy evolved. Making use of these records, this paper attempts to show that there were formidable obstacles in the way of implementing full-scale agricultural protection. In the first place, such a policy had to be carried out by a government with substantial National Liberal and Labour representation in Cabinet. Until the death of Maclean in June 1932 and the resignation of Snowden, Samuel and Sinclair at the end of the following September, there was explicit defence of free trade within the Cabinet, and in later years there remained a pronounced wariness among ministers about the likely impact of agricultural protection on prices. Secondly, the incompatibility between protection and imperial preference, a contradiction that had dogged tariff reformers in the past, also stood in the way of effective support for UK farmers. Finally, the legacy of Britain's nineteenth-century industrial, financial, and political supremacy was reflected in a structure of departmental interests in Whitehall which militated against the ambitions of the Ministry of Agriculture and Fisheries (MAF) for

¹ K A H Murray, *Agriculture*, 1944, p 31.

* I have had the benefit of comments on an earlier draft of this paper by Dr Ed Early, Dr Cliff Gulvin, and two anonymous referees. They are not, of course, responsible for any shortcomings. I am also grateful to the Nuffield Foundation and to the ESRC for financial assistance, and to the Keeper of the Public Records for access to documents.

² E H Whetham, *The Agrarian History of England and Wales*, Vol VIII: 1914-1939, Cambridge, 1978, esp pp 241-72, 325-9; S Pollard, *The Development of the British Economy, 1914-1967*, 1969, pp 134-45; Viscount Astor and B S Rowntree, *British Agriculture: The Principles of Future Policy* 1938; C H Mowat, *Britain Between the Wars 1918-1940*, 1955, pp 436-41; J H Richardson, *British Economic Foreign Policy, 1936, 156-98*. I M Drummond, *Imperial Economic Policy 1917-1939: Studies in Expansion and Protection*, 1974, does use government papers to discuss the interaction between British agricultural and imperial policy.

British farmers. Britain remained pre-eminently an industrial nation. Assistance to UK agriculture had therefore to be accommodated within a framework that gave priority to industrial protection, and sought to stimulate industrial exports as well as to facilitate the servicing of overseas investments. This is nowhere more apparent than in the series of trade agreements that Britain made in the 1930s: these were exclusively with primary producers, and involved a series of concessions by Britain almost wholly on food and raw material imports, in exchange for advantages for her industrial exports.³ This paper aims to show that these trade pacts not only represented the continued subordination of agriculture to industry, but that the terms of the treaties dictated the eventual shape of agricultural policy in the UK, helping to determine the emergence of Exchequer-financed subsidies as the principal support device between the late 1930s and the 1970s.

I

The foundations of agricultural protection were laid in the Horticultural Products (Emergency Duties) Act of November 1931 and the Import Duties Act of February 1932. Tariffs were applied to certain flowers, fruit and vegetables, to barley, and oats, and to dairy products and eggs. The Cabinet's Agricultural Policy Committee had recommended either low wide-ranging duties or selective but higher ones.⁴ The Cabinet chose selective but low

duties. Moreover, under pressure from the Dominions, the government decided to exempt imperial produce from any of the new tariffs pending the results of the Ottawa Conference to be held in the summer of 1932. Between passage of the Import Duties Act and the Conference, the most important piece of agricultural legislation was the 1932 Wheat Act. Cereal producers had been the earliest and worst affected by the collapse of world prices. The Wheat Act provided for subsidies of up to ten shillings per cwt to be paid to UK wheat farmers, funded by a levy on all flour whether imported or milled in Britain.

The Ottawa Conference did little to aid British agriculture.⁵ It is true that the principle was established that home farmers were to have first claim on the UK market, that the Dominions were to be entitled to an expanding share of imports, and that foreign producers were to supply the residual. But implementing this was another matter. Certainly British farmers obtained scant additional protection. The major beneficiaries of the Conference were the Dominions. Free entry for imperial produce was confirmed, for many products for the full five year duration of the treaties. There were some new duties, notably a levy of two shillings per quarter on foreign wheat and flour imports, and tariffs on dairy products and eggs were raised. There were also some new quotas: foreign shipments of frozen beef, mutton, and lamb were to be cut back by thirty-five per cent. But quotas and higher duties were an attempt to meet the demands of the Dominions, and for the most part were aimed at switching trade to the Empire at the expense of foreign suppliers. The major consequence of Ottawa for British farmers

³ The most important treaties were those with Australia, Canada, India, New Zealand and South Africa at Ottawa in 1932, and, between 1933 and 1935, with Argentina, Denmark, Norway, Sweden, Finland, Estonia, Latvia, Lithuania and Poland. Trade treaties with Germany (1933) and France (1934) were of very limited scope, while that with the USA (1938) involved concessions by Britain on agricultural commodities and reductions of imperial preference.

⁴ PRO, CAB 27/465, Agricultural Policy Committee Report, 16 January 1932. Evidence of a lack of sympathy for agricultural protection is suggested by the Minister having on two occasions to apologize for statements to the Cabinet or to redraft a public statement that was too protectionist in tone. Cabinet meetings of 25 November 1931 and 3 February 1932.

⁵ A full and authoritative account of the Ottawa Conference can be found in I M Drummond, *op cit*, Chs 5 and 6. Drummond would not necessarily support the view that British agriculture received little benefit from the agreements. This is argued in T Rooth, 'British Commercial Policy in the 1930s with Special Reference to Overseas Primary Producers', Univ Hull unpubl PhD thesis, 1984.

was not the negligible additional protection they received but the way in which concessions to the Dominions put a straitjacket on British agricultural policy. Not only were Empire products to be duty-free, but margins of preference were guaranteed. Moreover, the majority of imperial supplies were granted freedom from quantitative controls. The one major exception to this was meat, where Britain only pledged herself not to introduce import quotas on Dominion shipments before July 1934. In practice the Dominions were so hostile to such controls that they had to be ruled out.

Sir John Gilmour had not been successful at Ottawa, his colleagues generally overruling him when he sought to preserve the interests of British agriculture. Walter Elliot, taking over his job as Minister of Agriculture, did have a greater measure of success in helping British bacon producers, and also in restraining the largesse of the Board of Trade in the foreign trade negotiations that followed the Imperial Conference.

The principle of priority for UK agricultural expansion was given substance in one important case, that of bacon. A Reorganisation Commission for Pigs and Pig Products, reporting in the autumn of 1932, recommended that bacon prices should be forced up in an effort to stimulate UK output. The main method of raising prices was to be a cut-back in foreign supplies. The proposals, eventually implemented within the framework of the Agricultural Marketing Acts legislation of 1933, underline the emphasis that was placed in government at this time on supply restriction as a solution to the agricultural crisis. The prospects for foreign supplies of bacon were dismal. Total bacon supplies were to be reduced from their 1931 level of 13.3 million cwt to 10.7 million. Within this total, not only was domestic output supposed to increase, but the Canadians, currently supplying only minimal quantities, yet extravagantly promised at Ottawa a

quota of up to two and a half million cwts, had also to be accommodated.

This advance for the Ministry of Agriculture viewpoint therefore threatened the planned foreign negotiations. The most important of these were held with the Scandinavians and the Argentine in late 1932 and in 1933.⁶ Broadly, what foreign suppliers wanted was as much security for their food exports as they could induce Britain to concede. For food they demanded guarantees of duty free entry for meat, including bacon, and the maintenance of duties on dairy products and eggs. They were also very anxious about the threat that quota controls might pose, and sought either guarantees that these would not be used at all (eggs and dairy produce), or, where they already existed and were inescapable, as on meat, that they would not be tightened further. The Board of Trade, aiming at valuable export concessions for coal and industrial products, would have been glad to have granted all this. Only too aware of the Board of Trade attitude, the Minister of Agriculture attempted to postpone the negotiations. Overruled on this, he tried to block any guarantees of free entry or freedom from import controls for foreign supplies. This was an impossible negotiating stance for Britain, particularly in the wake of Ottawa. A senior Board of Trade official minuted that if the Ministry's views were to prevail, 'we do not stand any chance of making any agreement with the Argentine at all'.⁷ A pact with Denmark on these terms would also have been difficult if not impossible.⁸ The MAF were persuaded to agree to existing free entry and duties. It was more successful in inserting clauses

⁶ R Graval and T Rooth, 'A Time of Acute Dependence: Argentina in the 1930s', *Jnl Eur Econ Hist*, 7, 1978, pp 337-78; E F Early, 'The Roca-Runciman Treaty and its Significance for Argentina, 1933-41', Univ London unpubl PhD thesis, 1981. T Rooth, 'Limits of Leverage: The Anglo-Danish Trade Agreement of 1933', *Econ Hist Rev*, 2nd ser XXXVII, 1984, pp 211-28.

⁷ PRO, BT 11/143, Sir Henry Fountain, 31 January 1933.

⁸ PRO, FO 371/17212, minute by F Ashton Gwatkin, 6 February 1933.

that would allow physical import controls on dairy products and eggs, although subject to the proviso in the treaties that Britain would only be able to impose these if they were combined with UK marketing schemes for the product concerned.

II

By the time the first major series of trade treaties had been completed, the British government had burdened itself with a range of obligations that limited drastically its freedom of action in assisting home farmers. For meat, foreign supplies of frozen mutton, lamb and beef were being progressively reduced so that by mid-1934 they would be at sixty-five per cent of their Ottawa Year (the twelve month period ending 30 June 1932) level. From July 1934 Whitehall would, in theory at least, be able to control Empire supplies by quantitative regulation; Argentina had rights in effect to ninety, or in some circumstances 100 per cent of her Ottawa Year chilled beef supplies, although she might be restricted below ninety per cent if Dominion meat imports were cut by similar proportions. But Britain had also bound herself not to tax meat imports during the currency of the Argentine and Ottawa agreements, ie until November 1936 or August 1937 respectively. The bacon situation was easier: Canada was guaranteed a market for 2½ million cwts, but foreign supplies theoretically could be cut to whatever level was thought wise or desirable. Here too, though, free entry had been conceded, so if duties were to be introduced this would involve the acquiescence of the trade partner. A mixed bag of obligations on dairy products and eggs also hampered freedom of action. Foreign supplies could be quantitatively controlled only if domestic sales were also regulated by a marketing scheme. Dominion produce was to be free of duties or quotas until mid-1935, but minimum preference mar-

gins were fixed until 1937. Because existing duties were stabilized until 1936 in the various foreign agreements, it was therefore impossible to tax Dominion supplies without infringing the preferential tariff margins.

The scope of action available to the MAF was thus severely curtailed, although more so for import levies than in the field of quotas. This accorded with Neville Chamberlain's idea that producer control offered the best prospects for raising prices. As early as November 1932 the Pacific Dominions and South America had been induced to cut back their meat shipments, and these arrangements had been continued in 1933.⁹ Mutton and lamb prices were fairly well maintained, partly because of restricted supplies, partly because demand trends were favourable. Beef prices continued to fall during 1933 however, and pressures built up from domestic producers and landowners for further help.¹⁰ The structure of the industry was such that the fatteners, principally located in the East Midlands (summer grazing) and East Anglia (winter feeding), were able to wield greater political influence than the breeders, geographically more remote and operating on a smaller scale. The fatteners were also worse hit by price falls. The cattle they bought cost them seventy-five to eighty per cent of the price they hoped to realize for the finished beef. When prices fell at the pace they did in 1932 and 1933, this margin could be eliminated during the six months the animals were normally kept.¹¹ Elliot's solution to these problems, first mooted when the ink on the agreements with Argentina was barely dry,

⁹ PRO, CAB 27/495, Cabinet Committee on Meat Policy. This committee met only once and produced no reports. The one meeting, at which Elliot pressed for the Board of Trade to be given powers to regulate meat supplies from abroad produced the usual opposition from the Board of Trade, Dominions Office and Treasury as well as from the Prime Minister. The voluntary restrictions, also involving bacon, did serve to firm prices temporarily.

¹⁰ PRO, CAB 27/560 PMS(33), 1st meeting, 1 December 1933 (the landowners included the bursars of Oxford Colleges).

¹¹ Viscount Astor and B Seeborn Rowntree, *op cit*, p 194.

proposed the introduction of a levy-subsidy, and, as an inducement to Argentina's acquiescence, suggested the waiving of British rights to reduce chilled beef imports below ninety per cent of the Ottawa Year level. At this stage Ministers were lukewarm about, or opposed to the idea of a subsidy. Chamberlain asserted that if beef producers had one, every other industry would demand a subsidy.¹² Ideas reverted to supply restriction. The Canadians were to be persuaded to stabilize their cattle exports, and a fifty per cent cut was made on the imports of Irish cattle. Although this arose out of the dispute with the Irish Free State, it involved a reduction of over five per cent in total supplies of fresh beef, the type most directly competitive with home produced meat, and was aimed at helping British beef producers.

The emphasis on restriction of supplies as the main method of holding or raising prices lasted until the middle of 1934. It has been criticized by I M Drummond who argues that it failed to generate budgetary revenue, and 'raised everyone's price'. Because price elasticity of demand was high, cut-backs in supply would lead to less than proportionate increases in price: the total sales revenue of overseas suppliers would be reduced, and their purchasing power, together with their ability to service debt, would be impaired. Instead, a fall in prices might have done the trick. Drummond suggests that policy makers, although aware that lower prices would stimulate consumption, failed to appreciate their power in reducing production.¹³ But perhaps this is to romanticize the efficacy of the price mechanism, for in the conditions of the 1930s supply elasticities for agricultural output as a whole were low. Certainly prices fell dramatically, and output did not contract. Capital was tied

up in farms, and opportunities for alternative employment in industry were virtually non-existent.¹⁴ Governments committed to maintaining agriculture and rural population frequently had resort to subsidies, particularly for export crops. Overseas exchange depreciations could nullify tariff imposts. In the circumstances, therefore, lower prices would either fail to reduce output, or, at best, do so only very slowly.

Yet if the price mechanism was a weak instrument of adjustment, neither were import controls alone likely to render much assistance to British farmers. This was because of the high price elasticities that characterized several imported meats and probably dairy products as well. The result was that only very severe cuts in supplies would be successful in raising prices significantly. Also relevant is the degree to which products were readily substitutable for each other. Forrest Capie, working on *a priori* assumptions about quality, found it was the preservative category (fresh, chilled or frozen), not the animal, that proved a more reliable grouping.¹⁵ For example, consumers regarded British lamb and fresh beef as good substitutes for each other.¹⁶ A second quality grouping included Argentine chilled beef and New Zealand lamb — these also showed a high degree of substitutability.

¹⁴ For a review of various explanations of supply inelasticity of agriculture during depression, see D Gale Johnson, 'The Nature of the Supply Function for Agricultural Products', *Amer Econ Rev*, 40, 1950, pp 539-64. Johnson argues that during a depression it is the absence of alternative uses for factor inputs that accounts for inelastic supply functions. The price elasticity of land is practically zero for a period of five to ten years, disinvestment eventually leading to reduced output; capital equipment is generally specific to agriculture, and with high unemployment in the other sectors of the economy, the supply curve for labour becomes nearly vertical. Farm prices, wage rates and land rents thus fall in roughly the same proportion, and output and employment are thereby maintained. It must be stressed that this argument applies to agricultural output as a whole — there may be greater elasticity for individual products, but if efforts to restrict supplies of one commodity are successful, presumably they would cause aggravated problems for another.

¹⁵ F H Capie, 'The British Market for Livestock Products, 1920-1939', Univ London unpubl PhD thesis, 1973, pp 64-5, 76-82.

¹⁶ *Ibid*. Cross price elasticities were positive and high.

¹² PRO, CAB 27/560 PMS(33) 2, memorandum, 5 December 1933, and 3rd meeting, 14 December 1933.

¹³ Drummond, *op cit*, pp 302 and 329.

At the low quality end of the market, Australian beef and Argentine mutton were readily interchangeable and replaced by each other. Therefore cutting back imports of Argentine *frozen* beef, for instance, was unlikely to engineer a sizeable switch of demand to high quality British fresh beef. Thus both on grounds of price elasticity and because most imported meats were not directly competitive with British supplies, only savage import restrictions were likely to be very effective in raising the price of home produced meats. Moreover, such moves were liable to be attacked because they hit hardest the poorer households, the main customers for cheap imported meat. Furthermore, it was understood at the time that when dealing with products of which Britain was the major buyer, the incidence of tariffs was likely to be borne by producers rather than reflected in higher prices. Nor, as was suggested above, was there reason to think that this would have any immediate impact on production. Thus the objective conditions of supply and demand, together with the maze of treaty obligations, severely restricted the scope of the British government in protecting its farmers from the crisis.

Quite apart from their relative ineffectiveness, there were other problems in regulating imports by quota. The government found the actual implementation of voluntary supply regulations fraught with difficulties. After Elliot's proposals on levy-subsidies for meat producers had been rejected in 1933, London remained committed to restricting the quantity of imports by direct methods. Foreign meat supplies were being compulsorily reduced. But the Dominions had been guaranteed unrestricted entry until July 1934; until then their co-operation in regulating their shipments was necessary. Through 1933 and 1934 efforts were made to control meat imports on a quarterly basis.¹⁷ This

involved almost continuous wrangling with the Dominions, and both the administrative burden and the costs to imperial goodwill were high.

The experience of attempting to limit meat imports helped to shape Whitehall's attitudes to butter regulation. The problem was less serious than for meat because home production was only a small proportion of UK consumption. Imports rose by 3.9 million cwt, or sixty-seven per cent, between 1927 and 1934, and the price of New Zealand imports, for example, fell from 103 shillings per cwt in 1933 to an average of 73s 3d in 1934.¹⁸ The first initiatives to deal with the price falls came from New Zealand, and involved supply restrictions. It soon became apparent that the New Zealanders were really only interested in cutting back foreign dairy supplies. Britain, wanting a good treaty with Denmark and already nervous about the deal she was to offer on bacon, was not prepared to accept the New Zealand scheme, although the Danes were induced to agree to a possible 2 to 1 ratio restriction scheme. But by mid-1933 the initiative in seeking supply cuts came from London: pressure was building up from British farmers. Already involved in the meat discussions, Whitehall was not prepared to push the matter hard. Because Danish supplies could not be cut without the Dominions reducing their shipments, the Danes had Antipodean obduracy to thank for escaping British pressure. The low prices led Elliot to suggest a levy-subsidy scheme for milk products. Walter Runciman anticipated the Danes would argue that the present duty could be applied for the subsidy. The Dominions were thought unlikely to favour a levy or be prepared, in early 1934 anyway, to restrict production: but further anticipated price falls in the spring might make them more pliable, even to the extent

¹⁷ The process is traced in Drummond, *op cit*, pp 307-17.

¹⁸ Imperial Economic Committee, *Dairy Produce Supplies in 1934*, pp 12, 17.

they would approach the UK for regulation of supplies.¹⁹ Quantitative regulation remained in the ascendant, but circumstances were compelling a search for new expedients in helping British agriculture through its problems.

Emergency assistance to the UK farmer was one thing. But how far should British agriculture be allowed to expand? In what directions should it expand? With a slowly growing population and with food consumption virtually static, the answers to these questions were clearly vital for all suppliers. Two key reports were produced in the autumn of 1934, one by the Committee on Economic Information (the Stamp Report), and the other by a powerful interdepartmental committee chaired by Leith-Ross. The production of these reports has been fully and ably analysed by J S Evers.²⁰ The gist of the reports, stated more clearly in the Stamp Report than in the Leith-Ross document, was that there was little scope for a substantial increase in British consumption of agricultural produce, that a rise in domestic production would entail a corresponding reduction in imports, and that this in turn would lead to reduced exports. Other, broader, approaches to stimulating economic activity, advocated by Keynes, were abjured by the rest of the Stamp Committee. Evers argues that Elliott was unable to challenge successfully the assumption that agricultural expansion at home must entail lower imports. Although the reports were discussed in Cabinet and at a series of meetings of the Produce Markets Supply Committee (PMS), no explicit decision was taken on the larger issues of policy. Elliott's memoranda on the possibilities and implications of agricultural expansion were

challenged by those from Runciman.²¹ But in effect Elliott lost the battle for any notable agricultural growth. While Elliott, as Evers suggests, may have contributed to this failure by poor tactical leadership and mobilization of argument, the real problem for the MAF was the formidable array of assumptions and departmental interests ranged against it. Britain's long reliance on a free trade policy, a tendency to regard agriculture as an industry much like any other industry, a tradition of cheap food for the urban population, coupled with the long period of British expansiveness overseas during which export levels had been built up and investments made — all this militated against a sudden development of agriculture at the expense either of overseas producers or of domestic consumers. High unemployment made the government all the more wary of losing markets for industrial products. The Board of Trade was the main guardian of the export interest, but received frequent assistance from the Foreign Office and Dominions Office. The Treasury was keen to safeguard overseas investments and also, when subsidies were introduced, not to make them so generous as to stimulate a large increase in subsidized output. From early 1935, therefore, although discussion did not end, a major growth in British output was ruled out, and the main thrust of policy was directed merely to propping up British agriculture.

Yet this left vital issues unresolved. The actual method of agricultural support was obviously of crucial concern to farmers, and was also likely to affect British consumers and taxpayers. Furthermore, in the conditions of the 1930s, even a policy directed largely towards stabilizing home agricultural output might incur considerable costs for overseas suppliers — much would depend on the choice of technique. One of the outcomes of the policy reviews

¹⁹ PRO, CAB 27/560 PMS(33) 3, memorandum, 7 December 1933; PMS(33) 7, memorandum, 15 December 1933; PMS(33) 8, appendix: memorandum by interdepartmental committee, 12 February 1934.

²⁰ J S Evers, 'Government Direction of Britain's Overseas Trade Policy, 1932-37', Univ Oxford unpubl DPhil thesis, 1977, pp 99-147.

²¹ PRO CAB 27/560 PMS(33) 26 and 28, 1 November 1934 and 8 January 1935.

of autumn and winter 1934-5 was the confirmation of the government in its switch to levy-subsidies as the main technique of agricultural support. Disillusion with quantitative controls stemmed from the fact that they either failed to work or, if they did work, did so at a heavy cost. The bacon restriction scheme had been educational in that respect. Here was one case where British agriculture was being expanded, and directly at the expense of foreign imports. By 1934 these had fallen from their 1932 peak of eleven million cwts to only 6.3 million cwts.²² In contrast to other meats, Danish bacon had a distinct brand image and low price elasticity, and the result was sharply rising import prices.²³ The Leith-Ross Committee was strongly against quotas, and had been influenced by the operation of the bacon quota restrictions which had been 'admittedly a failure'.²⁴ Runciman and J H Thomas both expressed the resentment felt by consumers at the increasing price of bacon, reporting that the Danes and the Dutch were selling surpluses abroad at thirty shillings per cwt below the London price.²⁵ Another major source of disillusion had been the trouble and ill-feeling generated in the regulation of meat imports from the Dominions. It was widely felt within government that the cost was too heavy and that alternatives, more acceptable to overseas suppliers, should be sought. In June 1934 Elliot had brought forward the idea of deficiency payments only because the 'political difficulties with the Dominions in regard to restriction of imports were of so grave a nature'.²⁶ It was a view shared by Chamberlain, worried about antagonizing the Dominions with

meat restrictions, and by the Foreign Office which stressed the damage caused to relations with Northern Europe and South America.²⁷

Although deficiency payments for the Milk Marketing Board had been announced in Parliament in 1934, import quotas had then been the favoured instrument of Ministers. By the summer though, for the reasons suggested above, opinion was swinging towards levy-subsidies, and on 13 June the Produce Markets Supply Committee of the Cabinet decided in principle to introduce them for beef producers.

III

If British Ministers had hoped such proposals would be more acceptable to the Dominions, they were soon to be disillusioned. Curiously, when Thomas had first suggested to the Dominion High Commissioners that in order to protect British livestock farmers additional and tougher import restrictions would be necessary, the Commissioners themselves had put forward the idea of a preferential levy.²⁸ The proposals were formally published in a White Paper in July.²⁹ They were presented in the form of alternatives and show how far Britain had travelled since Ottawa: (a) drastic restriction of imports by quantitative regulations; (b) a levy on imports of meat (apart from bacon and ham) without import regulation; (c) a levy on imports 'coupled with some degree of direct supply regulation in the interests of all suppliers'. The threat of tougher quantitative controls was essentially a device to induce the Dominions and Argentina to waive their treaty rights and agree to the levy-subsidy. But the attitude

²² Imperial Economic Committee, *Dairy Produce Supplies in 1934*, p. 46.

²³ W Beckerman, 'Some Aspects of Monopoly and Monopsony in International Trade as Illustrated by Anglo-Danish Trade, 1921-38', Univ Cambridge, unpubl PhD thesis, 1952.

²⁴ PRO T 188/101, Leith-Ross papers, memorandum by Leith-Ross to Runciman, 6 December 1934.

²⁵ PRO CAB 27/560 PMS(33), 12th meeting, 7 December 1934.

²⁶ *Ibid.*, 7th meeting, 12 June 1934.

²⁷ See *Ibid.*, PMS(33) 30, Simon to Baldwin 9 January 1935, for an emphatic account of the difficulties caused in relations with those countries, and for a demand that quotas be abandoned immediately.

²⁸ *Ibid.*, 9th meeting, 2 July 1934.

²⁹ Cmd 4651, 'The Livestock Situation', July 1934.

of the High Commissioners was a false augury of Dominion and Argentine reaction. The proposals stirred up a storm of protest.³⁰

The Australian reaction was particularly vehement. Already agriculture was severely depressed. Long term prospects were clouded by fears of stagnant or declining population in the UK. Now Britain proposed to shore up its livestock industry in ways which were directly at the expense of Australian output. These trends and actions cut right across prevailing Australasian assumptions. Australians especially had long assumed that if they could produce foodstuffs and raw materials then a grateful world would buy them. An Inter-State Commission, discussing in 1916 the tariff and employment prospects, had stated:

We need have no anxiety in regard to our export trade in those natural products for which there is an increasing world wide demand . . . Fortunately, Australia offers the possibility of unlimited expansion in agricultural, mining and pastoral industries, for the products of which the world's demand is practically unlimited.³¹

To many Australians the whole basis of national development still appeared to depend on the expansion of such production and exports; the growth of population, central to Australian national aspirations, was seen as stemming from the associated settlement. Broadly similar views were held in New Zealand.³² Neville Chamberlain thought that it was at Ottawa that the UK had first shaken 'the complacent Dominion assumption that the United Kingdom would continue to afford an unlimited market for their product, or at any rate a market in which no limit was in sight'.³³ If so the prospect of stagnating

population strongly reinforced such realizations.

The Pacific Dominions therefore felt intensely this blow to their underlying assumptions about national development. But if heavy shadows were cast over their long term future, more immediate and urgent pre-occupations sharpened their reaction. Acute balance of payments difficulties could be relieved by export expansion. Exports appeared to offer the only route out of the depression. J A Lyons, the Australian Premier, purported to believe that 'only by full restoration of our exporting industries can internal purchasing power be re-established, leading to the employment of the workless and to renewed progress'.³⁴ This explains the force of the Pacific Dominions' reaction, and their negotiating tactics. In a framework of virtually stagnant demand the main prospect for recovery and for the continuation of traditional patterns of national development appeared to be in the progressive displacement of the foreigner in the British market. Wherever it was technically possible or economically feasible Britain, they thought, should help them to achieve this by use of commercial policy.

It was in this context that the second challenge came to the post trade agreements' *status quo*. After considerable experiment, it at last became technically possible to ship chilled meat from the Pacific Dominions and to land it in the UK in a marketable state.³⁵ This transformed the prospects for Australian and New Zealand beef. Previously they had been confined to frozen beef, the demand for which was shrinking rapidly. By 1930 Australian frozen beef had been virtually eliminated from the UK retail trade and depended on institutional demand; even

³⁰ PRO, DO 35/255/9105/198. Response summarized.

³¹ Quoted by A J Reitsma, *Trade Protection in Australia*, Leiden, 1960, p 20.

³² See, for example, PRO, DO 35/317/9513/98, Telegram from Governor-General of New Zealand to Thomas, 9 July 1934.

³³ PRO, CAB 27/619 TAC(36), 8th meeting, 17 December 1936.

³⁴ CPP, 1932-4, Vol IV p 510 Quoted by C B Schedvin, *Australia and the Great Depression*, Sydney, 1970, p 317.

³⁵ See eg K Burley, *British Shipping and Australia 1920-39*, 1968, pp 85-7.

then, irregular shipments made it difficult to secure large contracts.³⁶ It is true that there remained a formidable range of problems for Australian beef producers — poor quality stock, bad grazing conditions, including sporadic droughts, and the fact that breeding and fattening were carried out on the same ranches and at considerable distance from the meat works.³⁷ But with the first wholly successful shipment of chilled beef from Australia in 1934 the prospect, at least to Australian eyes, became brighter. Instead of an unyielding market for frozen beef, offering little or no chance of expansion, there was now the opportunity to supplant Argentina as supplier of the huge British market for chilled beef.

Australian energies were turned to the twin tasks of holding off UK attempts to restrict beef imports generally, and of seeking the gradual displacement of Argentine chilled beef supplies. Given the state of Australian beef, and to a lesser extent that of New Zealand, they were only going to be able to supplant Argentina if the British could be persuaded to use their commercial armoury to improve the Australasian position.

Considerable pressure was put on the UK to secure her beef producers' problems at Argentina's expense rather than that of the Dominions. London's response to these pressures is significant: while wanting a solution to the low prices crippling British livestock producers, it did not want one that penalized foreign suppliers markedly more than imperial countries. The concessions to the Empire had been made in 1932 — after Ottawa there was extreme reluctance in London further to endanger foreign markets for the benefit of the Dominions. Consequently the Australians

considered Whitehall unduly sympathetic to Argentina. Britain was accused of favouring the Argentine because her investments there were largely in trading companies with variable returns while those in Australia were mainly in fixed-interest securities.³⁸

The Australians used a combination of threats and cajolery to secure concessions. The main threat was to play on British fears of the Australian Labour Party, which was strongly protectionist and highly critical of the Ottawa agreements, regaining power. But the Australians also offered inducements, notably some steep tariff increases on Japanese textiles, the major purpose of which seems to have been to direct trade to the UK.³⁹ This move probably encouraged London to treat the Australian beef demands more kindly.⁴⁰ But if the Australians were able to resist UK demands, the Argentines had also been recalcitrant.

It is interesting to compare the original UK proposals with the final result. At one time, in 1935, when the levy-subsidy principle was in favour, Britain wanted levies of 1½d per pound on foreign chilled beef and ¼d on imperial supplies. Various proposals were outlined for additional levies if shipments increased and prices fell further, and there were to be smaller levies on frozen beef.⁴¹ The final arrangements allowed Empire beef free entry, and charged duties of only ¾d per pound on foreign chilled beef and ⅔d on frozen supplies. In addition, there was to be a five per cent cut in foreign chilled beef ship-

³⁶ R Duncan, 'The Australian Beef Export Trade and the Origins of the Australian Meat Board', *The Australian Journal of Politics and History*, V 1959, p 192.

³⁷ R Duncan, 'The Australian Export Trade with the United Kingdom in Refrigerated Beef, 1880-1940', *Business Archives and History*, 2, 1962, especially pp 108-11.

³⁸ J Curtin speaking on Meat Export Control Bill in Australian House of Commons, quoted by UK representative, 19 November 1935. PRO, DO 35/259/9105/3/157 and DO 35/256/9105/446, Lyons to Baldwin, 17 June 1936.

³⁹ For further details and discussion of the motivation behind these measures see D F Nicholson, *Australia's Trade Relations*, Melbourne, 1955; D P Copland and C V Janes, *Australian Trade Policy — A Book of Documents 1932-1937*, Sydney, 1937; N F Hall, 'Trade Diversion — An Australian Interlude', *Economica* n s 5, 1938, pp 1-11; H Burton, 'The Trade Diversion Episode of the 'Thirties', *Australian Outlook*, 22, 1968.

⁴⁰ PRO, CAB 27/619 TAC(36), 6th meeting, 24 June 1936.

⁴¹ Eg PRO, CAB 32/126, 3rd draft of meat proposals, 6 June 1935.

ments, staged over three years, and replaceable by Empire supplies.

IV

Most significantly, the refusal of Australia and Argentina to accept London's original proposals drove the UK towards long term Exchequer-financed agricultural subsidies. The government had to assist British beef producers — but it became clear that the subsidies involved could only be paid for by a level of import duty that was totally unacceptable to Argentina and the Dominions. The obduracy of her overseas suppliers, protected by their treaty rights until 1936 and 1937 respectively, and the refusal of the UK to endanger markets and investments in these countries, created a stalemate. It was broken only by the important decision of May 1936 that the Treasury would be prepared to subsidize cattle producers on a long term basis.⁴² The immediate result was to remove pressure on UK negotiators to raise all the money from the levies; re-negotiation of the Anglo-Argentine treaty in 1936 was therefore eased. But more profoundly, Chamberlain's decision established the fundamentals of British agricultural policy between 1936 and the early 1970s.

Yet Whitehall did not abandon the levy-subsidy concept immediately. It had been the attempts to grapple with the problems of Britain's beef producers which had led to greater acceptance of levy-subsidies in mid-1934. The MAF was asked subsequently to investigate the possibilities of their wider application. One such scheme, for wheat, was in effect already operating. Some products such as oats and potatoes, imports of which supplied only a small part of total consumption, were dismissed as unsuitable. Others, such as

meat, were in theory more promising because a larger import ratio could generate funds more readily.⁴³ An inter-departmental committee further examined the practicalities of various alternative levy-subsidy schemes for meat, and this led to the adoption of the scheme as the preferred long term policy for beef,⁴⁴ the difficult and largely unsuccessful implementation of which is detailed above. The MAF was less certain about bacon, recommending a sub-committee to investigate the issues more closely. Leith-Ross summarized the considerations that influenced the ministerial sub-committee.⁴⁵ A major factor was that while foreign bacon imports had been halved prices had increased sharply. 'The restriction of supplies of foreign bacon are unpopular with the foreign countries but the increase of foreign bacon has compensated them, in monetary value: so we get the odium of restriction, without any financial benefit'. Higher prices were not only unpopular at home and difficult to defend, but British bacon producers had not experienced anything like the same price increase as the foreign supplier. The sub-committee's recommendations represented a considerable advance for the Board of Trade argument. Significantly, a two-year virtual cessation to the expansion of home production was suggested, although admittedly at a figure slightly above the estimated production of 1935, which itself represented roughly an eighty per cent advance on home output before the scheme was introduced.⁴⁶ This would allow for the 'momentum' of expansion, a reference to the higher proportion of breeding sows in the British pig population. But the sub-committee adopted a modified version of the Board of Trade's scheme which allowed for a liberalization

⁴² PRO, CAB 27/619 TAC(36), 3rd meeting, 4 May 1936.

⁴³ PRO, CAB 27/560 PMS(33) 29, memorandum, 11 January 1935.

⁴⁴ *Ibid.*, PMS(33) 35, memorandum, 1 February 1935 and PMS(33), 16th meeting, 4 February 1935.

⁴⁵ PRO, T 188/112, Leith-Ross papers, note by Leith-Ross to Runciman, 5 June 1935.

⁴⁶ PRO, CAB 27/561 PMS(33) 39, Report of Sub-Committee on Pigs and Bacon, 15 May 1935.

of foreign imports together with fairly high levies (7s 6d to 10 shillings per cwt), and kept in reserve a more restrictive MAF scheme which proposed minimally higher foreign imports, but, with price levels more easily maintained, lower levels and subsidies. The Ministry concurred, though, in the virtual standstill of bacon production for at least two years — additional output would be discouraged by distributing the subsidy only for an agreed output of 3.3 to 3.5 million cwts.

Adoption of either scheme involved the renunciation by foreign suppliers of their rights to free entry. It was hoped that the inducement of bigger quantities, together with at least a temporary stabilization of British output, would be persuasive. The implications for the price of foreign bacon could have been severe however: on the Board of Trade's plans for an increase in foreign bacon imports of over two million cwts, prices were thought likely to fall by between thirty and thirty-two shillings, and, when the levy was added, the reduction in foreign suppliers' receipts would have been nearly £2 per cwt.⁴⁷

Negotiations with the foreign suppliers were undramatic but unsuccessful. Nine countries had treaty rights to free entry for their bacon, and discussions took place with three of them, Denmark, Poland and Sweden (generally the others were prepared to follow Denmark's lead). The Danish farming community was particularly hostile to the idea of directly financing the subsidy of British bacon, but all countries objected and all agreed that there was no advantage in sending more bacon to the UK if their total receipts were to fall.⁴⁸ The Danes now gave explicit acknowledgement that market regulation brought them advantage. They also doubted the ability of the British industry

to maintain its expansion in the face of rising fodder prices.⁴⁹

Countries had again been able to use their treaty rights to ward off unwelcome developments in British agricultural policy. Although the British bacon industry wanted the scheme implemented, it was decided not to attempt re-negotiation of the treaties until future British agricultural policy as a whole was clear — a much higher price would have to be paid if there were to be two sets of negotiations, one for bacon and one later for other products, than for one comprehensive set.⁵⁰

Empire suppliers were rescued by their treaty rights from duties on butter imports. The original subsidy to the Milk Marketing Board was paid on the assumption that a levy would later provide reimbursement. But although the Dominions were guaranteed free entry only until August 1935, and by 1935 were worried about UK intentions towards their dairy supplies, they were in fact saved by guarantees that preferential margins would be maintained until the expiry of the Ottawa Agreements. Since the UK had conventionalized dairy duties in the 1933 and subsequent agreements, the Dominions could on this occasion hide behind the foreign treaties.

V

The trade agreements, both imperial and foreign, had thus been a major obstacle to the realization of plans for protecting British agriculture. This was especially true of the inability of the government to implement levy-subsidies once they had emerged as the central instrument of policy.

Yet the farming community had been promised that levy-subsidies would be

⁴⁷ *Ibid.*, Appendix to report.

⁴⁸ PRO, FO 371/20326, Ramsay to Eden, Annual Report on Denmark and Iceland for 1935, 25 March 1936, and CAB 27/620 TAC(36) 28, memorandum, 21 July 1936.

⁴⁹ PRO, FO 371/30323, A W E Randall (Chargé d'affaires) to Eden, 27 August 1936, Survey by the Commercial Secretary of the Economic and Financial Situation in Denmark, January to July 1936.

⁵⁰ PRO, CAB 27/620 TAC(36) 23, memorandum, 22 June 1936 and *ibid.*, 6th meeting, 24 June 1936.

introduced as soon as was feasible. It had been decided in principle to use them in protecting the British bacon industry. Farming organizations had made applications to the Import Duties Advisory Committee (IDAC) for new or higher duties on butter, cheese and eggs, and, in addition, a Re-organization Commission had recommended higher egg tariffs. If these duty changes were to be made, the treaties would need revision. Since the agreements with foreign countries expired in 1936, and the imperial agreements in 1937, there was an opportunity, at least in theory, to re-negotiate terms that would allow new tariff schedules.

In practice, it was clear that the MAF was going to have a battle in Whitehall to secure its objectives. The first setback for the Ministry came when Walter Elliot attempted to obtain the agreement of the Cabinet's Trade and Agriculture Committee (TAC) to denounce the treaties at the earliest practicable opportunity.⁵¹ He was overruled by opposition from the Board of Trade on the grounds that this action would give no possible additional bargaining leverage. In December 1936 a Minister of Agriculture was defeated again when he attempted to preserve maximum freedom of manoeuvre in the formulation of policy. The issue revolved around a proposed new Anglo-Canadian agreement, negotiated on Canadian initiative before the expiry of the original Ottawa treaty. When in opposition MacKenzie King, a strong opponent of the Ottawa agreement, had announced his intention of revising it if he returned to power. The negotiations with Canada had been difficult, partly because of constitutional objections in the Dominion, and partly because Canadian demands for their bacon and beef conflicted with Britain's desire to limit supplies.⁵² Elliot's successor, W S Morrison, worried that the principle of free

entry for Dominion produce was becoming crystallized, argued powerfully for the insertion of a clause in the treaty specifically reserving British powers to impose duties.⁵³ While he was successful in obtaining the Committee's agreement that free entry was not a Dominion right, he failed to persuade them that a clause should be added to the impending agreement. Insistence on such a clause was thought likely to jeopardize the treaty, still uncertain of acceptance by Canada, and undermine C A Dunning's support for it.

Apart from the re-negotiation of the treaty with Argentina, 1936 had passed without denunciation of the foreign trade agreements, all of which expired that year. It was still accepted, albeit reluctantly by the Board of Trade and Foreign Office, that the European trade treaties would have to be revised as soon as agricultural policy was settled. These departments had been successful in insisting that there should be only one set of negotiations, and that the new bacon scheme would have to wait until other aspects of agricultural policy had been decided. However, in 1937, the bacon contract arrangements in the UK broke down. This induced the MAF to bring forward a modified scheme. The original arrangements had failed largely because rising feed prices had pressed against bacon prices, squeezing the profit margins of the curers.⁵⁴ The Ministry evolved a complicated scheme whereby all bacon suppliers (home, Dominion and foreign) would pay a levy of up to 2s 6d per cwt to be distributed to pig producers and/or curers according to the behaviour of feed costs and bacon prices. These proposals first came before the TAC where they were widely attacked.⁵⁵ The Cabinet then decided to create a separate body, the

⁵¹ *Ibid.*, TAC(36), 6th meeting, 24 June 1936.

⁵² Drummond, *op cit*, pp 378-85.

⁵³ PRO, CAB 27/620 TAC(36) 32, memorandum, 1 Dec 1936.

⁵⁴ E S Wherham, *op cit*, pp 248-9.

⁵⁵ PRO, CAB 27/620 TAC(36) 43 and CAB 27/632 AP (37) 4, memoranda by Minister of Agriculture on 'The United Kingdom Bacon Industry', 24 May and 6 July 1937; CAB 27/619 TAC(36), 13th meeting, 23 June 1937.

Agricultural Policy Committee (APC), to consider the complex issues affecting the bacon and milk industries. The long-term milk policy advocated by the MAF aimed at cleaning up the herds and taking other measures to improve the quality and safety of milk, using Exchequer-financed bounties as an inducement to farmers. The 1934 Milk Marketing Act had aimed at achieving this and had made provision for government loans which it was hoped later to repay when prices rose. Now discussion centred around how long a subsidy should be paid, and whether it should be financed by a levy on milk product imports. A levy might well be imposed on Dominion supplies as well as involving higher duties on foreign imports. As with the bacon plan, it was the likely impact of these proposals on the Dominions that appeared uppermost in the minds of the Secretary of State for the Dominions and the President of the Board of Trade.⁵⁶ Dairy levies would have hit the Antipodean Dominions hard, falling with particular severity on the New Zealanders. The treaty with Canada, signed in February 1937, had included a three-year guarantee of free entry for her bacon. It was unthinkable to approach the Canadians for the cancellation of this treaty article. The introduction of low duties on European bacon might have been negotiable without great cost, but if levies on domestic and imperial producers were ruled out, and if the scheme was to be self-financing, a duty of between 5 shillings and 7s 6d per cwt was needed on foreign imports. The President of the Board of Trade warned that the price of re-negotiation on these terms would be paid by British exporters of coal, cottons, woollens and herrings.

Unwilling to introduce bacon duties or raise those on butter and cheese imports, yet under pressure to assist domestic industry, the government was driven

inexorably but reluctantly to Exchequer-financed subsidies. In practice, therefore, Whitehall was moving away from levy-subsidies, but had still not abandoned them in principle. Issues came to a head with the publication of the milk proposals in a White Paper published on 29 July 1937.⁵⁷ The government's difficulties were aggravated by the need to announce before Parliament's summer recess that they were accepting IDAC's recommendations against new duties on imported butter and cheese. This, together with an expected IDAC decision against higher egg and poultry duties, had been discussed anxiously in an Agricultural Policy Committee meeting on 26 July.⁵⁸ Ministers clearly thought that the rejection of applications for higher duties would be unpalatable to farmers, but that the milk plans would prove more welcome. They were correct on the first count, wrong on the second. Publication of the White Paper raised a storm of protest. The National Farmer's Union (NFU) promptly denounced the scheme, and during the summer county branches expressed widespread opposition.⁵⁹ The NFU meeting on 16 September, registered

the strongest protest against the indefensible departure of the Government from its previously declared policy, the promised introduction of which induced the overwhelming majority of the producers to give their support to the Milk Marketing Scheme: in view of the intense dissatisfaction evinced by the county branches it recommended the council to call for the immediate withdrawal of the White Paper policy and the introduction in its place of the Levy-Subsidy policy announced by the then Minister of Agriculture in July 1935.⁶⁰

Two aspects of the White Paper particularly upset the dairy farmers: one was the absence of any levy, the other that the

⁵⁶ PRO, CAB 27/632 AP(37), 2nd meeting, 19 July 1937.

⁵⁷ Cmd 5533: 'Milk Policy'.

⁵⁸ PRO, CAB 27/632 AP(37), 3rd meeting, 26 July 1937.

⁵⁹ *The Times*, 31 July 1937. For instance, the policy was denounced as 'a betrayal of promises' by the Dorset Farmers Union, which planned to send an emphatic protest to the Government, *ibid.*, 13 August 1937.

⁶⁰ *Ibid.*, 17 September 1937.

Exchequer subsidies were to be only temporary. Behind this, however, lay a suspicion among farmers that the government's avowed policy of putting the domestic producer first was being abandoned, and that home output was being restricted in favour of overseas competitors. Agriculture, the agriculturalists argued, was being treated far less favourably than industry: not only did farmers have to pay for industrial inputs the prices of which might well be artificially inflated by import duties, but industry's protection, unlike that of major sectors of agriculture, was permanent.

Faced with the danger of serious political agitation developing in the rural constituencies, with the establishment by farmers of a political fund to fight for effective tariff protection, and with the prospect of angry deputations, the Prime Minister and Minister of Agriculture set up an inter-departmental committee under the chairmanship of Sir Horace Wilson to consider the whole issue of levy-subsidies. The committee was to investigate what attitude to take to the demands for levy-subsidies, and, if it was decided to abandon them, what line to take to meet the farmers' case. It was hoped that in the process they would provide some ammunition for MPs besieged by agricultural constituents.

The committee's report listed the advantages and disadvantages of levy-subsidies, and, in the event of the Cabinet choosing to reject them, outlined some other ways of tackling the milk crisis.⁶¹ The report, submitted to the Cabinet, was referred back to the APC for immediate consideration.⁶² The debate in the committee repeated many of the Wilson report's arguments, and, indeed, with few changes in the script, rehearsed again many of those heard in the 1936 and 1937 meetings of the

Trade and Agriculture Committee.⁶³ A number of reasons were advanced for dropping the levy-subsidy plans. First, the cost of living was rising, so any measure likely to exacerbate this should be avoided. Secondly, the Treasury objected in principle to assigned revenues.

However, it was probably the third set of considerations that was decisive in the rejection of levy-subsidies, and this was the impact on overseas suppliers. Duties on milk products were likely to fall with particular severity on New Zealand, nearly forty per cent of whose exports would be affected. Amongst the Dominions this amounted to virtual discrimination against New Zealand products, and was made worse because government marketing of dairy supplies meant that the levy was paid, in effect, from the New Zealand Treasury. The timing could hardly have been worse. A Labour government had been elected in 1935 at least in part because of the failure of earlier administrations to solve the crisis of the dairy farmers.⁶⁴ It had reflatated the economy, introduced exchange controls, and was about to launch an accelerated programme of industrialization. This threatened British exports. Walter Nash, the Finance Minister, had been in London for much of 1936 and 1937 attempting to secure the British government's acceptance of a bilateral clearing scheme. The proposals were both impracticable, and, to Whitehall, unwelcome, but Nash had pursued them with great tenacity.⁶⁵ In the wake of refusing the Nash proposals, the introduction of levy-subsidies on dairy products would have made the renewal of the New Zealand trade agreement all but impossible, and British exports to New Zealand would have been endangered. Exports to Australia and Canada were also at risk. In each

⁶¹ PRO, CAB 24/272 CP 268(37), memorandum by an interdepartmental Committee of Officials, 5 November 1937.

⁶² PRO, CAB 23/90 41(37) 9, 10 November 1937.

⁶³ PRO, CAB 27/632 AP(37), 4th meeting, 11 November 1937.

⁶⁴ K Sinclair, *A History of New Zealand*, 1969, pp 267-9.

⁶⁵ Drummond, *op cit*, pp 358-61.

case, therefore, commercial issues were involved. But there was another vital aspect of imperial relations influencing British action. This was the planned Anglo-American trade negotiations. If the negotiations were to have any hope of success, meeting American demands would mean the Dominions surrendering preferences in the British market without receiving any tangible reciprocal benefit. Australian-American relations were strained, and any benefits to the Dominions from an Anglo-American accord looked remote. Indeed, because of likely adverse public opinion in the Dominion, Britain had to wait until after the Australian elections of November 1937 before making formal overtures to the United States.⁶⁶

Hardly less important was the likely impact on European countries. After all, if it had been merely a question of avoiding trouble with the Dominions, additional levies could have been raised from foreign suppliers. The Wilson Committee report did not elaborate on the political implications of levies on Northern Europe, but contented itself with a reference to the Foreign Secretary's memorandum to the TAC.⁶⁷ The Board of Trade was worried about the dangers of pushing the Baltic States into the arms of Germany,⁶⁸ although its officials later dissuaded the Foreign Office from circulating another memorandum to the TAC. This had said:

The political importance of these agreements consists in the part they play in maintaining the influence of the United Kingdom against rival influences, mainly that of Germany, potentially perhaps that of the USSR. As neutrals or even as allies in a European war, the friendly attitude of the Scandinavian and Baltic States could be of the highest importance.⁶⁹

The immediate dangers to British

exports were at least equally important in governmental thinking. The Wilson committee had emphasized how valuable the trade agreements had been in boosting UK exports and stated that it hardly seemed worthwhile hazarding an export trade of over £80 million for the sake of raising £1 million on imports of dairy produce. Oliver Stanley, Runciman's successor at the Board of Trade, stressed that in the context of trade relations levy-subsidies were the most onerous form of agricultural protection. Overseas suppliers, both foreign and Dominion, objected with particular vehemence to a system which forced them to subsidize directly their British competitor. He asserted that a heavy price would have to be paid in the trade agreements. This was all the more likely, the Wilson report suggested, because Britain's bargaining position was no longer so strong as it had been in 1933.

The APC therefore recommended the Cabinet to abandon the levy-subsidy principle for meat, bacon, milk and dairy products. This the Cabinet agreed.⁷⁰ Stanley was keen to use this decision in trade negotiations, but the Cabinet also wanted to retain the right to impose quantitative regulation of imports in case of emergency. The precise wording of this reservation of powers, left to Stanley and Morrison to draft, occasioned difficulty. Eventually, with Chamberlain's assistance, a compromise was reached.⁷¹ The Board of Trade had wished to retain existing powers, linked to internal marketing schemes, rather than upset overseas suppliers by taking on additional powers. The Minister of Agriculture, conscious perhaps of the failure in 1936 to introduce quantitative restrictions of egg imports, wanted a less circumscribed commitment. It was clear, however, that the powers to limit imports by quantitative regulation were simply for

⁶⁶ M Ruth Megaw, 'Australia and the Anglo-American Trade Agreement of 1938', *Journal of Imperial and Commonwealth History*, 3, 1975, pp 191-211.

⁶⁷ PRO, CAB 27/620 TAC(36) 29, 20 July 1936.

⁶⁸ *Ibid.*, TAC(36) 23, memorandum by Runciman, 25 June 1936.

⁶⁹ PRO, BT 11/735, draft memorandum, enclosed in Ashron Gwatkin to Brown, 4 January 1937.

⁷⁰ PRO, CAB 24/272 CP 275(37), 12 November 1937; CAB 23/90 42(37), 17 November 1937. The Cabinet later recognized that eggs and poultry were also in this category.

⁷¹ PRO, CAB 23/90 44(37), 24 November 1937.

crisis conditions: they were no longer envisaged as being part of the regular system of import control.⁷²

By the end of 1937, therefore, the UK government had accepted the principle of Exchequer-subsidized agriculture. It appears as an inevitable consequence of the obligations that London had entered into in the trade agreements of 1932 and 1933. If major sectors of British agriculture were to be preserved, and the increasingly effective agricultural lobby was to be appeased, protection was necessary. Quotas had been disastrous, either because they raised prices unacceptably to consumers, or because they involved constant wrangling with suppliers, above all suppliers in the Dominions. Moderate duties on foreign products were possible, but particularly if combined with Dominion free entry, generally did not provide adequate protection. Duties on imperial produce, if the preferential margins were to be maintained, meant high tariffs on foreign imports — this might have raised consumer prices to politically unacceptable levels at a time when prices were rising again and been very harmful to overseas relations. Levy-subsidies looked as though they might provide a way out, but the reaction of foreign and Dominion countries was hostile. The political and economic cost was simply too great. The maintenance of the trade agreements in the late 1930s was regarded in Whitehall as essential: the abandonment of the levy-subsidy plans was the price.

VI

In the 1930s government agricultural policy was revolutionized, and British farmers were protected for the first time in nearly a century. Protection appears to have had some success in limiting imports.

⁷² This does not mean that the British government abandoned all attempts to limit supplies. The International Beef Conference, set up in 1937, operated under instructions which included the stipulation that total beef imports were not to exceed 'recent' levels.

After increasing in the first two years of the decade, they fell in volume by twelve per cent between 1931 and 1935. (The measure of trade diversion is remarkable, for within this total foreign supplies slumped by thirty-two per cent while those from the Empire increased by forty-two per cent.) Moreover, UK agricultural output is estimated to have expanded by seventeen per cent between 1930-1 and 1936-7.⁷³ Yet the whole policy was circumscribed by the need to preserve the interests of Britain as an industrial nation. In the new protectionist era, agriculture continued to be subordinated to industry. The government was wary of taking measures which raised prices too overtly. Because of the need to maximize exports, a major expansion of UK agriculture was rejected. Similar objectives lay behind the trade agreements programme, conducted almost wholly with primary producers. These treaties determined the way in which Whitehall eventually resolved the dilemma of reconciling assistance to farmers with maintaining industrial exports and low food prices.

In general, this solution was helpful to British economic recovery in the 1930s. The collapse of food and raw material prices between 1929 and 1933, by contributing to rising real incomes for the employed, was of central importance to the revival of the UK economy. A policy of insulating British domestic agriculture by forcing up the price of imported food could have stifled industrial expansion. As it was, the devaluation of sterling should have raised import prices, but was largely nullified by the currency depreciation of most of Britain's suppliers. The small size of the agricultural sector (it employed only 6.4 per cent of the workforce in 1931) meant that it was easier to avoid a highly protectionist farm policy. Farmers had less political muscle than their counterparts in Continental Europe, and their comparatively small numbers made it possible to find a

⁷³ Whetham, *op cit*, p 315.

solution to their problems without imposing heavy burdens on the rest of the community.

Such a relatively costless outcome was by no means certain in 1932-3. More restrictive policies would not only have undermined expansion of the domestic economy but might have threatened treaty-making prospects as well. At Ottawa the demands of British agriculture placed no serious restraint on the ability of the UK ministerial team to conclude trade agreements. Ministers were inhibited in meeting Dominion demands more by consideration of their impact on the cost of living or on foreign suppliers than on UK agricultural output. But by the time it came to negotiate with the Scandinavians and Argentina the Minister of Agriculture was presenting his case more effectively, and it played a prominent part in the discussions. Nonetheless it is doubtful whether agricultural protection seriously affected the value of the agreements that Britain was able to make with foreign countries. Imperial trade diversion did hurt foreign competitors, but it was only in the case of bacon and egg production that UK agriculture threatened total imports from Northern Europe. Moreover, it was not the attractiveness of the offers that Britain could make to her trade partners that was the crucial determinant of the outcome of the negotiations, but the capacity to threaten or blackmail them. Denmark, along with Argentina, was the principal victim of imperial preference and protection, but yielded probably the most valuable of the agreements.

Therefore British agricultural policy, although both complicating the trade negotiations, especially with foreign suppliers, and dictating the actual terms of the agreements, did not seriously reduce Britain's bargaining leverage. More important was the likely effect of agricultural protection on UK economic recovery as a whole. Here the fondness of the MAF for

quota restrictions on imports could have raised the price of food to British consumers and have slowed the pace of recovery. This should not be exaggerated because it was not until mid-1932 that the Ministry started to press for such measures, and by then the fall in import prices had already made a major contribution to rising real incomes. But that quotas could raise prices was shown by the effect of the bacon scheme, and the widespread and harsh application of such measures would almost certainly have restrained the continued revival of the British economy. That they were not generally adopted was in large measure a consequence of the terms and operation of the various trade treaties. Either the stipulation of the pacts prevented Britain from applying quotas, or the experience of attempting to operate quotas was shown to be costly to consumers and to relations with the supplying countries. From early 1935 any major expansion of UK agricultural output had been ruled out, but farmers had still to be protected. As an alternative to quotas, levy-subsidies were given serious consideration. At least the British consumer would not have borne the burden, but overseas suppliers would have done so instead. But they made clear their hostility, and used their treaty rights to delay the introduction of levy-subsidies. London, considering the maintenance of the trade agreements as essential, paid the price for this in abandoning levy-subsidies. So, faced with apparently incompatible objectives — the need to assist British farmers, to keep living costs low and to preserve valuable export markets — Whitehall was driven to Exchequer-financed subsidies. The ultimate form of agricultural protection was thus shaped by the agreements. They helped ensure that low price policies prevailed, that consumption was encouraged, and that British farmers were maintained in a way that inflicted minimum damage to exports.

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Notes on Contributors

IR J BIELEMAN is a member of staff of the Department of Rural History of the Agricultural University at Wageningen in the Netherlands. Since 1979 he has been doing research on the agricultural history of the province of Drenthe from 1600 onwards. Besides his work on his thesis, which is yet to be completed, he has recently published two chapters on the subject in a handbook on the history of Drenthe, edited by J Heringa, *Geschiedenis van Drenthe* (Meppel, 1985).

DR W THWAITES completed her doctorate at Birmingham University in 1980 on 'The Marketing of Agricultural Produce in Eighteenth-Century Oxfordshire'. She is currently living at Greetham, Oakham, Leicestershire, and working on talks on famine and the third world.

DR CHARLES W J WITHERS is a lecturer in geography at the College of St Paul and St Mary, Cheltenham. He is currently working on a book about the cultural transformation of the Scottish Highlands, and on the agricultural manuscripts of James Hutton. His publications include *Gaelic in Scotland 1698 to 1981: the geographical history of a language* (Edinburgh, 1984), and numerous articles on the historical geography of Scotland. In 1986, as a research fellow in Edinburgh University's project on the Scottish Enlightenment, he is to research the social and scientific context to the development of eighteenth-century agriculture in Scotland.

DR J E ARCHER read history and politics at Swansea University, and received his PhD from the University of East Anglia in 1982. He has been a lecturer in modern history at Edge Hill College of Higher Education, Ormskirk, Lancashire, since 1979. His thesis was on rural protest in East Anglia, 1830-70, and recent funding from the British Academy has enabled him to extend his research to include the period 1815-30. He is currently working on a book which will concentrate on acts of covert individual forms of protest, especially rural incendiarism.

DR P K HALL is a Senior Lecturer in Economic History at the University of Sydney. His interests include agriculture and economic development in Japan, Mexico, and mainland Tanzania during the nineteenth and twentieth centuries. Among his recent publications are: 'Avance del transnacionalismo japonés y America Latina', *Foro Internacional* (Mexico) XXIII, 3 (Enero-Marzo 1983); and 'Japan's Farm Sector, 1920-40: a Need for Reassessment', *Agricultural History*, LVIII, 4 (1984).

DR TIM ROTH is a Senior Lecturer in Economic History at Portsmouth Polytechnic, where he has been teaching since 1967. His main research work has been on British commercial policy in the 1930s, focusing particularly on relations with overseas primary producers, and he has published a number of articles in this area. Currently he is working on a study of the adoption of protection by the United Kingdom in 1931/2.

Book Reviews

DAVID RINDOS, *The Origins of Agriculture — An Evolutionary Perspective*. Academic Press, 1984. 325 pp. £26.

The title of this book is misleading to the British reader. One expects it to show how the theory of evolution as understood by the biologist can be used to explain to the archaeologist and agricultural historian how the domestication of livestock came about. Yet it turns out that this book is entirely about plant domestication (for which we prefer the term 'cultivation') just as the term 'agriculture' is not strictly confined to plants.

The preface tends to confuse rather than clarify since the author nowhere defines his terms, but 'throws' us by stating that the origins of agriculture have been traditionally studied by social scientists. He points out that natural scientists, too, (he and I) have studied the problem, and states his aim as being 'to demonstrate that domestication [of plants] and the origin of agricultural systems [excluding livestock] [words in brackets added by me] are best understood by attempting to explicate the evolutionary forces that affected the development of domesticates and agricultural systems'.

Chapter 1 covers Agriculture, Evolution, and Paradigms. On page 1 Rindos reminds us that Darwin based his theory on studies of 'domesticated animals and cultivated plants' [Darwin's words], and the author stresses the unconscious nature of the domestication process, and of the first selective breeding. He gives lengthy quotations from such authors as Darwin, and discusses such topics as cultural evolution and cultural ecology.

Chapter 2, 'Darwinism and Culture', is an excellent scientific review of the literature since Darwin. He stresses that evolution takes place through natural selection of existing variation, and presents the case that cultural change is the result of a natural evolutionary process. Rindos shows that 'socio-biologists' have confused cultural variation with genetic change.

Chapter 3, 'The Naturalness of the Human-Plant Relationship', is central to the author's treatment, and the easiest to understand. The author demonstrates that it is 100 years since the idea was first put forward that population pressure forced man into agriculture, and that the history of cultivated plants could be understood only by combining the views of the botanist, archaeologist, historian, and linguist. He goes on to quote Vavilov's idea of primary domestication (the species brought into cultivation) and secondary domestication (of the weeds present in field crops). The fibre-producing plant hemp was regarded as a weed becoming cultivated by accident.

Rindos stresses that people could not *intentionally*

domesticate a crop, but that they must have *favoured* individual plants that were most useful, and so the author demonstrates the distinction between selection (the means) and evolution (the result). Here he begins to push back the origins of plant domestication into the realms of primate diet preferences.

'The Evolution of Domestication' (evolution since domestication) is discussed in Chapter 4 under the headings of 'incidental', 'specialised' and 'agricultural' evolution in an ecological setting, and Rindos shows that through changing selection pressures a new taxonomy has arisen.

In Chapter 5 on 'Feeding Behaviour and Changes in Diet' he claims that if we forget 'man the hunter' and think of him as a vegetarian primate we might see the beginnings of domestication 50,000 years ago. He uses complicated mathematical formulae to prepare graphic models of the changes taking place, and shows how the apparently sudden appearance of agriculture can be explained by the acceleration of a change that had been going on for a long time. But as a non-mathematical biologist I find it disconcerting that the author cannot also explain his ideas verbally—I am not aware that Darwin resorted to mathematics to explain his elegant yet simple theory.

The author resorts to more mathematics in Chapter 6 to discuss 'Instability, Cultural Fecundity, and Dispersals' by proposing a model for the spread of agricultural systems that directly relates the evolutionary tendencies of man-plant interaction to the dispersal of domestication and agriculture as modes of human subsistence.

The chapter includes a section on domestication and demography and ends with a section on implications, which acts as an epilogue. Readers of this journal will be well aware that one aim of history is to prevent us from repeating the mistakes of the past. Rindos points out that continued breeding of improved crops, and the development of more efficient systems to guard against food shortages, has made us very vulnerable to famine by encouraging the reliance on fewer and fewer plant species (he claims only 20) in which improved varieties are often more susceptible to pests and diseases. He praises the much belated attention now given to the conservation of genetic resources, and says that new methods will be required to counteract instabilities in agricultural production.

The book is altogether a *tour de force* dealing with the subject in its most specialized form, so that chapter summaries would have been helpful in following the arguments. It is a pity that animals were omitted since similar principles apply to them and most agricultural systems include livestock. There is a full bibliography, and a moderately good index.

M L RYDER

J M FRAYN, *Sheep-Rearing and the Wool Trade in Italy during the Roman Period*. ARCA Classical and Medieval Texts, Papers and Monographs 15, 1984. x + 208pp. 13 maps and line drawings. 8 plates. £20.

A modern history of the development of agriculture and farming in Roman Italy has not yet been written. At first sight this may cause surprise; for the evidence seems as rich and varied as for any major aspect of the classical world. The works of the agricultural writers from Cato in the second century BC to the Byzantine collection, the *Geoponika*, when combined with the treaties of the Roman land-surveyors, form perhaps the largest surviving body of technical literature from the classical period after the corpus of medical writers. Developments and disturbances in the countryside are noted intermittently by the ancient historians. Inscriptions and the law codes contain much material, as yet under exploited, on the organization of estates and the trade in agricultural produce. Mosaics, paintings and sculpture can add vivid details. At long last archaeology in Italy has turned its attention from the riches of the urban centres to investigations of the buildings of the countryside and to surveys of the agrarian economy of regions over a long historical period. So evidence galore; but appearance deceives. As Joan Frayn realized in her earlier book, *Subsistence Farming in Roman Italy* (Fontwell 1979), the various categories of evidence on close analysis prove to be extremely difficult to handle and major gaps become clear. For sheep the agricultural writers have quite an amount of information; but it is limited in scope, because it is concerned almost exclusively with the keeping of animals on a mixed farm. Apart from isolated passages in Varro and Columella, these authors betray very little knowledge of transhumance or of the techniques of open grazing. That point is well made by Frayn, although even she overestimates the amount of information in these writers which is derived from autopsy. No one can make a fair estimate of the value of the Roman agronomists without realizing that a very high percentage of their information is cribbed from earlier writers. Modern archaeology prides itself on its ability to extract information from bones and other faunal remains; but Frayn offers a justified caveat about the injudicious inferences of some excavators of farm sites. Where there was a trade in sheep for meat, the animals may have been moved to urban consumers on the hoof or as whole carcasses. In any case the Roman predilection was for lamb and many young animals would be roasted whole; few of their bones would reveal evidence of butchering. Archaeology is also of very limited use in revealing the pattern of life of the shepherd, because the cabins and other temporary shelters constructed for the shepherds on their summer pastures are by their very nature likely to be elusive.

It is Frayn's sensitivity to the nature of the evidence

which marks this book out as an excellent contribution to the subject. Cautious and wary of the unwarranted generalization, she is yet alert to the range of possible interpretations of inadequate sources. Her overall approach is to construct a possible model of the contribution of sheep-rearing to the agrarian economy of Roman Italy by using both the ancient evidence and comparative material. The specific sources are then assessed against this background.

Transhumance was a fundamental feature of sheep-farming in South Italy. Frayn confirms the conclusions of E Gabba and M Pasquinucci, *Strutture agrarie e allevamento transumante nell'Italia romana* (Pisa 1979) that this form of farming is a response in these regions to particular climatic conditions rather than to political events or social change. Further, the need for large areas of summer and winter pasturage, for drove roads and food *en route* created social tensions in the region between pastoralists and arable farmer. Such quarrels lie behind the proud statement of an unknown praetor: 'I was the first to make the shepherds give way to the arable farmers on the publicland' (*CIL* X, 6950). These antagonisms can be illustrated in another way. Shepherds were distinctive in dress, speech and custom and were viewed with suspicion by others. Out on the high hills the slave shepherd was free from supervision, could plot revolt with others or indulge in banditry. The descent from 'pastor' (shepherd) to 'venator' (hunter) then to 'latro' (robber) (*Livy Ep.* 52) was viewed by some as natural and inevitable. So in the Late Empire men of low status in the major pasturage areas were forbidden to keep horses in an attempt to stamp out robberies. The Saepinum inscription (*CIL* X, 2438), which has aroused renewed interest recently, illustrates how jittery officials were all too ready to believe that the shepherds moving large flocks through their district were runaway slaves and robbers. Shepherds, as Frayn points out, were a social anomaly.

From the same background of social tension come most of the references to 'latifundia' or ranches, which have so obsessed modern commentators. Doubtlessly there was raising of sheep and cattle on a large scale in some areas. But the assumption that such ranches were damaging to the agrarian economy rests largely on moralizing literature about excessive wealth and on the complaints of arable farmers who sought access to areas reserved for pasturage. Frayn is right not to take this evidence too seriously.

In some ways the most important chapters in this book are those on the wool trade. The marketing of agricultural and farm produce has been extraordinarily neglected. Yet it was the growth of urban markets which gave the main impetus to the extension of sheep-farming in Roman Italy. We need to understand the mechanisms by which woollen goods reached the consumer. In this the central problem is that inscriptions reveal a startlingly large list of apparently

independent specialists: fullers, carders, dyers, cloak-makers, even comb-menders. Who provided the capital and through how many hands did ownership of a fleece pass before it reached the retail market? I do not agree with all of Frayn's rather complex conclusions; but to tackle the problem at all is to break new ground in a vital area of the ancient economy.

Frayn describes her work as 'a full summary' of current information on sheep-farming. While there is discussion of breeding (the Romans were largely concerned with the quality of the wool), cheese-making and many other topics, the main omission is an investigation of the status of shepherds and those involved in the wool-trade. To this excellent synthesis Frayn has added many perceptive comments. However, it is her methodology and approach to explaining an important aspect of classical farming that deserves praise and approval and in some respects should become a model for future work.

JEREMY PATERSON

A FENTON and G STELL (Eds), *Loads and Roads in Scotland and Beyond*. John Donald, Edinburgh, 1984. vii + 144. 1 map; 64 Figs. £8.50.

The rather generalized title of this volume proves to be quite an appropriate description of the contents of the seven essays which it contains. The content, apart from a few escapees south of the border and to other parts, is predominantly concerned with Scotland, with roads — manmade, artificial routeways and not just tracks beaten out by frequency of use — and their specialised format of bridging across water; and with the provision, by both wheeled and wheel-less vehicles, for the movement of goods.

One or two general principles are adumbrated in the text — thus, Coles, 'the character and extent of a country's roads provide a mirror of its organisation' (p1); and Barrow, 'again and again in the charters of the twelfth and thirteenth centuries we can pick up stretches of this major traffic route in contexts which make it most improbable that the clerks had in mind no more than a rude and fluctuating track' (p52). However, not a lot of more general interest is built upon these sorts of observations. The primary emphasis is on the physical geography — the archaeological, documentary and map evidence of the pre-history and pre-modern periods for the existence of tracks and roads, down to the detailed physiography of the old bridge at Bridge of Earn, finally dismantled in 1976. Although that is the most specialized piece of writing by far, much of the rest is in a similar, if less narrow mould. The book will be of interest, therefore, to a fairly specialized audience. The more general historian, interested in matters of agricultural or transport history will, nonetheless, note a number of

points on which to ponder. These include Coles' description of the prehistoric wooded trackways across the Somerset levels, and their possible implications. Barrow's chapter on the road network of medieval Scotland will also provoke wider thoughts, not least because, by reference to military and economic usage, it repeats for Scotland the argument made for other places that the sparseness and inadequacy of pre-eighteenth century road transport has been much exaggerated. Moreover, Barrow's general argument is reinforced by some of the data in Ruddock's study of roads and bridges which shows that from the early 1700s bridge renewals were increasingly constructed of a width to accommodate wheeled traffic, yet another sign of an expanding economy producing greater quantities of traffic.

GERARD TURNBULL

JOAN THIRSK, *The Rural Economy of England: Collected Essays*. The Hambledon Press, 1984. xiv + 420 pp. £22.

It is probably true to say that our view of the rural economy of early modern England owes more to the writings of Dr Joan Thirsk than it does to any other historian. The twenty-one papers collected in this volume comprise the bulk of her published papers, so apart from the occasional new footnote (referring only to work by Dr Thirsk) and a few 'postscripts', there is nothing new here save for a six-page preface reflecting on the 'wayward paths of historical research'. Serious students of the rural economy of early modern England will be familiar with most if not all these papers but it is nevertheless a treat to have them gathered from rather scattered sources and bound together. For they constitute a masterly contribution to historical scholarship which are still essential reading for new students and equally deserving of a re-reading by those who have encountered them already.

Unfortunately the book does not provide much bibliographic help to guide new students to more recent relevant material. The short postscripts are inconsistent. Sometimes they refer to key books and articles published since the reprinted article was first published, but in other cases the postscript is confined to tidying up matters of detail rather than of substance. Other papers have no postscript at all, leaving some statements, which, with the passage of time, are incorrect. Inventories of the Prerogative Court of Canterbury for example, are no longer 'not available for inspection' (p.7). While the book is generally well produced there are a number of misprints. One (p.202) has John Houghton publishing his *Collections* in 1649.

As Dr Thirsk points out in one of her early papers ('the content and sources of English agrarian history after 1500') English agrarian history flourished after

1945 in conjunction with local history. This close collaboration ensured that the national generalizations of a previous generation of historians were replaced by an awareness of the 'kaleidoscope of regional specialities and of processes of economic change'. Thus after two papers of a more conventional sort (on 'The sales of Royalist land during the interregnum' and 'The restoration land settlement') Dr Thirsk's attention turned to studies that were explicitly regional in their approach; 'The Isle of Axholme before Vermuyden' and 'Farming in Kesteven' published in the 1950s and 'Horn and thorn in Staffordshire: the economy of a pastoral county', published in 1969. Differences in the pattern of rural industrialization and the linkages between agriculture and industry are developed in 'Industries in the countryside', and the processes of economic and social change, often exemplified through the entrepreneurial initiatives of particular individuals, are explored in 'seventeenth century agriculture and social change' and more specifically in a trio of papers; 'The fantastical folly of fashion: the English stocking knitting industry, 1500-1700'; 'New crops and their diffusion: tobacco growing in seventeenth century England'; and 'Projects for gentlemen, jobs for the poor: mutual aid in the Vale of Tewkesbury, 1600-1630'.

The great danger of local history is that it degenerates into antiquarianism so that every scrap of information about the past is accorded equal meaning provided that it refers to a particular locality. The significance of Dr Thirsk's work is that description of local detail is not an end in itself but used to illuminate what is in effect a general model of the local and regional structure of the economy and society of early modern England. Farming practice, domestic industry, inheritance customs, religion, and politics are woven into a sophisticated framework within which local studies can be situated. Almost all the chapters in the book provide some generalizations which contribute something to this framework but unfortunately no single paper gives a comprehensive description of it.

As Dr Thirsk points out 'the work of one generation serves as an outline, awaiting improvement by the next', but it is testimony to the strength of her arguments that the general model has not been challenged. Although many of the original ideas within it have been incorporated into notions of 'protoindustrialization', her model awaits thorough critical evaluation and development.

The second major theme in Dr Thirsk's work is concerned with the origins of English field systems. 'The common fields' is one of the most important of a series of attempts stretching back to H L Gray to penetrate the enigmas of field systems, and is reprinted here along with 'The origins of the common fields' (which is the reply to Dr Titow's comments on the

original article) and an earlier discussion of 'Tudor enclosures'. This work once again illustrates Dr Thirsk's skill in combining the general and the particular, and in this case the general principles of the model are clearly delineated. Despite Titow's comments and the recent book edited by T Rowley, the general arguments of the 'Thirsk model' are still widely accepted.

The remaining seven papers in the volume cover a miscellany of topics but illustrate a concern for historical sources ('Sources of information on population 1500-1760'); for general surveys of research themes and the origination of new research directions ('Unexplored sources in local records', 'The family', 'The European debate on customs of inheritance 1500-1700', and 'Younger sons in the seventeenth century'); agricultural history ('Horses in early modern England'); and local history ('Stamford in the sixteenth and seventeenth centuries'). It is remarkable that there is no real dud amongst the twenty-one papers: all have something of significance to say. The message common to them all is the variety and vitality of the rural economy of sixteenth- and seventeenth-century England.

MARK OVERTON

P D A HARVEY (ed), *The Peasant Land Market in Medieval England*. Clarendon Press, Oxford, 1984. xvi + 375 pp. £28.

This volume comprises, apart from the editor's lengthy introduction and conclusion, four abridged doctoral theses: Janet Williamson, 'Peasant Holdings in Medieval Norfolk' (Reading University, 1976); Rosamund Faith, 'The Peasant Land-Market in Berkshire in the Later Middle Ages' (Leicester University, 1962); Tim Lomas, 'Land and People in South-east Durham in the Later Middle Ages' (Council of National Academic Awards, 1976), and Andrew Jones, 'The Customary Land Market in Bedfordshire in the Fifteenth Century' (Southampton University, 1975). Some of the authors have published parts of their theses before but, in the context of this collection, this aids presentation rather than detracting from it, and, in the case of Dr Faith's study, previously only easily accessible through her 1966 article in this journal, publication in an extended form after some twenty-two years is particularly welcome. Indeed the whole concept of the book is an original one and the editor is to be congratulated for rescuing these works from fragmentary publication and for assisting in their transformation from rather indigestible theses into studies which range from the readable to the stylistically elegant. Overall, as an experiment in terms of presentation the book is a great success.

The same originality, moreover, extends to the editor's conceptualization of its subject matter — the

peasant land market — which he defines as involving '... the transfer of land from one *living* individual to another: the chronology and extent of these transfers both of free land and unfree land held by local manorial custom, the procedures followed in each case, the regulation of the traffic by manorial lords, and the effects on the land holding of the individual ...', but excluding the reverse situation — what happened to the peasant's land on his death. Questions of inheritance are, accordingly, cast to one side and the reader is invited to enter the world of the halmote to discover the motivation which drove the peasant to acquire or dispose of land during his lifetime. Unfortunately on entering this world, where justice was dispensed on the basis of both delegated and customary law, he will find doors closed to him for the authors have eschewed the principal directions indicated by the editor. Actions within the halmote may, for simplicity, be divided into two categories: there are those between tenants which, if only indirectly, can provide some information on peasant motivation and there are those between the tenants and their lord which, in the context of customary law, served to define their rights and obligations in relation to each other. In these studies it is the latter group of actions which assume the centre of the stage with the lord cast in the role of principal actor. Dr Williamson is primarily concerned with defining peasant obligations and elucidating the problems associated with the break up of the 'standard holding' in the thirteenth and early fourteenth centuries whilst the other authors, taking up the same theme, examine the emergence of new tenurial forms in the later Middle Ages. The over-riding leitmotif is the tenurial relationship between lord and peasant. Only peripherally are questions concerning land transfers amongst the tenantry touched upon and even then the investigations have a rather old-fashioned air about them. All the studies of the later Middle Ages reveal that increasing tendency towards 'non-familial' transfers, first noted by Dr Faith in the early 'sixties. Each author, moreover, adds his or her own particular contribution to the controversy over 'social polarization' and 'social promotion' in the village land market, first promulgated in the 'fifties. Yet nowhere is there more than a passing mention of the work of Professor Raftis and the 'Toronto School', which has dominated the subject for a quarter of a century, and there is a singular absence of that sense of excitement, felt by the reviewer more than twenty years ago, with regard to the potential inherent in the techniques pioneered by that School. Nor can this conservatism and resultant failure to subject any of the places investigated in this volume to the intensive study which would reconstruct the life-histories and behavioural patterns of the tenantry — the approach of the 'Toronto School' and latterly of Zvi Razi — be simply explained, as the editor would

have us believe, by the inadequacies of the documentation. The problem lies with the authors rather than their sources. As a series of intensely conservative studies, rooted in a long-standing historiography concerning land tenure, their work is interesting and on occasion illuminating. As an exploratory foray into the new subject of peasant land transactions it is not — in this context time has passed it by.

IAN BLANCHARD

R H HILTON and T H ASTON, (eds). *The English Rising of 1381*. CUP, 1984. vi + 220. £22.50.

The Past and Present Society was the obvious body to organize a conference for the sixth centenary of the Peasants' Revolt, and it was predictable that the resulting papers should be of distinguished quality. Though lacking a narrative account of the events of 1381, this short volume is a treasury of information concerning the social and political conflicts which they expressed. Christopher Dyer examines the everyday tensions within rural society at the epicentre of the revolt, drawing on manorial records not hitherto consulted for the purpose. Then two remarkable papers examine conservative features of peasant ideology in the later fourteenth century; Rosamund Faith investigates the prevalent mythology concerning Domesday Book as a bastion of ancient liberties (chapter 2) and Alan Harding looks at the parallel association between ideals of communal self-policing and the Statute of Winchester (chapter 7). The roots of these ideologies in mistrust of the existing legal system are clearly exposed. Dyer's paper discusses the social tensions implicit in the administration of manorial justice, and Harding's paper describes the frustration and contempt with which local communities viewed the operations of the king's justices.

The last paper in the book, by contrast, is a pioneering study by J A Tuck of attitudes and responses to the Revolt both at court and amongst the lords and commons. This paper integrates the Revolt into the political history of Richard II's reign and rejects the conventional view that the violent expression of social unrest in 1381 had no significant effect. The evidence suggests that 'the political consequences of the Peasants' Revolt were of rather greater importance, in the short run at least, than the impact of the revolt on manorial authority'.

The editors explain their reason for using the term 'English Rising' rather than the more traditional 'Peasants' Revolt'; they are concerned that the urban aspects of the uprising should not be forgotten. With two such original accounts at hand as those of A F Butcher for Canterbury (chapter 4) and R B Dobson for York, Beverley and Scarborough (chapter 5) readers will take the point readily enough. Both papers investigate the reasons for a breakdown of sympathy

between rulers and the ruled in urban society of this period, and some of these reasons were relevant only to town life; both in Canterbury and in the Yorkshire towns the growth of mercantile wealth had widened the social distance between the ruling groups and ordinary tradesmen. But both these accounts are emphatic that the urban revolts cannot be explained purely in urban terms. The question of the role of towns in social unrest of the later Middle Ages is carried further by two papers concerning well known revolts on the continent. Raymond Cazelles, in a paper on the Jacquerie, describes the part played by jealousies between townsmen and the nobility in fomenting social conflict (chapter 3). Samuel Cohn's paper concerning Florence in the years 1342-85 presents an archetype for purely urban revolt which contrasts well with the English case; he stresses the exclusively urban leadership of the Florentine risings and the capitalist nature of the social relationships underlying them.

For historians of agriculture and rural society the most useful paper here will probably be that of Christopher Dyer. His evidence of the social background of known rebels suggests that this was no light headed movement of the young and footloose. He explains in detail why a rural élite should have taken the initiative in resisting the authority of landlords. And he develops the important argument that it was precisely the leaders of village society who were best placed to generalize their local grievances into a comprehensive rejection of the legal *status quo*.

R H BRITNELL

C G A CLAY, *Economic Expansion and Social Change: England 1500-1700*. CUP, 1984. 2 vols, xiv + 268 pp; xii + 324 pp. £20 (cloth); £6.95 (paper) each volume.

This lengthy, up-to-date and thoroughly useful textbook is the first general treatment of the early modern period since Donald Coleman's excellent, but much briefer, *The Economy of England, 1450-1750* came out in 1977. In the interval the interpretation of the period has been altered in many ways by the publication of Wrigley and Schofield's massive study of population change since 1541, by Volume V of *The Agrarian History of England and Wales, 1640-1750*, edited by Joan Thirsk, and by countless other articles and studies. Nearly all this material has been effectively and clearly incorporated and digested by Christopher Clay, and students of the period will be grateful to him for many years to come.

The problems of organizing the burgeoning material which now has to be incorporated into a textbook are always frustrating. Dr Clay opted for a sectoral plan with chronological sub-divisions within each chapter. This makes for clarity within each subject (agriculture, population, industry, etc.) but

makes the inter-relationships between the subjects more difficult to follow, especially when the book itself appears in two volumes. The sub-divisions within the volumes, however, are well chosen. Volume I, sub-titled *People, land and towns*, commences with a discussion of the new population figures and their implications for the period, especially the recently revealed decline between the 1650s and the 1680s and the gradual rise from then on through the eighteenth century. It continues with a short analysis of the long-run price changes and then expands into a lengthy section (111 pages) on agriculture and rural society (which will be noticed in more detail below, since it will no doubt be the part of greatest interest to readers of this *Review*). Volume I then moves to an analysis of the reasons why most provincial towns remained small and slow-growing in this period while London grew nearly ten-fold, from about 60,000 inhabitants in 1500 to some 575,000 in 1700 — and this entirely from migration since its death rate was much higher than its birthrate throughout the whole period! Volume I concludes with a short chapter on 'Society and the Poor' which charts the rise of poverty and the search for solutions.

In Volume II, sub-titled *Industry, trade and government*, the emphasis shifts away from the rural scene, but in a society which was still overwhelmingly dependent on agriculture (even in 1700 it seems to have involved about sixty per cent of the population directly and even more indirectly in transporting and marketing its products) the growth of the other sectors has to be repeatedly related back to the rural sectors. Volume II begins with a long chapter on industry in which its gradual development in the sixteenth century and steady progress in the seventeenth century are related to the slow growth of the market for manufactures both at home and abroad; to changes in the supply of fuel and raw materials; to improvements in capital supply, entrepreneurship, technical innovation; and to an increased supply of cheap labour, resulting from agriculture's inability to absorb a steadily rising population. The succeeding chapter on overseas trade is deftly handled (here at last some statistics which are more than educated 'guesstimates' can be utilized). The rise of agricultural exports from a share probably as small as three per cent of all exports in the 1660s to eleven per cent (worth an average of £488,000 a year) in the three years 1699, 1700 and 1701; combined with the steadily falling prices of food after 1650 (barring some abnormal harvest failure years in the 1690s) is the hardest evidence we have that agricultural productivity really was rising more rapidly than population growth in the seventeenth century, in the absence of any production statistics.

A chapter called 'The authorities and the economy' then discusses the making of economic and social policy and highlights the government's anxieties over

the 'balance of trade', strategic supplies and shipping, maintaining law and order within a traditional social framework still emerging from feudal hierarchies, and combating poverty and unemployment, as agriculture and industry became more commercialized and dependent on market fluctuations. Till almost the end of the period there was nagging anxiety about maintaining the food supply in a situation in which harvests could (and did) fail, and in which imports of food were difficult, and sometimes impossible, to come by. It was this underlying fear which explains so much of the agrarian legislation against engrossing, enclosing for pasture, and free food markets, which otherwise seems somewhat perverse; as well as the reluctance to see people leave what was regarded as the secure safety of traditional agriculture for the vagaries of industrial production for distant, unknown and unpredictable markets. The famous Act of Settlement, passed as late as 1662, which attempted to restrict freedom of migration was ostensibly about preventing migrants from falling on the poor rates of their new parishes, but one wonders whether it was not also partly inspired by that ancient anxiety.

The book ends with a chapter on the financing of the government which students will find very helpful in threading their way through the maze of Tudor and Stuart taxation and public finance. In this section Dr Clay is able to draw on his own expertise resulting from his study of Sir Stephen Fox, that wizard of late Stuart financial manipulation who managed to amass an immense fortune as Paymaster General in the 1660s and 1670s by lending other people's money to the government which was supposed to be employing him! A fair amount of the fog which surrounds royal finance in this period is blown away by Dr Clay's lucid treatment of this notoriously difficult subject.

To return now to farming, which remained the heart of the early modern economy. Here Dr Clay was confronted with a difficult problem, for despite the burgeoning and highly competent literature which has illuminated agricultural history since the 1950s, there is still controversy and doubt at the core of the subject. On the one hand a considerable amount of evidence, trenchantly summarized by Eric Kerridge in his book *The Agricultural Revolution*, suggests that from at least the mid-sixteenth century agriculture was making bold and important advances, so that by 1700 it was already effectively transformed; while on the other we have the nagging doubts, derived from the eighteenth-century improvers, and lucidly summarized by Gordon Mingay, that despite much creditable innovation in the late seventeenth century, really significant agricultural change did not commence till after 1700, and possibly not till after 1750.

In a world without reliable production statistics, it is indeed a conundrum. Dr Clay lets himself into the water gently, commencing with a section describing

farming at the end of the Middle Ages, and the nature of peasant society and the pressures on it. He then proceeds to discuss the growing commercialization of agriculture and the role of landlords and yeomen in the vanguard of change. This is followed by a discussion of the differential pressures on the peasants in mixed farming and pastoral districts, which usefully draws on Margaret Spufford's studies of contrasting Cambridgeshire villages, showing that small husbandmen could survive much more easily in pastoral and woodland districts, when common grazing was plentiful, than in arable districts.

The next chapter, called 'The achievement of English agriculture' is the heart of Volume I, where the constraints on productivity, which were powerful, have to be balanced against the undoubted gains which arose from the reclamation of new land (especially the fertile East Anglian fens in the 1650s), the introduction of new crops like turnips, clovers and sainfoin, either via enclosure, or by reorganization of open-field systems, the increased use of manures arising from expanded flocks and herds and the widespread use of lime, and the increasing efficiency which arose from more specialized and commercialized farming and market gardening. In the final analysis Dr Clay proceeds cautiously. He is sceptical as to how widespread many of the new innovations really were, and he notes that the continuous rise of food prices *above the general level of inflation before 1650* indicates that agriculture was still struggling to feed the growing population. His final judgement on the sixteenth century is that 'the English economy was characterized by windfall profits for commercial farming, restricted development in other branches of the economy, and impoverishment of the masses' (p. 140).

However about the seventeenth century he is much more optimistic, noting the relative abundance of the 1620s, and the steadily improving situation after the Civil Wars of the 1640s. Finally he grasps the nettle and attempts an assessment of the extent of agricultural achievement over the whole period. First he makes a courageous estimate that reclamation of fens, moors and forests cannot have increased the cultivated area by more than about twenty-five per cent. He then notes that the population rose from under two and a half millions to just over five millions (or about 120 per cent) over the period; so that only a small proportion of the needed extra food could have come from the newly reclaimed land. Improved production on the old lands must have provided the bulk; and finally, taking a modest increase in yields into account, and assuming something like a doubling of livestock numbers, he estimates that total agricultural production must have risen by about two and a half times between 1500 and 1700 — not a spectacular leap, but a very creditable performance nevertheless.

Unfortunately restrictions of space forbid further

discussion of many other interesting topics in this book, particularly the formidable rise in the number of gentry — something like a fourfold increase between 1500 and 1640, and the social and economic implications which followed.

Finally, the tables, figures and maps are all clearly and attractively designed, but the absence of a concluding chapter should be remedied in any new edition. Yet, even though the two volumes together are not cheap, they are thoroughly good value for money.

MICHAEL HAVINDEN

JOHN SHAW, *Water Power in Scotland 1550–1870*. John Donald, Edinburgh, 1984. 606 pp. £25.

This book contains the fruits of a solid, detailed, piece of research that had its origins in a doctoral thesis. No other part of Britain has been studied in such detail to produce a chronological account of the many uses of water power. The author comments that the employment of water power in the early stages of the Industrial Revolution is well known. It has, of course, so far, defied quantification and thus any study which uncovers new data from which a more accurate assessment of the diffusion of new industrial techniques can be made is to be welcomed. Dr Shaw advances the rationale for his study by reference to 'a view of the Industrial Revolution as a relatively late, primarily urban phenomenon' in which the importance of steam power has been over-emphasized while that of water power minimized or even written off (p xi). It is difficult to conceive where such a dated view of the Industrial Revolution and the role of motive power within it can still be current.

The aim of the book, we are told, is to establish the spatial and chronological development of the water mill in Scotland and to relate this to technological innovations, the impact on the landscape, the rise of steam power and the overall evolution of the Scottish economy. *Water Power in Scotland* . . . is profusely illustrated by clear maps showing the distribution of mills according to usage but apart from showing, for instance, that fulling mills in the period 1550–1730 were mainly to be found along rivers flowing to the east coast, in the Central Lowlands and the Southern Uplands (with not one river marked); or that there were few paper mills in the same period, a small cluster being found near Edinburgh (Edinburgh is not located) and a mere six others widely dispersed, the maps are of limited value. In short no features whatever are marked on the general distribution maps beside the type of mill in question. Moreover the maps are rarely referred to in the text and little comparison is made of the distribution of one kind of mill as compared with another.

It is difficult too, on occasion to obtain an overview

of a meaningful chronology when the narrative, inevitably, is constructed from a wide and exhaustive range of sources. A time frame appropriate to the study of one industry may be inappropriate to the study of another.

Dr Shaw is at his best when discussing the relative take-up of steam power (chapter 29). He demonstrates the continued development of water power technology and the emergence of energy saving in the form of the turbine. He discusses reasons for the retention of water power by sectors in certain regions and its displacement by steam power in others, explained in part by the nature of urban markets and the availability of coal. He contends that while in relative terms the use of water power declined, in absolute terms 'the amount of power derived from water continued to grow until at least the middle of the nineteenth century' (p 544). The end of the age of water power came about, we are told 'not so much on account of any inherent weakness', though surely there were limitations, as 'through changes in the scale of industrial units, in work patterns, population distributions and economic goals' (p 544).

There is an admirable glossary to conduct the reader through milling terminology and the confusing pathways of the Scottish legal system. There is a very full bibliography and a model index. This will be a useful work of reference but it lacks interpretation.

JENNIFER TANN

T M DEVINE (ed), *Farm Servants and Labour in Lowland Scotland, 1770–1914*. John Donald, Edinburgh, 1984. ix + 262 pp. illus. £16.

The theme common to most of the thirteen articles in this plump volume is the survival through the nineteenth century of antique forms of labour conjoined with technical modernization. The picture drawn, if sometimes inadvertently, is the spatial continuity of labour institutions in Great Britain, with annual or semi-annual labour contracts strengthened, if anything, by rapid industrialization. Those more familiar with farm service in England will be struck by the range of Scottish variants, where six- to twelve-month contracts could involve either unmarried men and women (and then either living in the farmhouse or general out-buildings or in purpose-built bothies, or barracks), or married men living in tied cottages (with or without the requirement to supply bondagers, women workers, to the employing farmer). Again though, the continuity of the latter form across the border into Northumberland is striking.

This variety of forms, however, was not a repertoire of institutions available to any lowland farmer. Location mattered. Four of the articles tackle regionalization directly, with diverse results. The best, by Malcolm Gray on the north-east, is a craftsmanlike

survey both of change over time and of the nineteenth-century rural economy as static concept. Alastair Orr, faced with the more daunting task of dealing with the most institutionally diverse region (the Forth Valley and south-east lowlands contained the counties least and most dominated by farm servants, by his own account, and the median county), undermined his own purpose, if that purpose was regional perspective, by framing the article as an attack on Hobsbawm and Rudé's argument for southern England, especially since the region's agricultural star was East Lothian, with the smallest number of farm servants relative to other forms of hired labour.

Eight essays follow, on specific aspects of the rural lowlands. Three stand out. The first is the editor's contribution on female employment, intrinsically interesting given the very high participation of women in Scottish agriculture. Second, Ian Levitt and Christopher Smout took on the apparently most limited topic, the 1843 Poor Law survey, but produced from its wide cross-sectional view the volume's most perceptive analysis and regional commentary. Third, Ian Carter supplied an entertaining polemic on the folly of framing questions about unmarried farm servants (in this case, the unsuccessful unionization of farm servants in Aberdeenshire) in terms more appropriate to proletarianization. I am however surprised that the work of J P D Dunbabin was not discussed; his focus may have rested south of the border, but the problem addressed was otherwise identical.

Among the rest are articles on grain harvesting by William Howatson (good for its technical detail, and commendable for its interest in the local linkages of agriculture); country tradesmen (mostly traded things) by Gavin Sprott; the housing of agricultural workers, with many cottage designs and one set of plans for bothies by Alexander Fenton; and, the third good paper of the editor, agricultural labour in the agricultural depression, another instance of the politically unfortunate rule that not all classes, or all regions, are equally hard hit by depressions.

Finally, the production as a whole is generally good, except for a few inappropriate titles to maps and figures (eg p 31, where a map of Scotland, complete with Shetland and Orkney insets, is labelled 'the Scottish lowlands') and undefined terms ('location coefficients' appear, without explanation, in the midst of an otherwise simple recital of demographic material in R H Campbell's interesting but overlong essay on the south-west). Typographic errors are happily uncommon; 'folksy' appears, unhappily only once, for 'folksay' in David Buchan's article on expressive culture. Intrusive categorization is here substituted for the historical analysis of a wonderful topic, and readers closer to Watford than Falkirk should be warned that they are gi'en nae help wi' the folksay itself.

It will be useful both for students of Scottish economic and social history and of agricultural labour to have available in one volume such a concentration of essays, many of them good, on the important topic. The penalties of having so many writing self-consciously on the same time, same place, and common topic is a certain repetitiveness, a loss of a sense of dynamic within the 144 years of the title, despite the best intentions of the editor in his own contributions.

ANN KUSSMAUL

ELEANOR and REX C RUSSELL, *Making New Landscapes in Lincolnshire: The Enclosures of Thirty Four Parishes in Mid Lindsey*. Lincolnshire History Series No. 5, Lincolnshire Recreational Services, County Library Department, Lincoln, 1983. 127 pp. Maps. £5. This volume is clearly a sequel to the same authors' 1982 book about thirty-seven parish enclosures in South Humberside, that is, in North Lindsey. In content and typographical presentation the two volumes are practically identical. The important difference is that this latest volume is the study of thirty-four different parishes in the mid part of Lindsey. Many of the remarks I made in my review of their first book are equally appropriate to this one (in the *Review* for 1983, pp 73-4).

Mid-Lindsey, by the Russells' definition, is 351 square miles in extent. Of the 109 parishes it contains, fifty-one were enclosed privately and eleven by a combination of private and parliamentary means. Forty-six were enclosed by parliamentary acts and thirty-four of these are closely studied in this volume. The earliest was the enclosure of open arable fields at Binbrook on the chalk wolds in 1737-47, and the last the enclosure of the open arable and common pasture at Corringham and Springthorpe in the Trent valley from 1848-52. The 1770s are the best represented decade in the volume with nine enclosures, which is a perfect reflection of the local (Lincolnshire) chronological history of parliamentary enclosure.

After opening summary chapters about the region in question, on enclosure procedures, and on the detailed enclosure of Fulstow parish, there follows the analysis of the thirty-four enclosures in some depth, accompanied by detailed reconstructions of the pre- and post-enclosure landscape and landownership patterns. These reconstructions have been the hallmark of Rex Russell's work over the years, and the same high quality and detail is present in this volume. The region was dominated by a two-field open-field system, with at least half of the parishes under this arrangement on the eve of enclosure. The so-called 'classic three-field system' of far too many textbooks is hardly evident at all. The enclosures were also concerned with large areas of common pasture, meadows, commons and

other commonable places. For one example, the open fields of Corringham in 1840, the Russells not only reconstruct the furlongs within the open fields but also the individual strips within the furlongs of three of the landholders. The fifty-five acres occupied by one were scattered in 111 different strips or lands, and the 105 acres of another were scattered in 162 lands. How did such open field arrangements manage to survive to the late 1840s? This book raises such intriguing questions.

Like its predecessor on South Humberside, this volume was published through the offices of the local authority Recreational/Leisure Service, and this indicates the intended readership — adult education students, local and amateur historians, and school projects. These readers will not be disappointed, but professional scholars will also find much in this volume, and at £5 it must be one of the bargains of the age.

MICHAEL TURNER

SOMERSET AND SOUTH AVON VERNACULAR BUILDING RESEARCH GROUP, *Somerset Villages, the Vernacular Buildings of West and Middle Chinnock*. Published by the Group at the Somerset Rural Life Museum, Abbey Farm, Chilkwell Street, Glastonbury, Somerset, 1984. 64 pp. 9 maps. 6 tables. 6 diagrams, many plans and sketches. £3.75 + £0.70 p & p.

This is a study of the buildings of West Chinnock and Middle Chinnock, located between Yeovil and Crewkerne, Somerset, formerly two parishes but since the late nineteenth century amalgamated as West Chinnock parish. Middle Chinnock is a small village of a few large farms and some cottages while the larger West Chinnock has many farms of various sizes.

The survey begins with a brief study of the development of the two villages as recorded in Domesday Book; estate surveys of 1459, 1589, 1651; detailed leases of about 1730; and in the Tithe Apportionment of 1839. It appears that in the early nineteenth century approximately equal amounts of farm land were under the plough and in grass, the arable land being on the slopes and the grass land in meadows and pasture in the valley bottoms. The importance of sheep on the light soil and the benefit of flax in the rotation of crops are brought out. The preliminary material concludes with an analysis of the 1841 census records and a diagram showing a peak of population between 1851 and 1861, there being rather fewer inhabitants in 1901 than in 1801.

The survey of houses includes 22 examples built before about 1850, ranging in size from manor house to cottage and representing rather less than half of those existing at that time for 26 of the houses marked on the Tithe Map have since been demolished. All 22 houses have at least a sketch plan and brief description and there are full drawings of ten houses. The largest single

group consists of houses with cross-passages, six having an internal cross-passage and four a chimney backing onto a cross-passage, though there are two houses with lobby-entrance. Most of the surviving houses in the parish appear to have been built in the sixteenth or seventeenth centuries whereas those in the nearby Long Load parish, previously surveyed, are a century later. All the houses have stone walls and most include some form of jointed cruck construction though using elm as much as oak.

As well as houses, the farm buildings and minor industrial buildings related to the conversion of flax into material for sailcloth have been included in the survey. There are threshing barns of five bays or more on three farmsteads in Middle Chinnock and one in West Chinnock but other farm buildings appear to be of fairly recent date.

The study is brief but packed full of useful information, well set out, well illustrated and well-analysed. The team has been fortunate in that it included John Penoyre whose orthographic drawings are both clear and full of the character of each building. There are no photographs but the perspective sketches again show the skill of Mr Penoyre in conveying to the reader so much more about the vitality of each building than a photograph can possibly do. There are many maps, diagrams and tables, and here again the skill of the illustrator makes it so much easier to follow the argument than is possible in the hard typography and over-precise graphics usually to be seen in such work. It is to be hoped that the Group will produce many more surveys of this quality.

R W BRUNSKILL

NESTA EVANS, *The East Anglian Linen Industry: Rural Industry and Local Economy 1500-1850*. Gower, 1985. viii + 178 pp. 5 maps. £18.50.

Nesta Evans' work provides a welcome addition to the stock of knowledge on the structure of the pre-industrial East Anglian economy. The explicit aim of the book is to enhance our understanding of the economic history of Suffolk and Norfolk through an examination of the important but neglected role of its linen industry. The long history of the industry in this region has occasionally been hinted at, but typically overlooked by historians. Paucity of data combined with the overwhelming dominance of the East Anglian woollen and worsted industries provide the explanation for this omission. The balance has now been restored by Nesta Evans, who, through a meticulous and critical study of probate records and other local sources, has ably recorded the development of the linen trade from 1500, through its expansionary period between 1600 and 1730 to its final demise in the mid nineteenth century. A chapter on the cultivation and preparation of hemp precedes the main body of the

work which comprises a convincing reconstruction of the industry and its dynamic relationship with the local economy.

While the book is structurally sound and well written, it is confined to a descriptive and chronological account of the industry's fortunes. This is a pity, as the value of the work, though substantial, could have been raised by a modicum of analytical content. The empirical substance of Nesta Evans' work could usefully have been placed within the context of any of a number of current debates and will no doubt be used by others for that purpose. For instance, while the author illustrates the widespread existence of the linen industry before the nineteenth century, and outlines its role in the local economy, little is said directly about the nature of agricultural change and its relationship to the development of rural industry. Neither the structure of the family economy nor the question of regional competition and industrial location receive much attention though the author's findings could well contribute to our perception of these aspects of economic history. That the author touches on these topics while subjecting them to little scrutiny will be a major source of frustration to the reader with wider interests.

The author's reluctance to be drawn into the protoindustrial debate despite the very clear relevance of her work to it and similar questions is not necessarily a serious shortcoming, but she should at least have indicated an awareness of the trend of current thinking. While the direction of recent discussions on the nature of the transition to modern industry may not interest the author (and she would be in respectable company if they did not), I see it as a major flaw that she does not show an appreciation of the wider context within which her work deserves to be placed. This book will no doubt receive warranted attention from historians of all kinds, and be subjected to the interpretive skills of those of greater analytical persuasion.

This illuminating book, therefore, fulfils the author's desire to place the East Anglian linen industry on the map. It could, however, have done much more.

KATRINA HONEYMAN

PAUL SERVAIS, *La Rente Constituée dans le Ban de Herve au XVIIIe Siècle*. Crédit Communale de Belgique, Collection Histoire, no 62, 1982. xxx + 390 pp. 750 FB.

The Ban de Herve lies on a rolling plateau of clay soil east of Liège and provides another example of the coincidence of pastoral agriculture and domestic textile production in the seventeenth and eighteenth centuries. Grass occupied up to ninety per cent of the land on some farms, a degree of specialization permitted by ready markets for the region's butter and cheese in Liège, Verviers, and other nearby towns.

Dairying was conducted on a small scale, with few holdings above twenty acres and many below five. The smaller holdings could only be sustained by income from the spinning and weaving of wool which came to occupy over half the region's population by 1800.

What distinguished the Ban de Herve from many other concentrations of rural industry and from neighbouring areas in eastern Belgium was its land market. Most of the land was owned locally, individually, and in small denominations. Moreover, the land market appears to have been quite active during the eighteenth century: over fifty sales per year in an area of only 10,000 acres and with 1500–2500 proprietors.

Paul Servais has investigated this world of petty proprietors through the rich archives of the region's notaries. He has examined some 50,000 transactions involving not only sales of land but, more generally, the creation, transfer, and redemption of *rentes*, which were annual charges on property. Land was often heavily encumbered by such charges, which constituted an important element in the local market for credit.

Meticulous analysis of the documents allows Servais to discern the principal contexts in which *rentes* were created. Sales and partitions of property accounted for roughly two-fifths of the value of all creations (and for many transfers of existing *rentes*). In these contexts *rentes* often served either to provide pensions for the old or widowed, or to help maintain the integrity of already very small holdings. Another fifteen per cent of creations refinanced older obligations as interest rates fell from the 1730s. Various other uses of *rentes* were identifiable, but minor. The documents were less forthcoming about a large residual, over forty per cent of creations, though Servais is able to rule out any direct connection between these and land purchases.

Servais makes extensive use of graphical and correlation analysis to investigate the relationships over the century among types of transactions and between them and several economic indicators. The results, with one major exception, are negative. The different sorts of transactions do not seem to have been systematically related to each other. Nor did they move closely in step with local prices of butter, cattle, or land (all of these series are new and useful contributions to price history).

The economic indicator that was closely related to all types of transactions was an annual series for the production of woollen cloth at Verviers. This series (drawn from the work of Le Brun) is neither discussed in detail nor reproduced, which is somewhat surprising in a book with 128 tables and 102 graphs! Indeed, the treatment of domestic industry is rather sparse. The statistical results are not followed up by a closer look at the data in order to draw out the ways in

which variations in textile demand produced transactions in the credit market.

Another aspect of the local economy which receives surprisingly little attention is demographic change. One wonders how changes in mortality and fertility would have affected the need for *rentes*. The data suggest that relative to a growing population, transactions involving *rentes* may have been becoming less common in the late eighteenth century. Were the circumstances that called for recourse to a *rente* changing, or were other instruments replacing it?

Readers interested in this case of rural industry may find Servais' article in *Annales ESC* (XXXVII, 1982, pp 303-19) a more concise and forceful statement of his views. Here the analysis of the book is extended to some neighbouring areas and carried forward into the early nineteenth century, when the decline of domestic industry in the Ban de Herve reversed some of the trends of the previous century.

PETER M SOLAR

ALUN HOWKINS, *Poor Labouring Men: Rural Radicalism in Norfolk 1870-1923*. History Workshop, Routledge & Kegan Paul, 1985. xiv + 225 pp. 20 plates. £7.95 (paper).

'What we are left with, in terms of the (existing) history of the rural poor', writes Alun Howkins, by way of introduction, 'are a number of beacons, standing above the surrounding darkness, lighting a small area with no obvious route from one to the other'. Modern historians have certainly not done justice to the recent history of agrarian labour. 'What is lacking', continues Howkins, 'is both a general "labour" history of the nineteenth-century countryside and specific studies of the different groups within the rural poor'. He selects that bastion of English agrarian capitalism, Norfolk, which hosted fierce struggles between labour and capital. Through the extensive utilization of oral evidence, Howkins's route traces 'rural radicalism' between the trade unionist campaigns of the 1870s and the Norfolk strike of 1922-3 to provide 'a detailed study of one group within rural society over a period of change'. Only one of Howkins's 'radical' phases is not concerned with trade union developments, namely the importance of nonconformity as a vehicle for some plebeian independence in the later nineteenth century.

According to one oral witness, '“When you worked on a farm like, there was always one or two people what was unemployed looking over the gate where you worked”'. And, here lay the rub. Rural depopulation, and other economic factors, simply failed to terminate competition for jobs. Certainly, there were scores of parochial struggles — notably at harvest time — in which farmworkers succeeded in prising ephemeral wage rises from even the most obdurate, autocratic village despots. But the unions

could never preside effectively over scores of tiny disputes, or, as was shown in the 1923 strike, exploit such experiences to cement plebeian solidarity. Too many farm labourers continued to look nervously over the gate, and well they might; even if their own neighbours did not scab, blacklegs were repeatedly brought in by farmers' federations from outside. Lethal victimization of militant locals invariably followed. Even when organized labour seemed to be getting the upper hand, the forces of the state mobilized behind capital. There are many superb photographs reproduced here; none is more evocative than the one on the cover; a team driven in the field, flanked by two uniformed police officers.

Unfortunately, this is an amateurish and confused book. The narrative chapters are crippled by an apparent inability to present a straightforward, logically-arranged history. Analytical clarity is equally elusive. Exactly who comprised Howkins's 'respectable working class' and who were 'marginalized to a rough group' is not revealed; did that 'solidarity (which) led part of the village at least to see the representatives of the law as the enemy' draw on both roughs and respectables? Who made the best union rank and file, and were scabs exclusive to either group? Non-union politics are not explored systematically. Certainly, the Liberal grandes tried to harvest farmworkers' votes through supporting the Eastern Counties Labourers' and Small Holders' Union. Socialist and Labour Party activists tried to exploit rural conflict, and through it and the agricultural workers' unions, take their ideologies to the villages. But, after half a century of struggle, and major political change (including the franchise and party structures), Howkins eschews any consideration of the level, or the nature, of rural class consciousness. His 'own demand' for a history of 'one group' of rural plebeians does not materialize, because readers cannot learn which group that really is.

ROGER WELLS

PAUL BAIROCH and BOUDA ETEMAD, *Structure par produits des exportations du Tiers-Monde, 1830-1937*. Université de Genève, Geneva, 1985. 201 pp. Unpriced. In this study, Bouda Etemad under the general direction of Paul Bairoch, has assembled statistics for the exports of the so-called 'Third World', using three-year averages of the figures for 1829-31, 1859-61, 1899-1901, 1911-13, 1927-9, and 1936-8. Using these six estimates as bench-marks, he then proceeds to calculate the pace of expansion, and other features of Third World exports over these years. Certainly this work is an advance on J R Hanson's lamentable study, *Trade in Transition* (New York, 1980), which only covers the period 1840-1900, and so misses the rapid expansion of exports which took place

between 1900 and the First World War. By including 1927-9 and 1936-8, the authors obtain a further dimension relating to the expansion of the 1920s, and the subsequent contraction of the 1930s. Thus they are able to conclude 'During the century from 1830-1929, the value of Third World exports increased by a factor of 30 — versus 24 for Europe. This was a very rapid expansion and all the more so, since it occurred in societies that remained in most respects traditional.' Yet this optimistic finding is modified by recurrent references to colonization, which is implicitly held responsible for this export expansion, as if it were in some way bad. Colonization is said to have reduced regional specialization, because crops grown in one part of the Third World, like rubber or cocoa, came to be grown in other parts. It is said to have 'extraverted' the economies of Latin America, turning them into export economies despite their small populations, and it is also supposed to have led to de-industrialization in Asia, as British cottons ousted cottons from India, making her less an exporter of manufactures, and more an exporter of raw materials. The increase in exports from Black Africa from the 1880s is also stated to have been due to colonization. The problem with all this anti-colonialism is that it is quite irrelevant to the analysis of the trade figures. Much of the expansion would have taken place with or without colonization. A classic example is independent Thailand, whose exports of rice increased rapidly in these years, paralleling the growth of rice exports from British Burma, and French Indo-China. In all three cases it was the capitalistic enterprise of the peasants in response to an expanding world market, which secured the rise in exports, not the intervention of a colonial authority. Because this study deals in huge aggregates, and vast generalizations, it does not help us understand the process of trade expansion at all, or the people who made it happen. If you believe that the Developed World colonized the Third World and extracted from it goods to consume at an ever-increasing rate, whilst destroying its industries, you will accept this book, as it will confirm your beliefs, and save you having to make the effort of understanding how trade expanded so rapidly. But there may be some who think that this book merely reeks of self-reinforcing intellectual prejudice, and that it extends our comprehension hardly at all. They will have to look elsewhere for explanation!

A J H LATHAM

J K BOWERS and PAUL CHESHIRE, *Agriculture, the Countryside and Land Use: An Economic Critique*. Methuen, 1983. xii + 170 pp. £4.95 (paperback only).

This book is an avowedly polemical work; written by professional economists, although addressed some-

what more to the general reader than to the specialist, it takes issue with current policies towards farming, and makes a strong plea that they should be changed. The authors' case is easily summarized; from the interwar period, and especially after 1945, policy has developed in directions which are irrational, far too expensive, and environmentally damaging. The themes are thus those found in more compressed form in Bowers' recent article in this journal (1985, part I).

The authors have assembled a good deal of material in support of this aim. The central chapters are those on the improved economic position of the farming sector since the 1930s, the environmental effects of agricultural expansion (which includes a micro-study of an area of West Berkshire as well as national evidence), and the level of support which farming receives under the present system. As the authors rightly point out, the development of protection for British agriculture has been a long-run affair (it may be said to have started with the sugar-beet subsidy of 1925), and was already at a substantial level before entry into the EEC in 1973. In this context, the adoption of the Common Agricultural Policy involved no change in principle, although it did involve a rise in the overall level of support.

Within their own terms of reference, which are to demonstrate the expense, the environmentally damaging effects, and the irrationality of policy, the authors present a strong case. The expense is demonstrated in a useful review of the sources of support, from which it appears that the total cost of support in 1979 was between £2.9 billion and £3.7 billion, or roughly about £10,000 per farmer. It is a pity that no calculations are made for later dates, since by now the costs have presumably grown even higher.

The damage to the environment is not so easy to demonstrate on an overall basis, although there is much evidence of a scattered nature which the authors deploy to good effect, in particular, the increase of tillage and the substantial decline in hedgerows — a process by no means confined to East Anglia, as even a casual journey through central or southern England will reveal. Since this is highly visible evidence, public reaction to such processes has already begun to make itself felt, as the passing of the Wildlife and Countryside Acts demonstrates.

The attempt to prove the irrationality of policy is less successful, or rather, the attempt succeeds within its own limited terms very well, but this does nothing to advance the authors' cause. In economic terms, which are the ones used here, such policies are clearly irrational. What could be more irrational than to subsidize farmers in one country to produce commodities which could have been supplied more cheaply from abroad? The absurdity is compounded when the commodities cannot find a market, and butter mountains and milk lakes ensue. But to

complain along these lines is to fail to appreciate that, in economic terms, all subsidies (and other forms of protection) are essentially irrational, and derive their existence from essentially political decisions, in which a variety of considerations may be taken into account. It is indeed this failure to appreciate the political elements in agricultural policy that is the weakest point in the book; the authors sometimes write as if they believe policy was dictated by a cabal consisting of the Ministry of Agriculture, the National Farmers' Union, and the agricultural supply industries.

To say this is not to deny that the authors have a strong case, and their policy recommendations flow clearly from it. The main suggestion is that support levels should be generally reduced (although they do not say by how much). Apart from this, relative cereal prices should be reduced, and capital grants (eg, for drainage schemes) reduced or abolished. Finally, environmental damage should be reduced by an extension of the system of management agreements already in existence under the Wildlife and Countryside Acts. In view of the present trend of public opinion, it seems likely that at least some of their recommendations will be put into effect; the imposition of milk quotas in 1984 may be the start of a much larger process of reform.

PETER DEWEY

MICHAEL YOUNG, *The Elmhirsts of Dartington: the creation of an utopian community*. Routledge & Kegan Paul, 1982. x + 381 pp. 38 plates. £15. Of recent years, Dartington has been in the news, what with Michael Straight who in *After a long silence* revealed belatedly something of the Cambridge spy ring of the 1930s, the protracted affair of the last school headmaster and his wife featured in the popular press and the unexplained death of a girl pupil at the school while bathing nude in the Dart. Much of this publicity has focused on the school, expensive and private. But Dartington is not just a school, it is a whole range of enterprises and activities whose origins and fortunes are traced in this book written by a former pupil at the school, now Lord Young of Dartington. Essentially it tells the story of a Yorkshireman, Leonard Elmhirst, who after an unhappy education at Repton and Cambridge, some time in India and Mesopotamia and a brief period in 1918 in the army as a sergeant in the army education service in Dublin, went to Cornell to study agriculture, saved from a more conventional English career as a civil servant by what Michael Young describes as 'his lack of talent' (p 31). While in America he met Rabindranath Tagore, a meeting which was to have a permanent influence on him and led to Elmhirst deciding to go to India to work with Tagore. There he became director of the Institute of Rural Reconstruction at Sriniketan. In an attempt to raise money for

Cornell, he met Dorothy Straight in New York in 1920; she was 33 and he was 27. Five years later the American press announced the marriage of 'ONE OF THE WORLD'S WEALTHIEST WOMEN' to the 'SON OF AN ENGLISH CLERGYMAN'. At the same time Dorothy agreed to come to England to use her wealth, estimated at about \$40 million, to carry out an 'English experiment' which essentially consisted of trying to put into practice the following five rather naïve beliefs:

Mankind can be liberated through education;

A new flowering of the arts can transform a society impoverished by industrialization and secularization;

A society which combines the best of town and country combines the best of both worlds;

A pervasive concern for the individual human being and his right to self-determination can be combined with the efficient operation of agriculture and industry;

The scientific spirit can be a continuous spur to progress.

Following the same road as other utopian communities, the nucleus was to be a school allied to a farm, a workshop and other activities. But Elmhirst expected to do 'better than the old utopias by putting his faith in the methods of science' (p 100). The first problem was to choose a site. Elmhirst told the estate agents that the place 'must be beautiful, we're starting a school. We expect to make farming pay, it must have a reasonably productive soil and climate, and as much variety as possible, woods, forest, orchards, etc and if you can give me all those, then historical associations thrown in'. Where else could such an estate be found but in Devon. The second property Elmhirst saw was the 'ancient and historic demesne' of the Champenownes, Dartington Hall. Ruined though it was, Elmhirst saw the possibilities it presented and so a new large element was added to the English experiment — the restoration of ancient buildings. Since Dorothy, when she arrived from the USA, approved — 'too heavenly' was her comment — a start was made on the English experiment. The house and other buildings were restored, the estate was put into good shape, the school got underway and other enterprises were set in train.

But all did not go smoothly. In a perceptive passage, Michael Young lists four failings of this project. First, there was a poor choice of executives. Then, Elmhirst found it difficult to devolve authority; there were continual problems when the Elmhirsts returned from their frequent absences and wished to reverse decisions made while they were away and behind Leonard stood Dorothy — whose name should be Elmhirst, said one critic — who held the purse strings. Thirdly, Elmhirst had a poor notion of the appropriate rural industries to

develop. Fortunately for economic historians brought up to believe in the economies of scale, Elmhirst's view that 'small was beautiful' did not work in practice and he found that efficiency and experiment were incompatible objectives. So Eve spinning was replaced by modern high-speed machinery in the textile mill, Staverton Builders became one of the largest building firms in south-west England, the pottery failed, cider-making grew beyond the local market and was sold, and the woodlands, much too small to be economically viable, were hived off to a specialist business. Leonard's fourth failing was lack of application; he had little staying power and in particular his enthusiasm for the arts soon evaporated. With a facade of consultation and democracy, decisions were often made abruptly and autocratically. Choosing to go their own way, the Elmhirsts quickly ranged the local gentry, the clergy and the local farmers against them. Elmhirst immediately upset things when he decided to pay his farm workers the minimum wage of 32s 6d a week when local wages were much below. Just before Elmhirst arrived at Dartington, the wages on the Dartington farm were 15s a week. The Dartington stables were one of the first to have windows for the horses to look out of since he believed the view improved their tempers!

In other respects Elmhirst's vision conflicted with his practice. While he decried 'the pop-it-in-there' practice common in the 1920s and 1930s, the buildings at Dartington were popped in all over the place and in all sorts of styles as if picked haphazardly from an architectural supermarket. And the workers' houses, built as examples of how cheap rural housing could be, were regarded as mean. Washbasins were omitted from the bathrooms, for example, to save costs and the approach roads were not surfaced. 'In the 1920s the Elmhirsts aroused hostility *outside* the estate; in the 1930s they did so *inside* it', Michael Young notes (p 239).

To provide for the future, the Dartington Hall Trust was established and so a continuance of the English experiment was assured. With the war, animosities lessened and after the war the involvement of the Elmhirsts slackened. In the conclusion of this long and unbalanced book which at times verges on hagiography, Michael Young attempts to draw up a balance sheet — what Leonard Elmhirst would have called an assessment of the positive and negative results — of the English experiment. The successes were the restoration of the estate, the creation of the garden, called by Edward Hyams, 'The most modern of the great gardens', the provision of jobs and the establishment of a positive centre of activity in the depressed countryside of the 1930s, at a time when others were selling up and going elsewhere. Though not markedly successful himself, Leonard Elmhirst's agricultural interests — he was president of the International

Conference of Agricultural Economists from 1930 to 1958 — were of wider significance. Together with George Hayter Haynes, Elmhirst established a cattle breeding centre at Dartington and pioneered artificial insemination in the 1930s. Then the work of Wilfrid Hiley, who was in charge of the woodlands, influenced the outlook of the Royal Forestry Society for England and Wales and so made an impact on the government statement on *Post-war Forestry: a report on forest policy* of 1944. The activities in the arts set an example to other towns and villages. More recently, a new area of influence has been established in north Devon with a cultural centre at Beaford and a glass works at Great Torrington. The Dartington Institute endeavours to encourage new activities in the south-west and the Bank — though this is also probably too small — provides aid for small firms. The school, the College of Art and Music and the Centre for Further Education make their contribution both locally and more widely. But it is here that doubts creep in. The hopes for education have not been realized. While some educational changes, like coeducation, have become accepted, Dartington has ceased to pioneer and, in Michael Young's words, has moved nearer to the standard secondary school. Dartington's impact on the arts is now less remarkable. Artists have passed through rather than settled and the quartet has been disbanded. Then, to the resolution of urban-rural problems, Dartington has offered no solution. Moreover, in the school, as elsewhere, the reality of power and wealth at Dartington have always been in conflict with the right to self-determination. Dartington was an experiment which showed what considerable wealth could do but in spite of its aspirations was essentially authoritarian and élitist. 'Leonard never entirely stopped being the squire, Dorothy never entirely gave up being the grand lady'.

And now the founders are dead — Dorothy in 1968 and Leonard in 1974 — some of the spirit has gone out of the place. But the old shortcomings are still apparent. Dartington is still not signed on the road out from Totnes, the restaurant at the new shopping centre is run by Cranks, the last headmaster at the school was appointed because although he lacked relevant experience he was an energizer — and so it proved — and when the Torrington glass works moved into profit and wanted to expand, Maurice Ash, a recent chairman of the Trustees, fought hard to keep the number of employees down to 175, arguing that if the concern grew larger, the man packing the glass would no longer know the man who made it. Ash himself plans when he retires in 1986 to found a smaller Dartington of spirituality with a vineyard running down to the Dart and experiments in cheese-making.

In terms of the title of this book, Dartington was never a community nor was it utopian. Yet over time it has provided employment both directly and indirectly

for many hundreds of people and has not, though the reasons for this are obscure, forfeited the loyalty of many who still cherish some ideals about the way in

which a modern society should operate.

WALTER MINCHINTON

Shorter Notices

E MCCrackEN and D MCCrackEN, *A Register of Trees for County Londonderry, 1768-1911*. Public Record Office of Northern Ireland, Belfast. 1984. x + 80 pp. 2 maps; 18 plates. £5.50.

Deforestation of natural woodland caused a shortage of timber in Ireland which was severe enough by the late seventeenth century for Government action to be taken. Acts of Parliament to encourage planting and conservation of trees started in 1698, and by 1710 tenants were required to plant nursery stock, not saplings rooted out of hedges and woods. Initially these Acts were ineffective because tenants, who managed most of the land, benefited little from the planting, but in 1765 a new Act was passed enabling a tenant to benefit from his planting, provided he had registered his plantation with the Clerk of the Peace for the county. This initiated a wave of planting which peaked in the 1820s and fell away rapidly after 1840. Between 1791 and 1841 the area of plantations in Co Londonderry increased threefold. Conifers formed a majority of planting from 1810 onwards. Larch, Scots Pine and Norway Spruce were the nineteenth-century favourites, but now, when 96 per cent of all state plantings are coniferous, Sitka Spruce and *Pinus contorta* form 70 per cent of all plantings.

These changes are ably summarized in a fifteen page introduction, but the bulk of the book is a transcription of the planting register for Co Londonderry. For each registration we see who did the planting, the locality, the list of tree species planted with the number of each, and the source reference. Appendices give a location index of plantings; notes on some of the species planted; and a summary of modern state forestry in Northern Ireland. The text is illustrated by black-and-white photographs.

Coming in an era of concern for the appearance of the countryside and for the national stock of trees and woodlands, this is a useful and attractive presentation about an earlier period of concern and action.

G F PETERKEN

DAVID MABEY, *Good Cider*. Whittet Books Ltd, 1984, 143 pp. £7.95.

As sales of cider have grown, rising from 46 million gallons in 1978 to an estimated 70 million gallons in 1983, so the production of books about cider has grown. In both cases, the predominant appeal is to the popular market. This short book adds nothing to our

knowledge of the history, the craft or the customs associated with cidermaking. But it does contain a useful list of cidermakers, a list of some of the places where cider can be drunk and a number of recipes involving cider. This is a brief popular book; a serious study of the history of cider is still awaited.

Slighter is Philippa Legg, *Cidermaking in Somerset* (Glastonbury: Somerset Rural Life Museum, 1984, 32pp. 85p.) which tells very briefly the history of cidermaking in the past with some Somerset examples and illustrations. But there is no discussion of the recent history of the industry, dominated by Taunton Cider and Coates — nor a bibliography. A poor yield from the research project which led to this publication. At both the local level and the national the cider industry awaits its historian.

WALTER MINCHINTON

D NEAVE, (ed), *Winteringham, 1650-1760: Life and Work in a North Lincolnshire Village Illustrated by Probate Inventories* (copies from D Burton, Westlands, Meggitt Lane, Winteringham, Scunthorpe, S Humberside). 1984. vi + 157 pp. illus. £5.

S NEEDHAM, *A Glossary for East Yorkshire and North Lincolnshire Probate Inventories*. University of Hull, Department of Adult Education, 1984. 22 pp. £1.50.

The Winteringham study is a good example of the excellent work being produced by Adult Education classes up and down the country. It is based upon a study of the surviving probate inventories of a tightly-knit group of farmers and tradesmen, but it also includes an analysis of parish registers and manorial records, including a detailed survey and plan of 1719. Winteringham was a decayed market centre on the banks of the Humber, with a population of 280-350 in the late seventeenth century. The farmers concentrated upon rearing fat cattle and had adapted their open fields to this purpose long before the enclosure act of 1761. A number of late-seventeenth and early-eighteenth-century houses survive, six with datestones, to provide solid evidence to go with the analysis of rooms in the inventories. The first 62 pages of the text contains a careful and well-illustrated account of the information to be derived from documentary and visual sources, followed by transcripts of the 109 inventories and a glossary.

Sue Needham's glossary explains the meaning of

words derived from several hundred East Riding and north Lincolnshire inventories appraised between 1536 and 1748 and is a useful addition to the growing number of regional glossaries. In it the reader will find explanations of belly pooce, dornyx, dyntill, isson glasse and many other archaic words.

DAVID HEY

P LYTH (ed), *Farms and Fields of Southwell: a Study of Enclosures*. University of Nottingham, Centre for Local History, 1984. 108 pp. 11 maps. 3 plates. £1.50.

This series of essays by the Southwell WEA Local History Group follows in the footsteps of several similar works in other areas which have been instrumental in gradually building up our knowledge of the enclosure process at local level. It covers each of the five formal enclosures which occurred within Southwell between 1774 and 1844, together with an account of the agricultural organisation of the area before enclosure. Each contributor has obviously been allowed to develop the account as he or she thought fit, so the contents of the chapters, and their interest to the non-local reader, are very variable. Some, such as the chapter on Normanton, consist largely of a summarizing and listing of the award, whereas others range more widely, exploiting additional material. The account of George Hodgkinson's new farm gives an interesting insight into the costs and methods of developing the land after enclosure, and there are many other titbits of information, such as the calculations on the layout of an individual's new plots.

As Rex Russell points out in his foreword, the work is not without its controversial and dubious statements. It would be interesting to know, for example, why it is assumed that allottees sold up because they were unable to pay fencing costs, when the list provided appears to indicate that almost two-thirds of those involved were gentry, clergymen or businessmen, who were surely not short of the necessary £11 or so. There are also technical problems, for the use of stencils as a means of reproducing the work has taken

its toll of the legibility of the maps. Nevertheless, uneven and open to criticism though it may be, this study provides one more piece for the jigsaw of our knowledge of enclosure.

J CHAPMAN

B ENGLISH, *Yorkshire Enclosure Awards*. University of Hull, Department of Adult Education, Studies in Regional and Local History, 5 (1985). xiv + 184pp. 1 map. £3.50.

The compilation of lists of basic data about enclosure is a slow and tedious business and students of the movement are indebted to Barbara English for her efforts in producing this survey of Yorkshire awards. It represents an extension of her now out-of-print West Riding list to the other two Ridings, and expands upon the bare bones of the Tate lists for these counties. It includes many formally enrolled agreements as well as Parliamentary awards, but omits some acts where no award appears to have been made. The lists include information on the type and amount of land enclosed, and also the names of the commissioners and surveyors. This last is a welcome feature, though it may occasionally be a trap for the unwary, for commissioners of the same name are not always clearly distinguished. Thus though Thomas Scott and Thomas Scott junior both appear in the Index of Commissioners, it is not made clear that this is an index of the name recorded, rather than an index of individuals. The two Scotts acted five and six times respectively, not nine and one as might be assumed.

Perhaps the most valuable piece of information is the up-to-date detail of the whereabouts of all known copies of the award and map. For many researchers, the ability to locate immediately the nearest copy will be of considerable help.

The work is not without its errors and omissions. For example, Thomas Scott senior is not recorded under Kirkdale, though he replaced Edward Cleaver on the latter's death. In general, however, this is a useful addition to the slowly-growing store of enclosure data.

J CHAPMAN

Letters to the Editor

28 April 1985

Dear Sir,

It is apparent from the content and style of his paper on British Agricultural Policy since the Second World War (Vol 33, Part 1, pp 66-76) that Mr J K Bowers is an enthusiastic subscriber to the conspiracy theory of history. Indeed at one point he declares that criticism of the policy was reduced because 'everybody with the knowledge of the details was likely, one way or another to be part of the system'. The implication of his paper is that successive Ministers of Agriculture and Chancellors of the Exchequer of successive Governments of differing political ideologies, together with their supporters, senior civil servants and agricultural economists were all part of a gigantic and continuing plot to featherbed the farmer (to use a famous phrase from the era) at the expense of the taxpayer. The further implication is that this policy was not only misguided but that those involved deliberately set out to deceive the taxpayer. Mr Bowers refers to new arguments being 'introduced' or 'found' to justify the continuation of price support policies; thus implying that the Government had other reasons for their actions. His paper would then have been more balanced if he had considered the possibility that the policies were indeed right and thus fully justified at the time. As a result of this failure, I fear that his paper does not meet the high standard of objectivity which members of our Society expect in their journal.

This unbalanced interpretation of recent history would perhaps not matter too much if it were not for the open attack on present day farming contained in the closing paragraphs of the paper. Not only is this attack misplaced in a historical study of this kind, it is, in a number of respects, misleading or worse, inaccurate. The misleading statements can be identified by phrases such as 'There has clearly been . . . but this still awaits documentation' or 'It could indeed be said . . .'. The inaccuracy is to be found in his statement that 'Existing plans by Water Authorities will, if carried through, eliminate virtually all the wetland grazing marsh in England and Wales'. I can claim to have considerable knowledge

of the land drainage activities and plans of Water Authorities and I know of no plans of the kind described by Mr Bowers. Indeed the recent cuts in drainage expenditure imposed by the Minister of Agriculture Fisheries and Food will result in a significant reduction in the already modest plans of Water Authorities. I hope therefore that your readers will not be misled into accepting Mr Bowers' assessment of the relationship between agriculture and the countryside. In this context, it would perhaps have been helpful if the 'Notes on Contributors' had contained a reference to Mr Bowers' close links with the conservation movement.

Yours faithfully,
A F Longworth
CBE, BSc

Howicks
Nonnington Lane
Graftonham
Petworth
W Sussex
GU28 0PX

12 June 1985

Dear Editor,

I do not subscribe to a conspiracy theory of agricultural policy formation nor am I a conspirator in something called the Conservation Movement. The sources for the information and views in the latter part of my paper are to be found in the footnoted references. The question of standards is, of course, a matter for you and your referees.

Yours sincerely,
J K Bowers

School of Economic Studies
University of Leeds
Leeds, LS2 9JT

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