

# *The* AGRICULTURAL HISTORY REVIEW



VOLUME 17 1969  
PART I

\*

The Classical Tradition in West-European Farming:  
the Fourteenth and Fifteenth Centuries

G. E. FUSSELL

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Demesne Farming in the Chiltern Hills

DAVID RODEN

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The Combination and Rotation of Crops in East Worcestershire,  
1540-1660

JAMES YELLING

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Underdraining and the English Claylands, 1850-80: a Review

A. D. M. PHILLIPS

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Irish Agriculture: Review Article

JOSEPH LEE

PUBLISHED BY  
THE BRITISH AGRICULTURAL HISTORY SOCIETY

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David & Charles plan to reprint the majority, if not all, of the county volumes over the next few years, beginning with the three volumes listed on page 3. First, however, they are republishing William Marshall's Review and Abstract, which summarised the County Reports, in a uniform style in five volumes published in 1818.

The works are being reprinted in their entirety, though where economy can be achieved without any loss of material or clarity a very limited amount of rearrangement is being made in certain contents. For instance, some folding tables are rearranged to appear on double-page spreads within the volumes proper.

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# The Classical Tradition in West-European Farming: the Fourteenth and Fifteenth Centuries

By G. E. FUSSELL

NO vernacular textbook of farming was written in Western Europe during the fourteenth and fifteenth centuries. Anyone who wanted to study the best farming methods, or at least those recommended by written authority, was forced back upon the *Scriptores Rei Rusticae* if they were to hand, or upon the treatises written by Crescentius and the English writers of the thirteenth century. Only one translation of a Roman writer into a vernacular language appears to have been made during this period, that of Palladius into fifteenth-century English verse, made for Duke Humphrey of Gloucester.

It is true that the art of printing was discovered in the fifteenth century, and was brought to England by Caxton, but there was no writer on agriculture who took advantage of this new process to inscribe an original farming treatise and get it into circulation. What did happen was that the Roman writers were printed in the language in which they were written. But before discussing the printed editions of these books it will be well to consider how widely they were dispersed in manuscript, and who owned the copies. A complete list is now probably impossible to compile, but the location of some copies is known. Whether they were consulted for practical purposes remains open to question, and, indeed, is very doubtful.

Palladius' *De Re Rustica* seems to have been the most widely distributed of the Latin texts in manuscript form, though any kind of assertion about this must be accepted with very great reserve. J. C. Schmit, who edited a Teubner print in 1898,<sup>1</sup> believed the work was frequently both transcribed and read, and the number of manuscripts in being almost infinite. This is undoubtedly an exaggeration. Although he supplied a list of a large number of recorded manuscripts, it could not by any stretch of imagination be called infinite. Only two years before this edition was published Mark Liddell edited a version of *The Middle English Translation* . . . which was printed in Berlin in 1896, but there was no intention here of examining the practical value of Palladius.

<sup>1</sup> J. C. Schmit, *Paladii Rutuli Tauri Aemiliani Viri Illustris Opus Agriculturae*, Leipzig, 1898, Preface.

Liddell's edition was produced for the purpose of linguistic study, and he casts some scorn on the earlier edition, oddly written in verse, which was made for Duke Humphrey about 1420 (?). A copy of the manuscript of this translation into Middle English was in Colchester Castle Museum in the 1870's, and a version was printed by the Early English Text Society in 1873.

Duke Humphrey of Gloucester was one of the growing number of princely *literati* of the fifteenth century, a patron of Caxton, and a great book collector though somewhat ruthless in his methods. He seized the library at the Louvre to form the foundation of his collection, which he later presented to the University of Oxford. Was this the library, or part of it, originally accumulated by Charles V of France? Some of his books he kept in the tower at the Louvre; others were stored at Melun, Vincennes, St Germain en Laye, and Beauté sur Marne. Amongst them was more than one copy of Vegetius in translation, but the catalogues of his library do not mention either the Latin text of Crescentius, or a translation of his book. The Duke of Berry, however, procured a copy of the original text and a translation. There seems to be no trace of any of the Roman writers in this royal library. Duke Humphrey sent lists of *desiderata* to agents in Italy, which included Pliny the Elder and Varro, so it seems possible that he ordered the translation of Palladius for use as a textbook for the improvement of the farming on his estates.<sup>1</sup>

This, however, was after printing had been invented, though of course people continued to collect manuscripts of classical writings as they have done ever since. Indeed, the arrival of new works in Venice, for example, was an event for rejoicing among the *virtuosi* of the early Renaissance, and had been for some long time.

The monastic libraries have been credited with the preservation of the works of the classic agricultural writers. Usually this statement is made in a broad general way, and appears to be little more than an inspired guess—if it is inspired! How frequently the monks consulted them cannot now be determined. Some have been credited with following their precepts on their estates, which are also credited with being generally better cultivated than those of lay lords or peasants. If that is so, these improved systems were not widely, or perhaps even narrowly, imitated. The continual copying of Virgil's *Georgics*, which really contain a scrappy rather than a systematic account of farming, continued as in previous ages, and many of these copies were beautifully illustrated, possibly more as literature than as a textbook. The treatise of Jean de Brie, *Le Bon Berger*, was in the same category as Duke Humphrey's translation of Palladius. It was a practical textbook ordered by Charles V of

<sup>1</sup> J. R. Green, *Short History of the English People*, 1907 edn, London, p. 298; James Westfall Thompson, *The Medieval Library*, Univ. of Chicago Studies in Library Science, 1939, pp. 404-5; Leopold Delisle, *Recherches sur la librairie de Charles V*, Paris, 1907, I, pp. 3, 4, 8, 33, 116.

France in 1379, and passed through many editions after it was printed about 1540.<sup>1</sup>

Some doubt was cast upon monastic interest over a century ago, and this I should like to underline. It was recognized that many ancient manuscripts were defaced in order to provide parchment on which to copy "the psalms of a breviary, or the prayers of a missal," and that to some minds of the time reading the classics was an idle occupation.<sup>2</sup> But a widening of intellectual interest took place not only in the monastic but also in the growing university world, and this must have led, as is well known, to the collection of, and commentaries on, texts quite outside the realm of theology. It is perhaps significant that the Carmelites at Florence had none of the rustic authors in their library at the end of the fourteenth century. They did have an Isidore, and other later, almost contemporary, works. Isidore, indeed, figured in a good many medieval libraries, but was of trifling aid to anyone wishing to study farming technique.<sup>3</sup>

Other ecclesiastical organizations and eminent churchmen had one or other of the agrarian works. The Archbishop of Riga (1304-41) owned a Cato. There was a variety of classical manuscripts at Pisa about 1355, amongst which was one of Palladius. St Croce, Florence, had Servius on Virgil, Vegetius, and Lucretius. A Servius was left by Boccaccio to St Spiritus, Florence, amongst other manuscripts, but this is very scrappy. Humphreys asserts that no college (library) had the range of the friars' libraries, and none had many agricultural books.<sup>4</sup>

In England during the fourteenth and fifteenth centuries the monasteries were becoming more and more lax and indolent. The cathedral schools with their libraries were more active as were those of the Franciscans and Dominicans. This is not to say that the books disappeared, but they were no longer assiduously copied, or perhaps looked after. Yet Abbot Whethamstede, St Albans, had Cato copied. Durham had a Palladius and a Virgil in the late fourteenth century or early fifteenth. St Paul's possessed the *Bucolics* in 1458, and an Isidore. Peterhouse owned a Virgil in 1399. There had been a Palladius at the Cistercian Abbey at Byland, Yorkshire, in the twelfth century, and another at the Benedictine Abbey of St Augustine, Canterbury. Other copies were at the Augustinian Abbey at Waltham and in the Benedictine Cathedral Priory at Worcester in the thirteenth century. Moreover, there were three copies of Walter of Henley's *Hosebondrie* in Canterbury Cathedral Library in the thir-

<sup>1</sup> Michel Augé-Laribé, *La Révolution Agricole*, Paris, 1955, p. 14.

<sup>2</sup> Isaac D'Israeli, *Curiosities of literature*, 14th edn, London, 1849, vol. I, pp. 18-19.

<sup>3</sup> K. W. Humphreys, *The Library of the Carmelites of Florence at the End of the Fourteenth Century*, Studies in the History of Libraries and Librarianship, vol. II, Amsterdam, 1964.

<sup>4</sup> Idem, *The Book Provisions of the Medieval Friars, 1215-1400*, Amsterdam, 1964, pp. 101-5, 112-14, 130.

teenth and fourteenth centuries, and rather surprisingly copies of Crescentius in Hereford Cathedral, York Cathedral Church of St Peter, and also at New College, Oxford, in the fifteenth century. Copies of Virgil, whether of the *Aeneid*, or of the *Georgics* or *Bucolics* is not disclosed, were scattered about the country.<sup>1</sup>

The devastations of the Hundred Years War did not spare the libraries of France, but additions were also made. Jean de Montreuil, chancellor to Charles VI, brought home a Varro, *De Re Rustica*, when he returned from his travels in Italy as well as other Latin works, till then unknown in France. The monks in the great monasteries of St Gall, Corbie, and Fulda seem at this time to have been disastrously ignorant.<sup>2</sup> Scholars and collectors were, however, busy in the fourteenth century, especially in Italy. Petrarch owned a Pliny, Varro, Palladius, and Virgil's *Bucolics*. The question whether Boccaccio was the first man to possess Cato has been asked, Coluccio Salutato disputing precedence. Columella was known to Petrarch, but the first complete Varro, Martial, and other works were restored to unity by the energy of Boccaccio, or so it is said. Poggio Bracciolini (1380-1459) is credited with having discovered some twenty manuscripts of Columella which he took to Italy. Petrarch tried to get a Hesiod from Constantinople. One Guglielmo de Pastrengo (? of Verona, fourteenth century) knew the works of Vegetius, Palladius, Pliny, and Varro. There were other copies of Columella, Pliny, Varro, and Cato in the private library of the Medicis; but the details become tedious. Sabbadini's index lists six copies of Cato, seven of Columella, eight of Palladius, fourteen or so of Pliny, eight of Varro, and a good many of Virgil.<sup>3</sup>

All this seems to show that there were only a few copies of the *Scriptores Rei Rusticae* scattered over Western Europe in the fourteenth and fifteenth centuries, a conclusion confirmed by the exhaustive researches of Manitius. In Spain there was none except a couple of printed copies of Virgil's *Bucolics* and one of the *Georgics* in the last years of the fifteenth century.<sup>4</sup> Of manuscripts there seems to be no list.

Though the Greek work compiled by Cassianus Bassus for Constantine Porphyrogenitus was translated into Arabic either direct from the Greek or

<sup>1</sup> Thompson, *op. cit.*, pp. 378, 381, 387; but see also Strickland Gibson, *Some Oxford Libraries*, O.U.P., 1914, whose index gives no reference to Cato, Columella, Varro, or, astonishingly, Virgil; Raymond Irwin, *The English Library*, London, 1966, p. 132; N. P. Ker, *Medieval Libraries of Great Britain. A List of Surviving Books*, 2nd edn, Roy. Hist. Soc., London, 1964, pp. 22, 35, 42, 98, 168, 193, 208, 216.

<sup>2</sup> Thompson, *op. cit.*, pp. 414, 425, 453.

<sup>3</sup> Thompson, *op. cit.*, pp. 510-86; R. Sabbadini, *Le Scoperte dei Codici Latini e Greci ne' Secoli XIV e XV*, Florence, 1905, vol. I, pp. 16, 25, 34, 74, 82, 87, 151, 184; vol. II, pp. 14, 44, 50, 68, 74, and Index; Columella, Loeb edn, 1955, ed. Harrison Boyd Ash, vol. I, p. xvii.

<sup>4</sup> Max Manitius, *Handschriften antiker Autoren in mittelalterlichen Bibliothekskatalogen*, Leipzig, 1935, *passim*; Conrado Haebler, *Bibliografía Ibérica del siglo XV. Enumeración de todos los Libros impresos en España y Portugal hasta el Año de 1500*, Leipzig, 1903.

through Syriac or Pehlevi, I have found no mention of any manuscript in Western Europe in the catalogues to hand. Kraus said that amongst the Jabirian treatises is one *Kitab al Filaha* (*Book of Agriculture*), in which the majority of agricultural methods mentioned in *Kitab al Hawass* are repeated, and which was composed of almost literal versions of passages from ancient sources. The book was translated into French, German, and Italian, and printed in the sixteenth century. It was printed in England in Greek and Latin in the early eighteenth century. To this may be added Bolgar's assertion that Greek texts were available, presumably in manuscript, in Italy before 1450, including Xenophon's *Oeconomica*, six copies of Theophrastus, and seven of Hesiod, but the evidence for this is of unequal value.<sup>1</sup>

The duplication of books was simplified and made more rapid after the invention of printing. The second half of the fifteenth century saw the production of many classical works, amongst them the *Scriptores Rei Rusticae*. Indeed Augé-Laribé believes that books about farming were then impatiently awaited,<sup>2</sup> which is an opinion of substantial probability with no equally substantial basis of proof. Be that as it may, a collection, *Scriptorum Rei Rusticae Veterum Latinorum*, was printed at Venice in 1470, and five other editions before 1500. Two editions, of 1494 and 1496, entitled *Opera Agricolationum*, which included Columella, Cato, Varro, and Palladius, were issued from Bonn. An Aldine edition of Theophrastus, *Enquiry into Plants*, was printed from an imperfect manuscript at Venice, 1495-8.<sup>3</sup>

How can the effect of these works upon the actual practice of farming be measured? Were they perhaps read only as literature, as the wisdom of the ancients who were reputedly much wiser than contemporary men? Was practical farming only the result of traditional knowledge handed down verbally from father to son, or perhaps from grandfather to grandson while the father was actually working in the fields? These are questions to which there is no possible definite answer. Since the only medieval farming textbooks were those of Crescentius, Walter of Henley, Fleta, the anonymous *Seneschaucie*, and the work of Grosseteste, and these were already a century old, little or no comparison of theory is valid for the fourteenth and fifteenth centuries.

In the field it is obviously likely that the methods of the old Romans would still be practised in Italy, if not modified by the effluxion of time and the inattention of disheartened peasants. It was in this country, too, that the taste for collecting the ancients first flowered into enthusiasm greater than ever before, where Dante "incessantly" studied Virgil, Petrarch added fuel to the

<sup>1</sup> Paul Kraus, *Jabir ibn Hayyan: Contribution à l'Histoire des Idées scientifiques dans l'Islam*, vol. II, *Jabir et la Science Grecque*, *Memoires de l'Institut d'Egypte* 45, Cairo, 1942, pp. 79, 80, 84; R. R. Bolgar, *The Classical Tradition and its Beneficiaries*, New York, 1964, p. 276.

<sup>2</sup> Augé-Laribé, *op. cit.*, p. 14.

<sup>3</sup> Schmit, *op. cit.*; British Museum Catalogue of Printed Books; Bibliographies in Loeb editions.

passion for collecting, and Boccaccio's writings and other activities helped the cause along. Great nobles, the Visconti and the Medici, became assiduous in adding priceless manuscripts to their libraries.<sup>1</sup> The purpose for which these works were studied was not precisely practical. Linguistics played a large part. The study of Greek, never wholly neglected, fascinated the men of the fourteenth and fifteenth centuries. From an extinct world they hoped to derive unprecedented wisdom in morals and philosophy rather than guidance in the management of production, trade, and mundane affairs, "to make life here below worthy of a creative God."<sup>2</sup>

This is not for one moment to suggest that Duke Humphrey, when commissioning a translation of Palladius into the vernacular, did not have a practical purpose in view, but he was far away on the outskirts of civilization and late in the period. Virgil was generally more or less worshipped, and his works were read and admired all over the west, but Virgil is not a real guide to the practice of farming.<sup>3</sup>

Tangible evidence for the use of the few manuscripts of the classical textbooks in fourteenth- and fifteenth-century England is scanty, if not completely non-existent. Notable historians have asserted that they were consulted by great landowners, both ecclesiastical and lay. No doubt there were copies to be consulted, and the duplication of the thirteenth-century books of Crescensius, Walter of Henley, etc., provided the opportunity for reading them.<sup>4</sup> But the changes in farming that took place were on the whole the consequences of disastrous social conditions, rather than of studying or reading the small quantity of literature stored in scattered libraries spread through the west. The changes were indeed rather in social organization than in technology.

New libraries were established and older ones expanded in England as learning increased. Examples are St Albans, built in 1452-3, the library of the Black Monks at Oxford, and also of the White Friars. The Austin Friars built a library in London before 1364. The Grey Friars' library was founded by that famous man, Dick Whittington. An inventory of the library of the Austin Friars at York was made in 1372. The early fifteenth century has been called the age of library building at monasteries and universities. Some owned no less than two or three thousand volumes, but in his list of classic authors, admittedly selective, Ernest A. Savage does not mention any one of the rustic

<sup>1</sup> J. C. L. Sismondé di Sismondi, *Historical View of the Literature of the South of Europe*, 2nd edn, 1846, tr. Roscoe, vol. I, pp. 246, 276-7, 304, 311; Denys Hay, *Italian Renaissance in its historical Background*, C.U.P., 1966, p. 119; Maud F. Jerrold, *Francesco Petrarca, Poet and Humanist*, London, 1909, pp. 49, 208, 210-11, 232-3.

<sup>2</sup> Sismondi, *op. cit.*, p. 313; Hay, *op. cit.*, p. 121.

<sup>3</sup> L. P. Wilkinson, 'The intention of Virgil's *Georgics*', *Greece and Rome*, vol. XVIII, 55, Jan. 1950, pp. 19-21.

<sup>4</sup> See for example Eileen Power, 'Peasant life and rural conditions c. 1100-1500', *Camb. Med. Hist.*, vol. VII, 1932, pp. 729-31; Bolgar, *op. cit.*, pp. 262-3.

authors,<sup>1</sup> perhaps because he was mainly occupied with the contemporary interest in theology and philosophy.

Whether the books were studied or not, there was little change in the actual processes of farming during these two hundred years. The fall in population reduced the possibility, and necessity, of maintaining the expanded arable acreage that had been cultivated in the thirteenth century. Deserted villages became a commonplace of the countryside. Farms, for which no tenant could be found, lay vacant on many manors. There had always been large-scale live-stock undertakings in the more isolated hill country, and landlords, desperate for a return from their estates, began, first, to use vacant land for sheep to increase the remunerative production of wool, next to depopulate and enclose land, which had formerly been arable, for this purpose. This story is so well known that it requires no repetition here. Certain agricultural advantages were consequent on this action, though the men who were cast out and deprived of their traditional way of life were reduced to the level of paupers, or at best wage labourers. Still they were able to offer their strength and skill in a seller's market, and some of them benefited accordingly. It is said, too, that more forage crops were grown, such as beans, peas, lentils, and oats, but little of this owes anything to the classical tradition.<sup>2</sup>

Climatic and epidemic disasters were as bad, if not worse, in France as in England. The French countryside, too, was devastated in the long years of the Hundred Years War, intermittent though the campaigns were. Germany suffered as much as the rest of Western Europe from weather, pestilence, and war. Eastward expansion ceased, and there was a shrinkage of the area under cereals. The Black Death decimated the population, and noble warriors destroyed many towns. There was no stimulus to seek for improved methods. Consequently, there is no indication that people turned to the *Scriptores Rei Rusticae* for guidance, even supposing the books to have been conveniently to hand, and the farmers able to read them. The peasants could not be expected to make any improvements in their methods at a time when their numbers had fallen so sharply, and did not rise again until the very end of the fifteenth and early sixteenth centuries. A greater handicap was the bad seasons, to which were added continual war and banditry. The peasants could have learned improved systems only from the great landowners who were able to study the available textbooks, but these people either let their estates piecemeal or turned to live-stock, the majority of the animals being sheep for wool, meat, and milk.

The only changes that seem to have been made were on land favoured by

<sup>1</sup> Ernest A. Savage, *Old English Libraries. The Making, Collection and Use of Books in the Middle Ages*, Antiquaries Books, London, 1911, pp. 51-6, 63, 258, App. B.

<sup>2</sup> Even the general histories of England for the period confirm these conclusions, but they are far too numerous and consistent to be set out in a footnote. But see Maurice Beresford, *The Lost Villages of England*, London, 1964, *passim*.

exceptional conditions, for example in Lombardy near the rich towns, and in parts of Spain developed by the Moors by means of irrigation canals. Here the olive, the mulberry, and the vine flourished.<sup>1</sup> In Flanders, too, near the towns and on land reclaimed from the sea, farming was not fettered by regulations, though some of this land suffered from disastrous floods. Agriculture was comparatively highly developed, and interest shifted from grain alone to increased attention to fodder crops. Here it is possible that cattle breeding may have increased at the expense of arable farming.<sup>2</sup> This is a subject I hope to expand elsewhere.

Towards the end of the fifteenth century recovery began, and printed versions of the *Scriptores Rei Rusticae* circulated. In Augsburg Crescentius was first printed in 1471, of whom Fraas rather condescendingly said that he only repeated the maxims of the Roman writers, a statement which is imprecise, but relatively true. Crescentius also used Arabic sources as well as his own observations of the contemporary scene—one of the reasons why his instructions are not invariably applicable to farming in Northern Europe.<sup>3</sup> Doubtless these books were examined because the ancient wisdom was more and more highly regarded, and was easier to get at. An estimate of the number of volumes in existence, based on what authority I do not know, is that before 1440 less than 100,000 manuscripts were in existence while by 1500 there were more than nine million books in print.<sup>4</sup> These figures must include all sorts of works, and what proportion were agricultural texts it is impossible to guess. It is safe to say that more were circulating than ever before, but beyond that it is impossible to go. It is only with the appearance of vernacular textbooks in the sixteenth century that the influence of the classical writers can be surely traced; and even then it is possible to measure its impact on literature only and not on actual farming practice.

<sup>1</sup> P. Boissonade, *Life and Work in Medieval Europe*, tr. Eileen Power, London, 1927, p. 316; H. C. Darby, 'The face of Europe on the Eve of the great Discoveries', *New Camb. Mod. Hist.*, vol. I, 1493-1520, 1957, pp. 25-7; Angel Flores, ed., *Medieval Age; Specimens of European Poetry from the ninth to the fifteenth centuries*, London, 1965; Edouard Perroy, *Le Moyen Age. L'Expansion de l'Orient et la Naissance de la Civilisation Occidentale*, Paris, *Histoire Générale des Civilisations*, vol. III, 1955, pp. 403-8.

<sup>2</sup> Charles Seignobos, *The Rise of European Civilisation*, tr. C. A. Phillips, London, 1939, p. 208; B. H. Slicher van Bath, 'Economic and Social conditions in the Frisian Districts from 900 to 1500', *A. A. G. Bijdragen*, no. 13, 1965, pp. 125, 129-30.

<sup>3</sup> Wilhelm Abel, *Geschichte der deutschen Landwirtschaft*, Stuttgart, 1962, pp. 109-13, 115-18; C. Fraas, *Geschichte der Landbau und Forstwirtschaft*, München, 1865, pp. 31-2.

<sup>4</sup> Grant C. Cannon, *Great Men of Modern Agriculture*, New York, 1963, p. 17.

# Demesne Farming in the Chiltern Hills

By DAVID RODEN

FAR from being a backward area in which cultivation was subservient to a woodland or grazing economy, as has sometimes been suggested, the Chiltern Hills was a region of fairly advanced agricultural practices during the Middle Ages. This was best exemplified in the quality of its demesne farming, with elaborate manuring, the early appearance of a three-course rotation, and controlled grazing within large enclosed fields. As in other parts of medieval England demesne cultivation became increasingly complex in character, the relatively simple cropping and pasturing techniques of the twelfth and thirteenth centuries being transformed in the fourteenth century into elaborate and flexible routines in response to changing socio-economic conditions. Owing to the paucity of evidence relating to medieval peasant cultivation, most information about Chiltern agriculture in general at that time, and especially about the practical operation, in terms of cropping, of the field systems peculiar to the region, must be based on extents and accounts for demesne estates. This limits the scope of the conclusions, but it enables comparisons to be drawn with demesne farming elsewhere. Moreover, many demesnes were intermingled with peasant land, and their farming routines must have influenced peasant holdings.<sup>1</sup>

The Chiltern Hills comprise a dissected chalk plateau extending nearly fifty miles from the Hitchin Gap south-west to the Goring Gap. From an escarpment that rises 300 to 400 feet above the clay Vales of Oxford and Aylesbury, the Hills dip gently south-eastwards, five to ten miles, to the gravels of the Thames' terraces and the Vale of St Albans. The plateau surface is broken by five troughs, now occupied by the principal streams, and between these it is further scored by a network of deep, steep-sided and mostly dry valleys. Dissection is deepest in the south-west and central Chilterns, where plateau remnants rarely exceed two miles in width, but towards the north-east slopes become gentler and remains of the surface are more extensive. Chalk is exposed only on the scarp face and valley slopes for everywhere the plateau is thickly mantled by superficial deposits (mainly clay-with-flints with brickearths in the north-east) and by scattered outliers of Eocene sands and gravels. There is thus considerable variety of soils, ranging from thin, highly calcareous rendzinas on the steeper slopes to heavy clay loams, silts, sandy loams, and acid gravels on the plateau. All are well drained and essentially dry, but soils of the lower, eastern

<sup>1</sup> I would like to acknowledge a grant received from the Central Research Fund of the University of London towards research expenses.

Chilterns are on the whole more loamy and less stony than those of the more dissected west. Throughout the Hills some of the most easily worked soils are along the lower valley slopes.

Assarting was ending during the thirteenth century to leave a pattern of fields and land use that was to remain basically unchanged for 300 years. Extensive woods and common wastes survived, especially in the south-west and centre of the region. A substantial proportion of the cultivated area lay in severalty, but common fields, subdivided into half-acre and one-acre strips and open to common grazing, existed throughout, although they were most prominent in the north-east, where less than half the arable of some townships was enclosed. Within the individual common fields, strips were grouped into furlongs, yet the fields themselves were small compared with the great open units characteristic of the Vale below the escarpment, and there were often as many as ten, twenty, or thirty separate common fields in one Hill township.<sup>1</sup>

By the thirteenth century, too, the Chilterns was an area of moderate prosperity and social mobility. The mixed peasant population of freeholders, villeins, and cottars enjoyed considerable economic freedom: commutation of labour services was often well advanced; those that survived were generally optional to a money payment; and most manorial demesnes were maintained by a body of permanent servants, villein works being enforced only for hay-making, ploughing, and harvesting. Even these obligations had often been abandoned by 1300. Demesne farming was also at its peak, with land values and farm incomes reaching their highest levels during the century, and with the cultivated area at its most extensive. But changing conditions were apparent before 1300, especially on the more marginal manors of the south-west, and the first half of the fourteenth century brought a prolonged decline which was accentuated by the epidemic of 1348–50, with its massive reduction of population, and which continued well into the fifteenth century. As farm labour became scarce, land values dropped and direct demesne farming was restricted or abandoned completely.<sup>2</sup>

The typical Chiltern demesne farm was fairly big: the average cultivated area of a sample of 14 holdings in the thirteenth and fourteenth centuries was 382 acres,<sup>3</sup> twice as large as the Leicestershire average at the end of the thir-

<sup>1</sup> For a more detailed account of the field pattern, see D. Roden and A. R. H. Baker, 'Field Systems of the Chiltern Hills and of Parts of Kent from the late Thirteenth to the early Seventeenth Century', *Trans. and Papers of the Inst. of British Geographers*, xxxviii, 1966, pp. 73–88.

<sup>2</sup> For a more detailed account of social and economic conditions, see D. Roden, 'Studies in Chiltern Field Systems', unpublished Ph.D. thesis, University of London, 1965, pp. 271–6.

<sup>3</sup> These were demesnes for which detailed statements of the whole cultivated area are available. They were at Flamstead, Berkhamsted, Offley, Hemel Hempstead, Great Gaddesden, Codicote, Great Missenden, Lee, Fastnidge, Dundridge, Shortgrave, Caddington, Kensworth, and West Wycombe.—Public Record Office (hereafter P.R.O.), C132/31/3, C133/95, C134/101/10, E142/81/2; *Cal. Close Rolls*, 1323–7, p. 293; British Museum (hereafter B.M.), Add. MS. 4073,

teenth century.<sup>1</sup> There was, however, a considerable range of individual sizes from the 840 acres of Flamstead in 1264 to less than 100 acres on some of the smaller subsidiary manors found in many townships, and the fourteenth-century depression resulted in the reduction of many larger manorial farms either through their incorporation into parkland or, more usually, through limited leasing to tenants.<sup>2</sup> In general, the largest demesnes, always part of the main manor of a township, were sited on some of the best agricultural land in any locality. In the central and south-west Chilterns, in particular, the larger and older farms lay along the valley bottoms and lower slopes, centres of early settlement and cultivation, where some of the best soils are located and water supply was less of a problem; while the smaller farms of minor manors and monastic granges were often situated on the ridges and plateaux above, where late assarting had been concentrated.

A majority of farms consisted almost entirely of arable land with very small areas of permanent grassland, either meadow (suitable for hay) or pasture. Only along the floodplains of the main streams was meadowland, divided between closes in severalty and common meads, sufficiently extensive to meet, and sometimes even surpass, local needs, and even there the quality of grassland varied considerably from place to place and from time to time.<sup>3</sup> A few manors in the south-west also included large meadows down by the Thames. Otherwise, amounts were either very small or non-existent, and on some demesnes it was frequently necessary to import hay to feed the stock in winter.<sup>4</sup> The greatest areas of grassland were in the parks, already very numerous throughout the region, but these were often devoted to beasts of the chase and only occasionally entered the local farm economy.<sup>5</sup> Meadow after mowing, patches of poorer grassland along the floodplains, and pasture closes on the upper dip slope (perhaps on land unfit for continuous arable cultivation) provided grazing, yet on many manors permanent pasture was limited to small closes and orchards near to the farmsteads and to hedgerows, greenways, and

fols. 1-2; Stowe MS. 849, fol. 124; Harl. MS. 1885, fol. 76d; Harl. MS. 3688 (extents of 1335); Library of the Dean and Chapter of St Paul's (hereafter St Paul's), WD16 Liber I, fols. 115d and 122; Hampshire Record Office (hereafter Hants. R.O.), Eccl. 2/159282.

<sup>1</sup> R. H. Hilton, 'Medieval Agrarian History', in W. G. Hoskins (ed.), *V.C.H. Leics.*, II, 1954, p. 173.

<sup>2</sup> A large demesne field was taken into Berkhamsted Park (*Register of Edward the Black Prince*, I, p. 148), while at King's Langley, 1315, about one-third of all rent received by the manor came from leased-out demesne (P.R.O., SC6/866/20-1).

<sup>3</sup> Thus hay was being sold in the fourteenth century from the Great Gaddesden demesne, which had 40-50 acres of meadow on the Gade floodplain (Hertfordshire Record Office (hereafter H.R.O.), 2632; P.R.O., C134/73/5; *Cal. Close Rolls*, 1323-7, p. 293), and from the 20 acres of Chenies demesne meadow down by the Chess (P.R.O., SC6/761/4; C135/44/6).

<sup>4</sup> As at Ibstone.—D. Roden, 'Field Systems in Ibstone, a Township of the South-west Chilterns, during the later Middle Ages', *Records of Buckinghamshire*, XVIII, 1966, pp. 43-57.

<sup>5</sup> At West Wycombe, in particular, parkland helped support large demesne flocks and herds, grazing in it being leased to tenants when the demesne was understocked.

roadside verges.<sup>1</sup> Scarcity of grassland was reflected in the high values that it commanded: meadow was consistently assessed in manorial extents as worth four or five times as much as arable land, while the better pastures were twice as valuable as arable on the same farm.<sup>2</sup>

Although common wastes offered extensive grazing, especially in the south-west and centre of the region, the quality of their pasturage was generally poor, they were shared by lords and tenants alike, and the larger wastes were intercommoned by a number of townships.<sup>3</sup> Private woodland was not normally used for grazing other than swine pannage, partly because herbage was limited by shade and partly because flocks and herds would have damaged valuable timber.<sup>4</sup> There was some increase in pasturage after 1350 at the expense of the ploughed area, but on most manors this was a purely temporary trend and within a few years as much land was being cultivated as in the decade before the epidemic.<sup>5</sup>

The shortage of pasture described above underlines the importance of crop production as the basis of demesne farming. On all manors for which medieval grange accounts survive income from grain sales usually far exceeded that from the sale of livestock and their products before 1350,<sup>6</sup> and the only evidence of a

<sup>1</sup> As at Caddington and Kensworth.—W. Hale (ed.), *The Domesday of St. Paul's of the Year M.CC.XXII*, Camden Society Publications, LXIX, 1859, pp. 1 and 7. At West Wycombe the manor leased out grazing in hedgerows, footpaths, and roads, as well as in the parks and on meadow after mowing, as in 1346.—Hants. R.O., Eccl. 2/159356.

<sup>2</sup> For a more detailed account of grassland in the medieval Chilterns, see D. Roden, *loc. cit.*, 1965, pp. 306–11.

<sup>3</sup> M. A. Havinden has suggested that there was little need for permanent pasture in the Oxfordshire Chilterns because extensive rights of common grazing were available in woods and heaths.—M. A. Havinden, 'The Rural Economy of Oxfordshire, 1580–1730', unpublished B.Litt. thesis, University of Oxford, 1961, p. 134. But the high value of good pastures and the utilization of hedgerows and roadside verges for forage imply that the commons were often insufficient to meet all demands.

<sup>4</sup> For details of woods and common wastes, see D. Roden, 'Woodland and its Management in the Medieval Chilterns', *Forestry*, xli, 1968, pp. 59–71.

<sup>5</sup> As at West Wycombe, where the sown area was back to its former extent within ten years.—Hants. R.O., Eccl. 2/159351 ff.

<sup>6</sup> Manors for which complete grange accounts survive include West Wycombe for most years between 1208 and 1453 (indexed in W. H. Beveridge, 'The Winchester Rolls and their Dating', *Econ. Hist. Rev.*, II, 1929–30, pp. 93–113), Ibstone for most years between 1280–7, 1293–1301, and 1337–60 (Merton College MS. 5056–7, 5059–64, 5066–8, 5070, 5072, 5078–80, 5082–4, 5086–9, and 5091–105), Hemel Hempstead for 1249–50 (P.R.O., SC6/863/2), Hambleden for 1278–9 (P.R.O., SC6/1095/10), Kinsbourne in Harpenden for many years between 1279 and 1379 (Westminster Abbey Muniments, 8798–863), Berkhamsted for three years about 1300 (L. M. Midgeley (ed.), *Ministers' Accounts of the Earldom of Cornwall, 1296–7, Vol. I*, Camden Third Series, LXVI, 1942, pp. 12–27; P.R.O., SC6/863/7–8), King's Langley for many years between 1297 and 1325 (P.R.O., DL29/40/740; SC6/866/15–29), Chenies for 1323–5 (P.R.O., SC6/761/4–5), Chesham Bois for 1341 (P.R.O., SC6/1120/10), Knebworth for 1370–1 and 1404–8 (H.R.O., K100, K108, K110, K112, and K116), Penn for 1372–3 (B.M., Add. R. 659–60), Stonor for 1381–2 and 1386–7 (P.R.O., SC6/1248/14–16), Great Gaddesden for a single year at the end of the fourteenth century (H.R.O., 2632), and King's Walden for three years early in the fifteenth century (B.M., Add. R. 35934 and 45938; Add. Ch. 35746). Detailed statements of demesne crops and stock are also avail-

marked increase in pastoral activity after 1350 was at West Wycombe, where the flock more than doubled in size and cattle numbers increased substantially. Surplus farm produce was often exported from the region to be sold in the markets of the Vale and in London. As early as 1208 wheat and oats from West Wycombe were sent to Southwark, at least part of the consignment going down the Thames.<sup>1</sup>

With the exception of wheat, yields in the Hills were comparable with those in other areas (Table I), while variations of soil and slope within the region

TABLE I  
GRAIN YIELDS ON SOME DEMESNE FARMS  
(quarts for every quart sown)

| <i>Manor</i>                                           | <i>Wheat</i> | <i>Mixed<br/>corn</i> | <i>Oats</i> | <i>Barley</i> | <i>Dredge</i> |
|--------------------------------------------------------|--------------|-----------------------|-------------|---------------|---------------|
| <i>In the Chilterns*</i>                               |              |                       |             |               |               |
| Ibstone, 1281-1358                                     | 3.3          | 2.8                   | 2.6         | 2.9           | 2.7           |
| West Wycombe, 1200-1449                                | 3.3          | 2.8                   | 2.5         | 4.0           | 3.1           |
| King's Langley, 1313-24                                | 2.9          | —                     | 3.0         | 3.6           | 3.8           |
| Knebworth, 1405-7                                      | 3.1          | —                     | 2.7         | 3.1           | 2.2           |
| <i>Outside the Chilterns†</i>                          |              |                       |             |               |               |
| Cuxham (in the Vale), 1289-1359                        | 6.4          | —                     | 3.1         | 5.8           | 4.4           |
| Nine manors of the Bishops of<br>Winchester, 1200-1450 | 4.1          | —                     | 2.7         | 3.9           | —             |
| Norwich Cathedral Priory Estate                        | 4.7          | —                     | 2.8         | 3.3           | —             |

\* Merton College MS. *ut supra*; W. H. Beveridge, 'The Yield and Price of Corn in the Middle Ages', *Economic Journal*, Economic History Supplement, I, 1927, p. 156; P.R.O., SC6/866/16-28; H.R.O., K108, K112, and K116.

† P. D. A. Harvey, *A Medieval Oxfordshire Village: Cuxham, 1240 to 1400*, 1965, p. 58; W. H. Beveridge, *op. cit.*; H. W. Saunders (ed.), *An Introduction to the Obedientary and Manor Rolls of Norwich Cathedral Priory*, 1930, p. 60.

itself were reflected in differing emphases on the various crops rather than in changing levels of production. Yields were fairly uniform throughout. Thus wheat was the only winter-sown crop in the north-east, whereas towards the

able for Caddington and Kensworth in 1222 and 1299 (W. Hale, *loc. cit.*; St Paul's, WD16 Liber I, fols. 115d and 122).

<sup>1</sup> Hants. R.O., Eccl. 2/159270. Tenants at West Wycombe and Wheathampstead owed carrying services to London early in the thirteenth century (Hants. R.O., Eccl. 2/159317; B.M., Add. Ch. 8139) and by the fourteenth century corn merchants of towns such as Hertford, St Albans, High Wycombe, and Great Marlow were supplying London with grain bought in local markets (N. S. B. Gras, *The Evolution of the English Corn Market from the Twelfth to the Eighteenth Century*, 1915, p. 165).

south-west, where physical conditions were less favourable to cultivation, the poorer mixed corn (wheat and rye) became important, frequently exceeding wheat in acreage. A large proportion of demesne wheat was usually sold—it was the basis of farm income in the thirteenth century—while mixed corn was used on the manor, mainly in part payment to servants. Oats was the most important spring grain, but a greater variety of crops was sown in spring than in autumn with some land generally devoted to barley, dredge (oats and barley), pease, and vetch. During the fourteenth century, the balance of crops in this course moved away from the overwhelming dominance of oats that had characterized thirteenth-century production, and everywhere areas under barley and dredge, and to a lesser extent pease and vetch, expanded.<sup>1</sup> Oats was usually grown for local consumption, particularly as fodder,<sup>2</sup> whereas barley and dredge were primarily cash crops, fourteenth-century sales of which, together with malt made from them, frequently surpassed wheat sales in value. Pease and vetch, previously mainly forage crops, were also being sold on an increasing scale.

Sizes of flocks and herds often varied from manor to manor for no apparent reason.<sup>3</sup> Nonetheless the overall pattern is clear. Demesne flocks were substantial—the largest contained more than 1,000 sheep (at West Wycombe in the years after 1356) and flocks of at least 200 beasts were common—but they were also more liable to large fluctuations in numbers than any other livestock, and many demesnes were without a flock for some years. No significant variations are apparent in the general distribution of sheep within the Hills: they were just as important in the south-west and centre, where forage on common wastes was more extensive, as in the north-east, where there was more arable grazing. Wool was the most valuable flock product, although cheese made from ewes' milk was sometimes sold.<sup>4</sup> Sales of live beasts were usually only important as a means of disposing of old and diseased stock and lambs not needed to maintain or build-up the flock. Cattle herds were not large, averaging about twenty beasts and producing cheese and butter for sale,<sup>5</sup> while horses, not oxen, were the main source of farm power by the thirteenth century. Swine tended to be most numerous on manors with abundant pannage but there were some surprising anomalies: at Berkhamsted and Penn, both townships with extensive woods and wastes, surviving manorial accounts contain no reference to swine.

Arable land was, then, the major component of all demesne farms. Much of

<sup>1</sup> Similar trends have been noted in other parts of England at this time, for example, in Leicestershire and Kent.—R. H. Hilton, *loc. cit.*, pp. 160–1; T. A. M. Bishop, 'The Rotation of Crops at Westerham', *Econ. Hist. Rev.*, ix, 1938, pp. 38–44.

<sup>2</sup> There were some exceptions: for example, substantial amounts of oats were sold from West Wycombe at times during the thirteenth century, as in 1244.—Hants. R.O., Eccl. 2/159287.

<sup>3</sup> For a summary of stock on selected farms, see D. Roden, *loc. cit.*, 1965, Appendix N.

<sup>4</sup> As at King's Langley.—P.R.O., SC6/866/26.

<sup>5</sup> The largest herd, with more than fifty beasts, was at West Wycombe, where there was extensive meadowland and parkland.

this lay in severalty: the arable was completely enclosed on 12 of the 22 demesnes for which detailed descriptions of the cultivated area are available,<sup>1</sup> and on the remaining ten, where common and several arable were combined, proportions in the latter were often high.<sup>2</sup> In general, closes were a more prominent feature of demesne than peasant farming. Manorial holdings at Berkhamsted and Flamstead, for example, contained no common arable even though a relatively high proportion of tenant land in both townships lay in common fields. Much of the very limited enclosure (of common arable) undertaken before the sixteenth century was carried out by the manor, the new closes being added to the demesne farm and continuing to be cropped.<sup>3</sup>

Enclosed demesne fields were large and sometimes huge. The 840-acre arable farm at Flamstead in 1264 lay as three great closes of approximately equal area, while 334½ acres leased out at Berkhamsted in 1346 comprised three fields. A fourth field, earlier taken into the park, had contained 180 acres.<sup>4</sup> Sizes such as these were exceptional. More typical was the 50-acre average of the Missenden Abbey farm at Lee, 1335, where individual units ranged from 12 to 80 acres.<sup>5</sup> Even these smaller fields were considerably larger than the tenant closes which were usually less than 5 acres and rarely greater than 10 acres, and which lay around settlements and were intermixed with woodland and heath in areas of more recent assarting. Like these peasant closes, demesne fields were usually hedged and often also ditched.<sup>6</sup>

As on tenant holdings, too, common arable demesne was scattered amongst only some of the common fields of a township—usually those nearest the manorial farmstead—with no attempt at any regularity in its distribution either between the individual fields or between groups of fields. Thus the open strips of the St Albans' farm at Codicote were confined to five of the twenty common fields of the manor in the proportions of 55, 40, 35, 18, and 9 acres, and the common arable of Kinsbourne farm lay in no more than four of the forty or so common fields in Wheathampstead-cum-Harpenden.<sup>7</sup>

<sup>1</sup> These were at Chenies, Ibstone, King's Langley, Penn, and Stonor (see p. 12, n. 6), and Berkhamsted, Cisservernes in Codicote, Dundridge, Fastnidge, Flamstead, Lee, and West Wycombe (see p. 10, n. 3).

<sup>2</sup> These were at Caddington, Codicote, Great Missenden, Hemel Hempstead, Kensworth, Offley, and Shortgrave (*ibid.*), and King's Walden, Kinsbourne, and Knebworth (see p. 12, n. 6).

<sup>3</sup> D. Roden, *loc. cit.*, 1965, pp. 326–30.

<sup>4</sup> P.R.O., C132/31/3; *Register of Edward the Black Prince*, I, p. 148; IV, p. 233.

<sup>5</sup> B.M., Harl. MS. 3688. Some other averages were 60 acres at West Wycombe in 1231 (Hants. R.O., Eccl. 2/159282), 28½ acres at Codicote in 1332 (B.M., Add. MS. 40734, fols. 1–1d), 12 acres at Dundridge and 25½ acres at Great Missenden in 1335 (B.M., Harl. MS. 3688), and 24 acres at Cisservernes in 1414 (B.M., Stowe MS. 849, fol. 124.)

<sup>6</sup> The expenses of hedging and ditching are frequently recorded in manorial accounts.

<sup>7</sup> B.M., Add. MS. 40734, fols. 1–1d; Westminster Abbey Muniments, 8807 ff. Common arable of the Missenden Abbey farm at Great Missenden lay in two to four common fields in 1335, and the King's Walden demesne included holdings in seven of the thirty common fields in the township in 1472.—B.M., Harl. MS. 3688; Add. R. 35945.

Considerable pains were taken to maintain soil condition over the ploughed area. Marling was widely practised,<sup>1</sup> legumes were grown on most farms,<sup>2</sup> while manure from stables and cowsheds,<sup>3</sup> litter collected from the streets of towns and villages such as High Wycombe,<sup>4</sup> and dead leaves and deer droppings gathered from parkland, as at Berkhamsted,<sup>5</sup> were also spread over the arable. The simplest and commonest way of applying manure, however, was by running stock on the fallow and stubble.<sup>6</sup> Conversely, these were often also valuable as pasturage.

The earliest evidence of grazing over the arable is of very generous common rights extending over all demesne tillage, both common and enclosed, and often over woods and wastes as well. Twelfth-century Flamstead tenants were free to pasture the entire demesne,<sup>7</sup> while a mid-century grant in Missenden to the newly established abbey there was accompanied by the right to pasture all the grantor's land.<sup>8</sup> The first specific reference to grazing on the fallow is in an agreement made in the 1170's, by which Alexander de Hampden gave pasture rights "in wood and field" for a fixed number of animals to Missenden Abbey in return for common grazing for himself and his men in whichever of the three fields of the Abbey's farm at Honor should be fallow.<sup>9</sup> These and similar grants appear to have been made regardless of whether the demesne arable was scattered in common fields or lay in compact closes; both the Flamstead farm and the Honor grange were probably completely enclosed, while closes and woods owned by the monks of Thame at Wyfold were pastured in common by more than thirty farmers until 1230.<sup>10</sup>

<sup>1</sup> The earlier West Wycombe accounts refer to the cost of marling, as in 1208 when 28 acres had been treated and in 1226 when 21 pits were dug.—Hants. R.O., Eccl. 2/159270-1; 159281. There are also numerous medieval references to marl pits, including a case at Medmenham where a priest died following a fall into a marl pit.—J. G. Jenkins (ed.), *Calendar of the Rolls of the Justices on Eyre, 1227*, Publications of Records Branch, Bucks. Archaeolog. Soc., VI, 1942, p. 48, no. 526.

<sup>2</sup> *Vide supra*, p. 14.

<sup>3</sup> As at Ibstone (Merton College MSS. 5066 and 5089) and Berkhamsted (*Register of Edward the Black Prince*, I, p. 148). At West Wycombe dung was sometimes bought from tenants for the demesne farm, as in 1347 (Hants. R.O., Eccl. 2/159357).

<sup>4</sup> A. Clark (ed.), *The English Register of Godstow Nunnery near Oxford*, Early English Text Society, CXXIX, CXXX, CXLII, 1905-11, p. 100, no. 104; M. W. Hughes (ed.), *A Calendar of the Feet of Fines for the County of Buckingham, 7 Richard I to 44 Henry III*, Publications of Records Branch, Bucks. Archaeolog. Soc., IV, 1940, p. 49.

<sup>5</sup> *Register of Edward the Black Prince*, IV, p. 82.

<sup>6</sup> The value of this is implicit in a King's Walden grant of 100 sheep for the manorial fold for two years.—B.M., Add. Ch. 35684.

<sup>7</sup> A grant of land to the Priory of St Giles-in-the-Wood included "common pasture in my land in wood and in field such as others of my men."—H.R.O., 17465.

<sup>8</sup> J. G. Jenkins (ed.), *The Cartulary of Missenden Abbey, Part I*, Publications of Records Branch, Bucks. Archaeolog. Soc., II, 1939, p. 66, no. 65.

<sup>9</sup> *Ibid.*, p. 178, no. 192.

<sup>10</sup> They then remitted rights over the land in return for common of pasture elsewhere.—W. H. Turner and H. O. Coxe (eds.), *Calendar of Charters and Rolls Preserved in the Bodleian Library*, 1878, p. 315, no. 35.

Although early arrangements were often revised and limited during the thirteenth century,<sup>1</sup> extents of the *inquisitiones post mortem* suggest that common grazing was still practised over the enclosed arable of some demesnes in the fourteenth century.<sup>2</sup> But by this time more orthodox rules were followed on the majority of farms. Common arable holdings were thrown open to the stock of the township after cropping along with the rest of the fields in which these lay: the 204 acres of the St Ledger demesne scattered amongst the open strips of Offley were said to be without value when unsown "because it lies in common."<sup>3</sup> Conversely, pasturage in most demesne closes was by now restricted to the flocks and herds of the farm, except where grazing was leased to tenants on an annual basis when the demesne was understocked.<sup>4</sup> Pasturing arrangements presented no problems in the smaller closes, while hurdles were used to control grazing on forage and fallow plots in the larger enclosures.<sup>5</sup>

All available evidence is that cropping before 1350 was so organized as to leave a regular and frequent fallow. This was as vital a part of the system of husbandry on totally enclosed farms as in manors where a substantial proportion of the demesne arable lay in common fields. Careful preparation of the fallow was also important. When the Berkhamsted farm was leased out in 1349, the 89 acres lying uncropped had been ploughed three times in preparation for the winter sowing and 18 acres had been manured by the sheep fold.<sup>6</sup> The usual practice was to leave between one-third and one-half of a holding fallow each year, although exact ratios might vary considerably from time to time.

Three-course arrangements—whereby the arable holding was divided into three parts, each about the same size and subject to the sequence of fallow, winter-sown crops, and spring-sown crops—had appeared in the Hills by the twelfth century. Eighty acres of the Kensworth demesne were left fallow in

<sup>1</sup> For example, the Hampden grant to Missenden Abbey was revised forty years later, while pasture rights, attached to the grant of land in Missenden, were reviewed at least twice before 1300 with both parties agreeing to forgo rights over the arable of the other.—J. G. Jenkins, *loc. cit.*, 1939, pp. 67, 68, 184, nos. 66, 67, 198, 199.

<sup>2</sup> According to the extents, the entire demesne arable or all the demesne fallow of at least eight manors lay in common. Part of this land may have been in common fields, but it is unlikely that all the demesne arable of any Chiltern manor was entirely unenclosed. A reasonable explanation is that both enclosed and common arable, where this latter existed, were open to common pasturing. An alternative explanation is that the statements of the inquisitions are false, and took advantage of the fact that land in common was assessed at a lower value than that in severalty. The eight demesnes were at Amersham, Stonor, Chesham, Wigginton and Little Gaddesden, Luton Woodcroft, Lilley, and Watton.—P.R.O., C135/225/9; C135/128/11; C135/28/17; C135/81/10; C135/18/24; C135/35/33; C135/17.

<sup>3</sup> P.R.O., C134/101/10; C135/42/18.

<sup>4</sup> As at Ayot (P.R.O., C135/127/17), Knebworth (H.R.O., K112), King's Langley (P.R.O., DL29/40/740; SC6/866/15-19, 21, 23-5, 28), West Wycombe in many years between 1208 and about 1300, and Ibstone (D. Roden, *loc. cit.*, 1966, p. 50).

<sup>5</sup> The expense of making and repairing hurdles is a frequent item in manorial accounts.

<sup>6</sup> *Register of Edward the Black Prince*, IV, p. 82.

1152 and the two sown courses each contained 70 acres, surely one of the earliest specific references to a three-course rotation in England.<sup>1</sup> Twelfth- and thirteenth-century Missenden charters imply the existence of similar arrangements in the central Chilterns,<sup>2</sup> while the three-fold division of the Flamstead demesne in 1264, together with the fact that ploughing services were owed in equal amounts at each of three cropping seasons, suggests that there, too, a three-shift system was in force.<sup>3</sup> By the early fourteenth century triennial fallowing was common throughout the region. In comparison, the change to a three-course rotation, or at least to a three-field system, did not take place in many of the open-field townships below the escarpment until after 1300.<sup>4</sup> Possibly the presence of a large number of monastic and clerical estates in the Hills had facilitated the early introduction of more advanced techniques—the Kensworth farm was owned by the Dean and Chapter of St Paul's—but the flexible field systems, and especially the existence of substantial areas of enclosed arable on most demesnes, would also have encouraged any attempt to increase output, stimulated, no doubt, by market demands.

The three-course rotation was not universally applied, for a biennial fallow was apparently enforced at times, as on the Chenies and Chesham Bois demesnes.<sup>5</sup> Soil condition may have been significant in determining the size of the uncropped area: land at Chenies was said to be "in an extremely bad state and very stony;" Northale manor farm (in the Vale) included arable up on the Hills which was "white land in bad condition and stony" and which was left fallow every other year;<sup>6</sup> while at Little Gaddesden, where soil was also said to be very poor, no more than 30 acres of the 100-acre arable demesne had been sown by the middle of May 1347.<sup>7</sup> But both there and at Ayot, with less than half of its 400 demesne acres under crop in June 1355, the large extent of unsown arable may well have reflected deteriorating economic conditions.<sup>8</sup>

<sup>1</sup> W. Hale, *op. cit.*, p. 128.

<sup>2</sup> E. C. Vollans, 'The Evolution of Farm-Lands in the Central Chilterns in the Twelfth and Thirteenth Centuries', *Trans. and Papers of the Institute of British Geographers*, xxvi, 1959, pp. 230-1.

<sup>3</sup> P.R.O., C134/15/3.

<sup>4</sup> H. L. Gray, *English Field Systems*, 1915, Appendix II; W. E. Tate, *A Hand-List of Buckinghamshire Enclosure Acts and Awards*, 1946, pp. 14-15; M. D. Lobel (ed.), *V.C.H. Oxon.*, vii, 1962, p. 99; viii, 1964, pp. 67-8, 105, 225.

<sup>5</sup> In both cases this is suggested by a comparison of manorial extents and accounts. The Chenies demesne was assessed as 300 acres in 1336 whereas in 1323-4 only 142½ acres of this had been sown (P.R.O., C135/44/6; SC6/761/4). The Chesham Bois demesne included 180 acres of arable early in the fourteenth century and again in 1340, yet no more than 92 acres was cropped in 1341 (P.R.O., C134/21/7; C135/60/7; SC6/1120/10).

<sup>6</sup> P.R.O., C135/74/5.

<sup>7</sup> P.R.O., C135/81/10. The Wigginton demesne nearby, held by the same lord, had a three-course rotation in that year. By May 80 acres of the 120-acre farm had been sown.

<sup>8</sup> P.R.O., C135/127/17. At King's Langley, too, only 80 acres of the 130 arable acres of Bulstrodes tenement were sown in 1349.—P.R.O., C135/100/16.

Throughout the Chilterns, in the middle decades of the fourteenth century, abnormally large proportions of farm-land were being left fallow and sometimes turned over to grazing for a few years. The average annual sown acreage at Ibstone was reduced by more than 50 per cent and at West Wycombe by about 25 per cent. Probably a simple two-course system was not practised at either Little Gaddesden or Ayot: rather some land remained fallow for a number of years, to be brought into cultivation only occasionally and in small amounts, as certainly happened at Ibstone.<sup>1</sup> Poor soil condition may also have been related to the worsening economic climate, for, with a shortage of skilled labour, land could not be adequately prepared before sowing.

By the thirteenth century two- or three-course rotations were, in any case, no more than long-term approximations, valid only as averages over a number of years. The size of the fallow area often varied markedly from year to year, while sown land was rarely apportioned evenly between winter and spring crops, the difference between the two sometimes being considerable.<sup>2</sup> One course might remain larger than the other for a number of successive seasons or its area might fluctuate widely from year to year. Annual variations of the area sown and the crops grown reflected not only changing demands, but also changes in weather from season to season. A long wet winter, by limiting ploughing and sowing, would be followed by a growing season in which the uncropped area was abnormally large, and a good autumn or a bad spring might result in an excess of winter grains over the spring crops.<sup>3</sup>

Although demesne rotations were fairly straightforward, evidence of the ways in which the arable was organized into coherent cropping systems, supposedly designed to ensure a regular sequence of cultivation over the individual plots comprising a farm holding, reveals a pattern of increasing complexity. Twelfth- and thirteenth-century arrangements were simple. Three-course rotations were often translated into three-field systems on both several and common arable; field and cropping course were one. Thus, arable of the Missenden Abbey farm at Honor, about 1170, was probably confined to three closes, one of which lay fallow each year.<sup>4</sup> A similar lay-out at High Wycombe clearly involved common field land alone: common arable furlongs of the

<sup>1</sup> D. Roden, *loc. cit.*, 1966, pp. 50-1.

<sup>2</sup> The winter-sown course at Kensworth, in 1299, was larger than the spring and fallow courses together, whereas less than one-quarter of the demesne arable at neighbouring Caddington (also farmed for St Paul's) was under winter crops.—St Paul's, WD16 Liber I, fols. 115d and 122.

<sup>3</sup> At West Wycombe, 1376, a long winter was followed by a smaller than average spring course.—Hants. R.O., Eccl. 2/159384.

<sup>4</sup> J. G. Jenkins, *loc. cit.*, 1939, p. 178, no. 192. Alexander de Hampden and his tenants were allowed common pasture in the third field next to Grims Ditch when it was unsown. Twelfth- and early thirteenth-century grants of land in Great Missenden, Kingshill, and Chesham that were evenly allotted between the grantors' three *culturae* may also represent early three-field arrangements.—E. C. Vollans, *op. cit.*

manor of Gynaunt's Fee were grouped into east, middle, and west fields (only a few of the many common fields of the township) and a 3-acre grant was taken in equal proportions from each of these;<sup>1</sup> whereas the three-field system in force on the Flamstead demesne in 1264 comprised land that was completely enclosed—840 acres were simply divided into three great fields, two of which each contained 290 acres while the third was 260 acres.<sup>2</sup> Organization of the West Wycombe demesne rotation after about 1260 was slightly more elaborate in that eight enclosed fields were apportioned between three shifts, but the same combination of fields recurred year after year.<sup>3</sup>

At West Wycombe, too, a variety of crops—usually of the same season—was often grown in a single large close contemporaneously,<sup>4</sup> while sown fields commonly included some fallow land. By the early fourteenth century, practices such as these were normal features of demesne farming throughout the region. Within a few decades there is no further suggestion, in the evidence available, of the earlier systems based on three separate fields. Larger fields were often subdivided into plots in separate courses,<sup>5</sup> and by mid-century there were rarely any clear groupings of fields but rather a bewildering variety of combinations, with one course of the farm rotation comprising different units in a single close and arable in a number of fields. The same shift might be followed in one close for many successive seasons without interruption, presumably on separate pieces of land.<sup>6</sup> A rotation of crops was thus followed within the individual field as well as between closes or groups of closes. On some farms it was customary for a few fields, normally left under pasture, to be brought into cultivation only occasionally, supplementing the large core of continuously farmed land, somewhat in the manner of the convertible husbandry that obtained in parts of Kent.<sup>7</sup> At West Wycombe, where it had been established practice for at least a century, this system was expanded after 1350

<sup>1</sup> J. G. Jenkins (ed.), *The Cartulary of Missenden Abbey, Part III*, Publications Bucks. Rec. Soc., xii, 1962, pp. 114-16; 118-19; nos. 710-12, 715-16.

<sup>2</sup> P.R.O., C132/31/3.

<sup>3</sup> Cropping at West Wycombe before 1260 had been very irregular, but appears to have been rationalized about then at the same time as the average sown area was substantially reduced. The annual cropped area, which had varied between 350 and 400 acres before 1260, settled down at 250-300 acres, a figure that was maintained—with temporary interruptions—until 1378. There then followed a steady decline to 105 acres early in the fifteenth century.

<sup>4</sup> There were some exceptions between 1231, when field names appear in the grange accounts for the first time, and 1260, when cropping on the farm was rationalized. In 1235, for example, Great Field contained both wheat and oats.—Hants. R.O., Eccl. 2/159284.

<sup>5</sup> At Chenies, 1323-4, and at Penn fifty years later, two fields included both winter and spring grains; Mill Field, on the Stonor demesne, contained wheat and oats in 1388; while at least one of the Knebworth fields in which wheat was sown also included oats in 1404-5 and again in 1407-8.—P.R.O., SC6/761/4; SC6/1248/16; B.M., Add. R. 659-60; H.R.O., K108 and K116.

<sup>6</sup> For example, Papenhamescroft in Knebworth contained a spring crop for four successive years.—H.R.O., K108, K110, K112, and K116.

<sup>7</sup> T. A. M. Bishop, *loc. cit.*

to absorb the greater area then being left unsown. Fields which had formerly been cropped intermittently were turned to permanent grazing, while other closes, previously in continuous cultivation, were now ploughed only sporadically.<sup>1</sup> At Ibstone, too, reduction of the sown demesne to one-third of its former average size was accomplished through extension of the fallow area rather than by allowing land to leave arable production entirely. The distinctive feature of the Ibstone arrangement was that the ploughed area often shifted within individual fields instead of between fields.<sup>2</sup> The main advantage of more sophisticated methods such as these was the greater flexibility that they allowed, especially important at a time when conditions were becoming increasingly hostile to large-scale demesne farming. Acreages under the different grains were not tied to fixed field areas and could be changed easily from year to year. Substantial variations in the proportion of land devoted to winter and spring grains in any one season could be adjusted within the farm rotation, while wider changes in production over a long period were accommodated within the general framework.

Cropping within each common field was usually uniform. A variety of grains might be grown but they were always of the same season, sown and harvested at about the same time.<sup>3</sup> The separate fields were thus the normal units of common arable cultivation in the Chilterns: the large number of relatively small fields in many townships apparently provided the flexibility that could only be attained in the great common fields of the Midlands and elsewhere by basing rotations on the furlong.<sup>4</sup> Sixteenth- and seventeenth-century evidence suggests that the common fields of at least some Hill parishes were organized, for greater convenience, into three divisions, fields in each group being subject to the same sequence of sowing, harvesting, and grazing, and lying fallow every third year.<sup>5</sup> In practical terms these combinations were the Chiltern equivalent of the large units of the typical Midland two- or three-field township, the role of the constituent fields being closer to that of the Midland furlongs.

The need to throw common fields open to pasturing at a predetermined date

<sup>1</sup> Thus the fields known as Senghet and Yrildfeld, in sporadic production by the 1280's, went out of cultivation early in the fourteenth century; Foxor and the field below Haveringdoune, ploughed regularly before 1330 and then turned to intermittent cropping, were not sown at all after 1350; Chetenor and Hachefeld were changed from full- to part-time production after 1350; while both Castelfeld and Smythfeld remained in periodic cultivation throughout the fourteenth century.

<sup>2</sup> D. Roden, *loc. cit.*, 1966, pp. 50-1.

<sup>3</sup> Demesne in the separate fields was confined to a single course of the farm rotation, as on Kinsbourne manor farm.—Westminster Abbey Muniments, 8807 ff.

<sup>4</sup> N. S. B. and E. C. Gras, *The Economic and Social History of an English Village (Crawley, Hampshire), A.D. 909-1928*, 1930, p. 31; R. H. Hilton, *The Economic Development of Some Leicestershire Estates in the Fourteenth and Fifteenth Centuries*, 1947, pp. 52-66 and 152-6; W. G. Hoskins, *The Midland Peasant*, 1957, pp. 67-70 and 95; P. F. Brandon, 'Arable Farming in a Sussex Scarp-Foot Parish during the late Middle Ages', *Sussex Archaeolog. Coll.*, c, 1962, pp. 60-72.

<sup>5</sup> D. Roden, *loc. cit.*, 1965, pp. 67-8.

precluded any variation from the customary routine. As a result, cropping on individual farms had to be arranged in such a way that cultivation of their common arable holdings conformed with the practice in the various fields in which this land lay. Strips in a fallow common field, for example, had to lie in the uncropped course of the farm rotation. This was achieved on the Chiltern demesnes by balancing several and common arable within the rotation, combining them in a single shift if necessary. Thus one *seisona* of the St Alban's Abbey farm at Codicote, in 1332, contained 82 acres in three common fields and  $53\frac{1}{2}$  acres in two closes, another course comprised common arable alone (in two fields), and the third course was entirely in severalty.<sup>1</sup> Cropping on the farm as a whole was not tied to the fixed routines of the common fields.

For the same reason, equitable division of the common arable holding between individual common fields, or even between common arable "seasons" comprising groups of fields, was unnecessary. It simply did not matter whether or not approximately the same area of common arable demesne was ploughed each year, and, as at Codicote, very varying amounts were left fallow.<sup>2</sup>

There are few references to direct demesne farming in the Chilterns during the fifteenth century, and by 1600 many of the great enclosed fields had been broken up into smaller units, still substantially larger than other closes, which were leased out to different tenants, or had been incorporated into parkland.<sup>3</sup> But some former demesnes continued to be worked as single holdings, especially where they had been acquired by London businessmen.<sup>4</sup> The growth of the London market attracted capital into the area, favoured the maintenance of large farms, and stimulated agricultural improvements, of which the most notable were enclosure of common arable land and renewed clearing of woods and wastes.<sup>5</sup>

The few medieval accounts of tenants' goods that have survived, together with sixteenth- and seventeenth-century probate inventories, suggest that

<sup>1</sup> B.M., Add. MS. 40734, fols. 1-1d. This was one of the pieces of evidence upon which A. E. Levett based her claim that an imperfectly developed or decaying three-field system existed in this part of Hertfordshire. But she failed to ascertain the type of land involved, and as a result some confusion has arisen as to the precise implications of her suggestions. At Codicote, at least, the triple division of demesne arable was nothing more than a convenient apportionment of the farm-land, both enclosed and common, into cropping courses necessary for the rational working of the farm rotation. It neither proves nor disproves the existence of a separate communal cropping system over the township as a whole. See A. E. Levett, *Studies in Manorial History*, 1938, pp. 182-4; J. Thirsk, 'The Common Fields', *Past and Present*, xxix, 1964, p. 6; J. Z. Titow, 'Medieval England and the Open-Field System', *Past and Present*, xxxii, 1965, p. 89.

<sup>2</sup> On the Abbey farm at Great Missenden, too, all three shifts of the farm rotation included both enclosed and common arable in very irregular proportions.—B.M., Harl. MS. 3688.

<sup>3</sup> Two Berkhamsted demesne fields of 80 and 160 acres in 1607 had recently been divided into 16 closes rented by tenants (P.R.O., E315/366, fols. 5-5d), and part of the King's Walden demesne was turned to parkland some time after 1600.

<sup>4</sup> As, for example, the main King's Walden manor.—B.M., Add. R. 35997.

<sup>5</sup> D. Roden and A. R. H. Baker, *loc. cit.*, p. 83.

mixed farming was also the basis of medieval peasant cultivation,<sup>1</sup> although, in view of the extensive common pastures that were available to tenants in most of the region, livestock may have been relatively more important than on the demesne farms with their much larger areas of arable land. Certainly, as is clear from presentments for trespass brought to the manorial courts, peasant flocks were substantial—it was not unusual for a single tenant to have more than 100 sheep—and were often expanding during the fourteenth century. Pig-keeping may also have been a useful source of income for the many smallholders who had built cottages along the edges of common woods and heaths, and who found supplementary employment on the bigger farms, in the woods, and in the brick and tile industries that were often established on the commons.<sup>2</sup> Perhaps, too, cattle fattening and dairying, supported on Thames-side pastures in the sixteenth century,<sup>3</sup> were already significant in townships adjoining the river.

Three-course rotations were practised on tenant farms, as on most demesne holdings by 1300,<sup>4</sup> apparently being enforced in some townships by the manorial authorities.<sup>5</sup> Peasants were also dividing their larger closes into land under two or three crops. In fact, in the south-west, where a complete customary holding might comprise only one or two closes, some could scarcely have done otherwise, although the degree of subdivision was never as marked as on demesne farms.<sup>6</sup> There is almost no evidence concerning peasant cultivation in the common fields before 1500, but it is difficult to see how this could have differed from the pattern revealed in the demesne extents and accounts. Uniformity of cropping in a single common field, necessitated by common pasturage, would have inhibited any deviation from the established routine. Yet, as on the demesne farms, many tenants must have been able to adjust cropping on their own holdings to suit the common arrangements through combinations of enclosed and common field land, or, failing this, through permutations of arable in a variety of common fields. Likewise, location of the individual common arable holding was not determined by need for an equal distribution of land either between separate fields or between groups of fields.

<sup>1</sup> B.M., Add. R. 27021; 35933; H.R.O., 40703, St Mark 5 E.111; Merton College MS. 5248b; *Cal. Inq. Misc.*, II, p. 439, no. 1174; D. Roden, *loc. cit.*, 1965, Appendix A.

<sup>2</sup> M. A. Havinden has suggested that these latter were important in the Oxfordshire Chilterns about 1600.—*Loc. cit.*, p. 123.

<sup>3</sup> *Ibid.*, p. 109.

<sup>4</sup> The duration of a number of late thirteenth-century tenant leases at Codicote was expressed both in years and in the number of crops to be taken from the land in that period. Comparison of the two statements invariably suggests triennial fallowing.—B.M., Stowe MS. 849, fols. 7, 11d, 24d.

<sup>5</sup> As at Ibstone.—D. Roden, *loc. cit.*, 1966, p. 52.

<sup>6</sup> As at King's Walden.—B.M., Add. R. 35922; 35939.

# The Combination and Rotation of Crops in East Worcestershire, 1540-1660

By JAMES YELLING

STUDIES of English agriculture in the early modern period have always been much concerned with the nature of common-field farming and the economic significance of enclosure. But the methods of approach have varied, and the last decade has seen a noticeable increase in local studies which utilize the existence of a close and well-defined pattern of farming regions. One purpose of such research is to define open field and enclosed territory more precisely so that each may be studied in some degree of isolation. It is also possible to examine the response of the various systems to specific physical and economic conditions. What might be termed 'the method of regional testing' will no doubt be even more widely employed now that Dr Thirsk's general survey of English agricultural regions has been completed.<sup>1</sup> In the present paper it is used to examine one particular aspect of farming, the production of tillage crops, under the contrasting conditions of champion and woodland country.

The area chosen for study is that of Worcestershire, east of the Severn.<sup>2</sup> This district was divided quite distinctly between two farming regions which were similar to the better-known Arden and Feldon of adjacent Warwickshire. One part, which will be called the 'South', was village territory lying principally in open field,<sup>3</sup> and most of its townships were eventually enclosed by Act. In the other part, the 'North and West', settlement was much more dispersed and common field was never as extensive. By 1540 it had already been subject to a considerable degree of piecemeal enclosure, especially in the north-east, and enclosures of open field by Act were of small importance.

The approximate boundary between these champion and woodland regions is indicated on Fig. I. The map also shows that East Worcestershire contains an interesting variety of physical conditions. The bulk of the area is a clay plain formed from Lower Lias and Keuper Marl, but terrace deposits give rise to soils of lighter character along the river valleys, especially those of the Severn and Avon. North of Worcester itself a more extensive area of light soils

<sup>1</sup> 'The Farming Regions of England' in J. Thirsk (ed.), *The Agrarian History of England and Wales, IV, 1500-1640*, 1967, pp. 1-109.

<sup>2</sup> The modern county boundary is used except in the south where parishes formerly in Gloucester county and diocese are excluded. Few probate inventories survive for these parishes.

<sup>3</sup> Enclosure conditions in East Worcestershire are described more fully in J. A. Yelling, 'Open Field, Enclosure, and Farm Production in East Worcestershire', Ph.D. thesis, Birmingham, 1966.

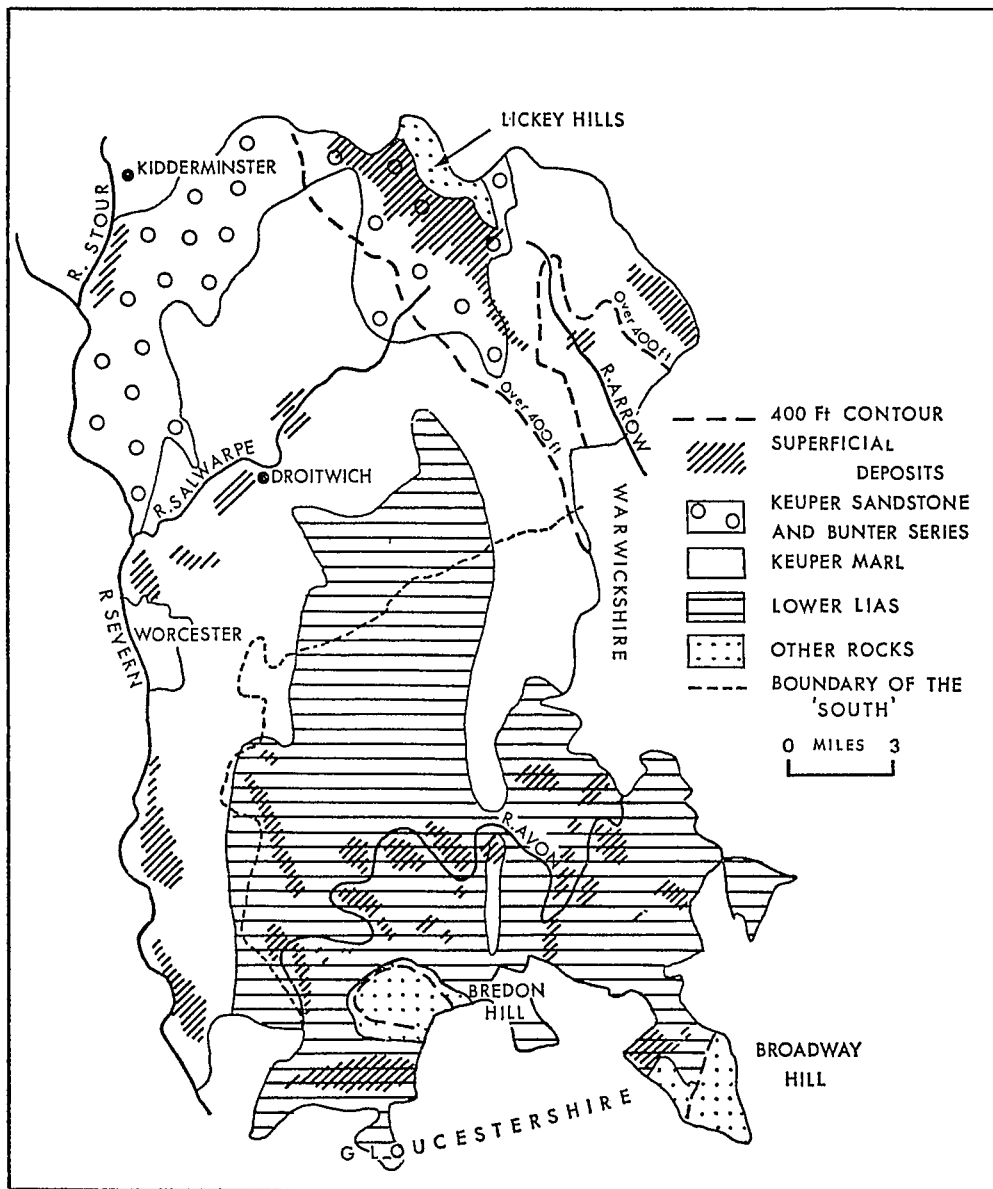


FIG. I

THE STUDY AREA

is based on the outcrop of Bunter and Keuper sandstones, whilst in the north-east higher land associated with the fringes of the Birmingham Plateau introduces a further complicating factor.

The study begins with an overall survey of crop distributions and combinations. This is obtained by statistical comparison of the acreage entries in probate inventories, aggregated by area and period in the manner successfully

adopted by Thirsk, Long, and others.<sup>1</sup> Such a general view serves two main purposes: (i) it provides quantitative material for comparison with other periods and districts; (ii) it provides a framework for more detailed study and suggests themes for further investigation. These are then taken up in the second and main part of the paper (Sections II–V) which uses inventories in a more flexible manner in conjunction with material derived from surveys and terriers.

## I

Probate inventories are now sufficiently well known as source material not to require any extended treatment from the methodological point of view. It may be remarked, however, that their use in regional statistical studies is subject to two sorts of error: (i) that arising from the small number of inventories which supply full quantitative information; and (ii) that arising from periodic and regional variations in farming types. These two factors have to be balanced against one another, but in practice nearly all studies have involved small numbers of inventories relating to relatively large areas of uniform physical character. In the present case, though the approach is similar, the emphasis is placed on the use of relatively small areas, and for this purpose the whole body of available inventories was searched.<sup>2</sup> East Worcestershire itself comprises only 226,000 acres<sup>3</sup>—less than the Lincolnshire Fens or Yorkshire Wolds—and this is divided into seven regions. The boundaries of the regions were determined by preliminary inspection of the inventories parish by parish.<sup>4</sup> Two periodic divisions are used, namely 1540–99, and 1600–60.

The inventory entries show that in East Worcestershire as a whole barley was the most important crop in the sixteenth century, occupying about 26 per cent of the total crop acreage.<sup>5</sup> It was closely rivalled by wheat (22 per cent), whilst pulses (19 per cent), rye (17 per cent), and oats (10–11 per cent) were the other major crops. Muncorn, vetches, and dredge were also mentioned, but only in small amounts. These overall totals, however, conceal the existence of strong contrasts in the pattern of crop production between one part of East

<sup>1</sup> J. Thirsk, *English Peasant Farming*, 1957; W. H. Long, 'Regional Farming in Seventeenth Century Yorkshire', *A.H.R.*, VIII, 1960, pp. 103–14.

<sup>2</sup> The Worcester Diocesan inventories are housed in the Worcester County Record Office (=WRO).

<sup>3</sup> Excluding the former Gloucestershire parishes.

<sup>4</sup> Even so, some important local variations in cropping practice are bound to be concealed if quantitative data alone is used. These variations are described in the more detailed sections which follow.

<sup>5</sup> These figures have been adjusted by weighting the crop proportions found in each region according to its total crop acreage recorded in the 1867 Agricultural Returns. Whilst this is in many ways unsatisfactory, it does help to eliminate error caused by biased regional 'sampling', and produces trends in cropping practice which accord with those found within the individual regions. The crude figures are also given in Tables I and II.

Worcestershire and another—a feature emphasized by the virtual absence of each of the major crops from at least one of the regional divisions employed (Table I, Fig. II).

TABLE I  
REGIONAL CROP STATISTICS, 1540–99  
*Wh*=Wheat, *Mu*=Muncorn, *Ba*=Barley,  
*Pu*=Pulse, *Dr*=Dredge, *Ve*=Vetches, *Ma*=Maltcorn

| <i>Area</i>         |              | <i>Wh</i> | <i>Mu</i> | <i>Rye</i> | <i>Ba</i> | <i>Oats</i> | <i>Pu</i> | <i>Dr</i> | <i>Ve</i> | <i>Other</i>     | <i>Total</i> |
|---------------------|--------------|-----------|-----------|------------|-----------|-------------|-----------|-----------|-----------|------------------|--------------|
| ABE†                | <i>acres</i> | 5         | —         | 35         | 3         | 35½         | —         | 3½        | —         | 8( <i>Ma</i> )   | 90           |
|                     | <i>%</i>     | 6         | —         | 39         | 3         | 39          | —         | 4         | —         | 9                |              |
| C                   | <i>acres</i> | —         | —         | 31         | 27½       | 2           | —         | 1         | 4         |                  | 65½          |
|                     | <i>%</i>     | —         | —         | 47         | 42        | 3           | —         | 2         | 6         |                  |              |
| DF†                 | <i>acres</i> | 55        | 10½       | 5          | 23        | 10          | 77        | 1         | —         | 15½( <i>Ma</i> ) | 197          |
|                     | <i>%</i>     | 28        | 5         | 3          | 12        | 5           | 39        | ½         | —         | 8                |              |
| GJ                  | <i>acres</i> | 121½      | 2         | —          | 122½      | 1           | 105½      | —         | —         |                  | 352½         |
|                     | <i>%</i>     | 34        | ½         | —          | 35        | ½           | 30        | —         | —         |                  |              |
| KL                  | <i>acres</i> | 115½      | 7½        | 20         | 148       | 4           | 93        | —         | —         |                  | 388          |
|                     | <i>%</i>     | 30        | 2         | 5          | 38        | 1           | 24        | —         | —         |                  |              |
| HO                  | <i>acres</i> | 77½       | 16        | 79½        | 145½      | 2           | 90½       | —         | —         |                  | 411          |
|                     | <i>%</i>     | 19        | 4         | 19         | 35        | ½           | 22        | —         | —         |                  |              |
| MN                  | <i>acres</i> | 166       | —         | 2          | 158       | —           | 117       | —         | —         |                  | 443          |
|                     | <i>%</i>     | 37        | —         | ½          | 36        | —           | 26        | —         | —         |                  |              |
| <i>Total</i>        | <i>acres</i> | 540½      | 36        | 172½       | 627       | 54½         | 483       | 5½        | 4         | 23½              | 1,947        |
|                     | <i>%</i>     | 28        | 2         | 9          | 32        | 3           | 25        | —         | —         | 1                |              |
| <i>Adj. Totals*</i> |              |           |           |            |           |             |           |           |           |                  |              |
|                     | <i>%</i>     |           |           |            |           |             |           |           |           |                  |              |
|                     |              |           |           |            |           |             |           |           |           |                  |              |
| N. and W.           |              | 12        | 2         | 30         | 19        | 18          | 13        | 2         | 1         | 3                |              |
|                     | South        | 34        | 1         | 1          | 36        | 2           | 27        |           |           |                  |              |
| <i>Total</i>        |              |           |           |            |           |             |           |           |           |                  |              |
|                     |              | 22        | 2         | 17         | 27        | 10          | 19        | 1         | 2         | 1                |              |

\* These totals are adjusted according to the total crop acreage recorded in each area in 1867.

† Without maltcorn the percentages were: ABE—wheat 6; rye 43; barley 4; oats 43; dredge 4; DF—wheat 30; muncorn 6; rye 3; barley 13; oats 5; pulse 42.

In the case of the winter crops a relatively simple pattern of substitution seems to have occurred. Wheat dominated the south, and rye the extreme north and west, whilst muncorn achieved some importance in the transitional

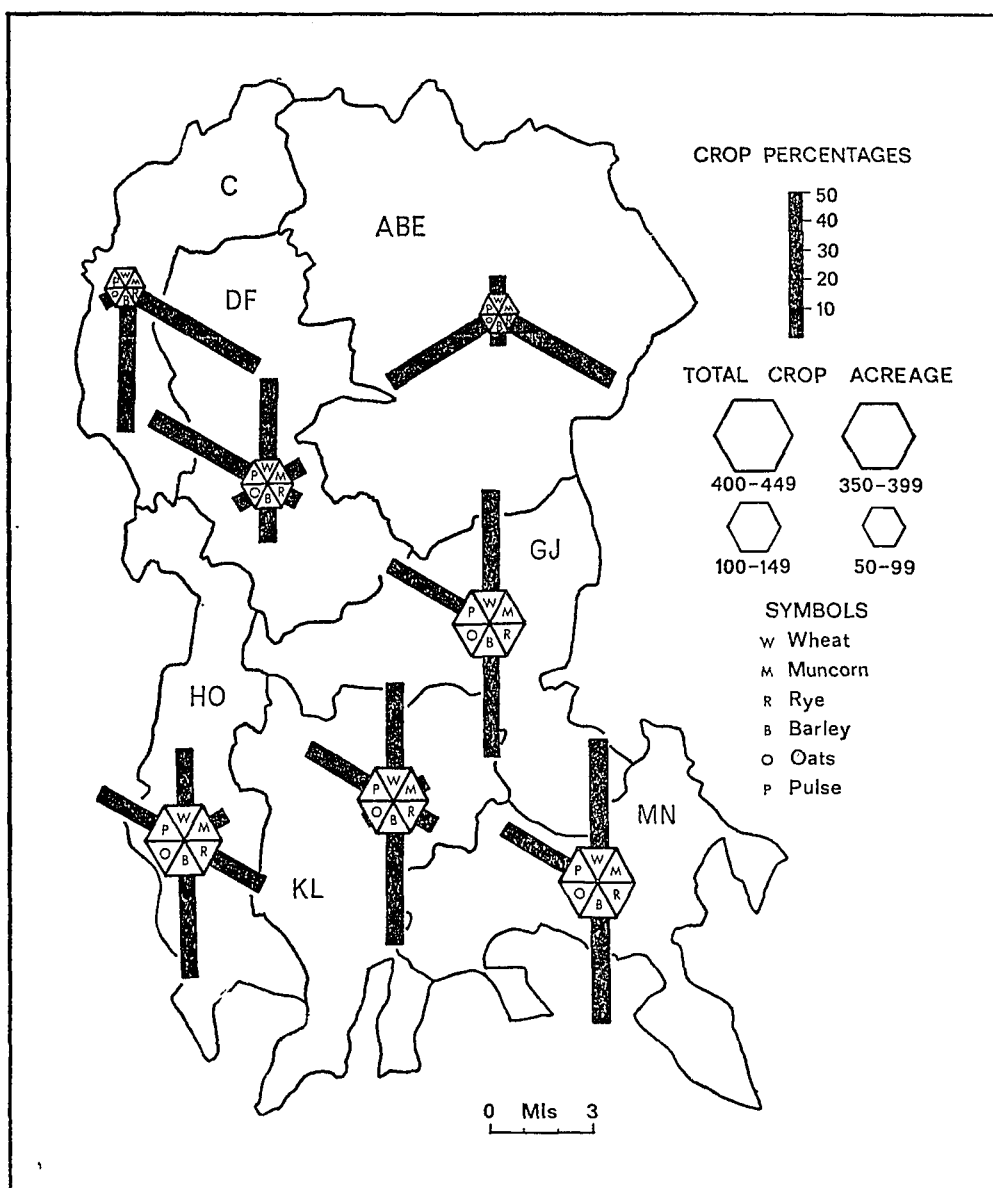


FIG. II

CROP DISTRIBUTIONS, 1540-1599

zone. There is the expected strong correlation between the use of rye and the presence of light soils—on the sandstone outcrop and Severn terraces—whilst the higher relief of the north-east seems also to have favoured this crop. The most widespread of the spring crops was barley, which was important everywhere except in the north-east, where it was largely replaced by oats. Pulses were also virtually absent from this district and also from the sandstone

outcrop, whilst oats was little grown outside its stronghold on the plateau fringes.

Certain easily recognizable physical factors seem, therefore, to be the major determinants of all these distributions. Indeed, it is reasonable to allow that the significance of physical variations for land use has probably been reduced since the sixteenth century by improved crops and cultivation practices. Even so, there is much else to explain. The clear-cut regional distinctions in choice of crops are still surprising, and there is also within many regions a noticeable simplicity and balance in the crop combinations. This is especially true of the South, where the three constituent regions each favoured wheat, barley, and pulses, and in significantly equal proportions. The reason for many of such features undoubtedly lies in the mechanism by which crops and rotational systems were selected. Communal organization or tradition could reduce the range of crop combinations in local areas, and so accentuate regional variation by producing a 'step-like' distributional change rather than a gradual one. It is hoped to demonstrate this in the more detailed sections which follow.

The crop statistics for the second period (Table II) are similar in broad terms to those of the sixteenth century, and many of the minor changes represented no doubt arise through 'sampling error' in the material available for analysis. Stability is especially noticeable in the South, whilst the major changes which were to revolutionize cropping practice in the North and West were not yet fully under way. The beginnings of two important adjustments can, however, be discerned. In some areas rye was beginning to give place to wheat, although this trend was not yet very pronounced. Again, the spring crops were becoming relatively more important, and oats and pulses were more widely distributed. This was a reflection of the growing importance of arable in the economy, and of the increased use of tillage crops in livestock feeding.<sup>1</sup>

In spite of this, it is generally true to say that the period under review was one in which the market was biased towards pastoral products. It was under these circumstances that contrasts in farming between champion and woodland districts were most pronounced, and the study of crop statistics immediately helps to make it clear that this was not a simple matter of 'advanced' or 'backward' farming, but of two specialist systems. The champion region possessed a crop combination which was suitable to a mainly arable economy. Conversely, the choice of crops in the woodland district resulted not only from the relative absence of high-yielding arable soils, but also from the pre-

<sup>1</sup> The relative importance of livestock and crops in East Worcestershire at this time is described in J. A. Yelling, *op. cit.*, pp. 205-35. Spring crops were also becoming more important in Leicestershire during this period.—W. G. Hoskins, 'The Leicestershire Farmer in the Seventeenth Century', *Agric. Hist.*, 25, 1951, pp. 11-14.

dominant interest in livestock farming which reduced the incentive to improve crop rotations or to overcome physical deficiencies through beneficial cultivation practices.

## II

Cropping systems are easiest to study in the South where communal organization was strongest. In consequence, survey evidence is of more value in this district, and may be used to supplement information derived from the inven-

TABLE II  
REGIONAL CROP STATISTICS, 1600-60  
Abbreviations as in Table I

| <i>Area</i>         | <i>Wh</i> | <i>Mu</i> | <i>Rye</i> | <i>Ba</i> | <i>Oats</i> | <i>Pu</i> | <i>Dr</i> | <i>Ve</i> | <i>Other</i> | <i>Total</i> |
|---------------------|-----------|-----------|------------|-----------|-------------|-----------|-----------|-----------|--------------|--------------|
| ABE <i>acres</i>    | 14        | 1½        | 72         | 10        | 133         | 5½        | —         | —         |              | 236          |
| <i>%</i>            | 6         | ½         | 31         | 4         | 56          | 2         | —         | —         |              |              |
| C <i>acres</i>      | —         | 1         | 67½        | 29        | 17½         | 11½       | 4         | 1½        |              | 131          |
| <i>%</i>            | —         | 1         | 52         | 22        | 13          | 9         | 3         | 1         |              |              |
| DF <i>acres</i>     | 26½       | 20        | —          | 23½       | 4           | 62½       | —         | —         | 7(Ma)        | 143½         |
| <i>%</i>            | 19        | 14        | —          | 16        | 3           | 43        | —         | —         | 5            |              |
| GJ <i>acres</i>     | 52        | 1½        | 1          | 60½       | 2           | 62½       | —         | 2         |              | 181½         |
| <i>%</i>            | 29        | 1         | ½          | 33        | 1           | 35        | —         | —         |              |              |
| KL <i>acres</i>     | 115½      | 7½        | 20         | 148       | 4           | 93        | —         | 1         |              | 389          |
| <i>%</i>            | 30        | 2         | 5          | 38        | 1           | 24        | —         | —         |              |              |
| HO <i>acres</i>     | 59        | 5         | 15         | 87        | 7           | 85½       | —         | —         |              | 258½         |
| <i>%</i>            | 23        | 2         | 6          | 34        | 3           | 33        | —         | —         |              |              |
| MN <i>acres</i>     | 23½       | —         | 7          | 24        | —           | 29        | —         | —         |              | 83½          |
| <i>%</i>            | 28        | —         | 9          | 29        | —           | 35        | —         | —         |              |              |
| <i>Total acres</i>  | 290½      | 36½       | 182½       | 382       | 167½        | 349       | 4         | 4½        | 7            | 1,423        |
| <i>%</i>            | 20        | 3         | 13         | 27        | 12          | 25        |           |           |              |              |
| <i>Adj. Totals*</i> |           |           |            |           |             |           |           |           |              |              |
| <i>%</i>            |           |           |            |           |             |           |           |           |              |              |
| N. and W.           | 11        | 4         | 25         | 16        | 28          | 18        |           |           |              |              |
| South               | 28        | 2         | 5          | 27        | —           | 33        |           |           |              |              |
| <i>Total</i>        | 18        | 3         | 16         | 24        | 15          | 24        | 0.4       | 0.3       | 0.6          |              |

\* These totals are adjusted according to the total crop acreage recorded in each area in 1867.

tories. For 1584-5 there are sixteen terriers of glebe holdings<sup>1</sup> in the South which describe in some way the layout of common field arable, and, of these, eight mention the existence of four fields. Most are very simple in style; for example, at Flyford Flavell there was recorded, "One yardland containing by estimation 40 acres or thereabouts, lying in the four fields of Flyford Flavell aforesaid by eight or ten acres in every field." In addition, twenty terriers deal with common arable either for 1616 or for 1634-5, and, of these, eight again describe four fields. The existence of such four-field layouts clearly correlates with the crop combinations noted from the inventories, namely wheat, barley, and pulses in roughly equal proportions. To these three crops may now be added a fallow to make up the fourth shift in the rotation.

Large numbers of terriers, however, refer only to furlongs, or sometimes use a mixture of field and furlong names. The exact significance of this cannot be proved, but it is unlikely to mean that the four-course system was absent. Most of the townships involved are known from documentary sources to have possessed a four-field layout at some other time within the study period. But there is no clear pattern of historical development. Usually, an early terrier listing land only by furlongs is followed by a later example giving both fields and furlongs, but in some cases the sequence is reversed. The most important evidence, however, comes from inventories, examined parish by parish. For despite the small numbers of returns available, four-course cropping characteristics may be recognized for the vast majority of Southern townships.

Some examples of inventories for particular parishes are given in Table III. These returns, of course, highlight the differences which occurred between farms, but on the whole the regularity of their crop combinations is impressive. In most cases the irregularities which do occur are within the limits compatible with the normal layout of holdings, even in those parishes, such as Church Honeybourne, which were to be enclosed before the period of Parliamentary awards. In these examples the wheat and barley shifts were more or less equal; only slight differences are observable between their acreages, giving a bias sometimes to the one and sometimes to the other crop. The acreage in the pulse shift, however, was not infrequently out of line with that of the other two, and, unlike the minor irregularities just mentioned, this seems to have arisen from cropping practice, and not from the layout of holdings. Indeed, in these cases the acreage sown in the pulse field often represented about half the amounts in the other two fields, as at Bretforton in the two inventories for 1558 tabulated below. This feature was widespread in the South, and continued into the early eighteenth century, but only in a minority of the returns for any particular parish. It is probable that the land not sown with pulses

<sup>1</sup> These terriers are contained in WRO 2358 and 2735. They are described in more detail in J. A. Yelling, *op. cit.*, pp. 329-35.

was left uncropped, but it is just possible that grass seeds were sown with the preceding barley crop, producing a one-year ley which passed unrecorded in the inventories. If such grassland existed, however, it could not be correlated with the 'leys' mentioned in surveys which were of a much more permanent nature.

TABLE III

## INVENTORIES FOR SOUTHERN PARISHES

L=Lands. Other abbreviations as in Table I.

Other figures in acres.

The symbols \* and † mean that the acreages given apply to all the crop types indicated.

|                    | <i>Wh</i> | <i>Mu</i> | <i>Rye</i> | <i>Ba</i> | <i>Oats</i> | <i>Pu</i> | <i>Ve</i> | <i>Total</i> |
|--------------------|-----------|-----------|------------|-----------|-------------|-----------|-----------|--------------|
| Bretforton         |           |           |            |           |             |           |           |              |
| 1557/112†          | 18        |           |            | 20        |             | 3         |           | 41           |
| 1558/442           | 10        |           | 2          | 10        |             | 6         |           | 28           |
| 1558/498           | 26        |           |            | 26        |             | 12        |           | 64           |
| 1598/61d           | 24*       |           | *          | 32        |             | 26†       | †         | 82           |
| Church Honeybourne |           |           |            |           |             |           |           |              |
| 1557/109           | 13        |           |            | 11        |             | 11        |           | 35           |
| 1592/28            | 18        |           |            | 20        |             | 15        |           | 53           |
| North Piddle       |           |           |            |           |             |           |           |              |
| 1597/72            | 2L        |           |            | 1         |             | 1         |           |              |
| 1618/383           | 2L        |           |            | 4L        |             | 3L        |           | 9L           |
| 1619/62            | 1         |           |            | 1         |             | 1         |           | 3            |
| 1623/5             | 20        |           |            | 20*       | *           | 20        |           | 60           |
| 1640/195           | 29L       |           |            | 27L       |             | 27L*      | *         | 83L          |
| Bishampton         |           |           |            |           |             |           |           |              |
| 1615/172           | 2         |           |            | 2         |             | 3         |           | 7            |
| 1616/263h          | 3         |           |            | 4         |             | 3         |           | 10           |
| 1619/35b           | 2½        |           |            | 2½        |             | 2         |           | 6¾           |
| 1620/9             | 5*        |           | *          | 7         |             | 6½        |           | 18½          |
| 1623/35            | 24*       | *         |            | 18†       | †           | 17        |           | 59           |
| 1642/50            | 10        |           |            | 7*        | *           | 7         |           | 24           |

† The inventories are referenced by number within each year, i.e. 1560/1 denotes the first inventory in the collection for 1560.

These occasional shortfalls in the acreage under pulses may in fact be a lingering reflection of the manner in which the four-field system was originally introduced. It seems likely that it developed from the two-field system by 'hitching' part of the fallow field for pulses. Certainly, many townships in the

South possessed two-field systems in the thirteenth and fourteenth centuries; for example, Upton Snodsbury, which had four-course cropping by the end of the sixteenth century and four fields in 1771.<sup>1</sup> The glebe terrier of Naunton Beauchamp (1585) makes the derivation even more explicit. It mentions 24 acres of arable in North Field (46 lands) and South Field (41 lands) and continues "which said two fields are divided into four parts or fields according to the course of husbandry for three crops of corn to be had and taken thereof and for the fourth to lie yearly fallow." Two other townships—Bishampton and Peopleton—persisted in two-field nomenclature in their glebe terriers,<sup>2</sup> but from the inventories it seems most likely that they followed the four-course cropping pattern (Table III).

The transition from two fields to four fields in the South therefore seems to have been completed by about the middle of the sixteenth century. This means that it occurred rather earlier than the general dates given by Gray who remarked that "a four-field system making its appearance in the English Midlands in the sixteenth and early seventeenth centuries, was employed more and more in the course of the latter century and in the early eighteenth."<sup>3</sup> It also means that it must have occurred some time between 1350 and 1550, when elsewhere there was widespread conversion of arable to pasture, and when the desertion of villages was at its height. In the face of the same market pressures, it looks as though the villagers of the South chose instead to retain their arable system and to improve its efficiency.

### III

In contrast to the uniformity of the champion district, the North and West possessed several distinct cropping systems, and these may be dealt with in turn. Conditions were most closely similar to those of the South around Droitwich (Area DF), and the major crops were the same, although grown in different proportions. Here, too, a considerable amount of common field was still present in the study period, especially in the southern part, and, although there were also many piecemeal closes, these were probably used mainly for pasture. Even in 1777, although only 49 per cent of the improved land in Himbleton lay in common, this included 78 per cent of the arable; similar figures are available for neighbouring Tibberton at the same date.<sup>4</sup> Two centuries earlier, when the proportion of closes was probably not so great, and the market less favourable to arable products, the correlation between enclosure and pasture would have been even more pronounced.

<sup>1</sup> Birmingham Reference Library, Calendar of Manuscripts relating to Worcestershire in the Shrewsbury (Talbot) Collection of the British Museum, Worcs. M16; WRO 1861.

<sup>2</sup> Glebe Terriers—Bishampton, 1616, 1670, 1714; Peopleton, 1585, 1616.

<sup>3</sup> H. L. Gray, *English Field Systems*, 1915, Reprint 1959, p. 136.

<sup>4</sup> WRO 1691/14; 1691/32.

The distribution of common arable was in itself, however, often complex. The surveys and terriers fall mainly into two groups. The first type, of which Himbleton, Salwarpe, and Rushock<sup>1</sup> provide examples, mentions a large number of small fields. The glebe at Himbleton, for instance, in 1616 included lands in six fields—Ladiaker (4), Inning (9), Mill (9), Stocking (3), Blackpit (8), and Hill (12 and 2 layes). It is known from later evidence that such a distribution was not peculiar to the glebe, that all the arable lay in one township, and that the fields were not always separated from each other by enclosures. Such features, however, may account for some of the irregularities in other terriers. In contrast, certain surveys seem to refer to a three-field allocation of land. Examples of this type relate to Hadsor, Bredicot, Westwood, and Huddington<sup>2</sup> where the fields were Shatherlong (36 acres), Badney or Windmill (20 acres), and Hill (30 acres). All these townships are small, but their field descriptions are of added significance in that they are the only ones in this district which might conceivably correspond with a regular rotation practice.

In view of the presence of piecemeal closes and some complex field divisions, the entries in the inventories appear surprisingly regular. In several parishes to the south of Droitwich, including Himbleton (Table IV), the acreage of pulses frequently equates with the acreage of winter cereals and barley combined. These same parishes also followed the practice, not found elsewhere, of grouping the winter cereal and barley acreages in many of the inventories. This cropping regularity was undoubtedly followed in the common fields, since in many parishes most of the arable lay open at this time, and the Oddingley inventory 1625/239 specifically mentions that both wheat and barley were growing in the common field there known as Old Field.<sup>3</sup> It may be added, too, that the rotation wheat or barley, pulses, fallow, was frequently found in Leicestershire common fields during this period.<sup>4</sup>

Another cropping regularity can be recognized in the parishes of Salwarpe, Elmley Lovett, and Rushock. There, the acreage under winter cereals was roughly equal to that of all the spring crops (Table IV). Again, this certainly reflects a common-field rotation. Indeed the Salwarpe inventory 1603/13 names the fields involved. In Copcote Field there were 5 acres of rye, in Postell Field 1 acre of barley, and 4 acres of oats, and in Little Field 6 kine and 3

<sup>1</sup> Himbleton, Glebe Terrier 1616, WRO 1691/14; Salwarpe, Glebe Terrier 1617; Elmley Lovett, Glebe Terriers 1585, 1635.

<sup>2</sup> Hadsor, Glebe Terrier 1585, Bredicot Glebe Terrier (no date); Parliamentary Survey—T. Cave and R. Wilson, *The Parliamentary Surveys of the Lands and Possessions of the Dean and Chapter of Worcester*, c. 1649, 1924, pp. 14–17; Westwood, PRO E 315/400; Huddington, PRO E 317, Worcs. 6.

<sup>3</sup> Old Field is mentioned as a common field in the Calendar of Shrewsbury (Talbot) MSS., *op. cit.*, Worcs. K 37 (1619).

<sup>4</sup> W. G. Hoskins, *op. cit.*, p. 11.

calves. In most cases, however, the chief crops continued to be wheat or rye, and pulses, as in the parishes mentioned in the last paragraph. Compared with these latter parishes there was simply a slight shift in production from pulses to winter cereals. This shift was, in fact, part of a general trend from spring to winter crops which was encountered in moving northwards in East Worcestershire to more pastoral districts with grass feeding. In the South winter cereals accounted for one-third of crop production. To the south and west of Droitwich this proportion rose probably to about 40 per cent, and further north-east to one-half.

TABLE IV

## THE DROITWICH DISTRICT

Abbreviations as in Table I; symbols and references as in Table III.

|               | <i>Hard<br/>Corn</i> | <i>Lent<br/>Corn</i> | <i>Wh</i> | <i>Mu</i> | <i>Rye</i> | <i>Ba</i> | <i>Oats</i> | <i>Pu</i> | <i>Other</i>    | <i>Total</i> |
|---------------|----------------------|----------------------|-----------|-----------|------------|-----------|-------------|-----------|-----------------|--------------|
| Himbleton     |                      |                      |           |           |            |           |             |           |                 |              |
| 1555/43       |                      |                      | 10*       |           | *          | 4         |             | 15        |                 | 29           |
| 1556/113      |                      |                      | 14        |           | 2          | 5         |             | 12½       |                 | 33½          |
| 1557/156      |                      |                      | 4         |           | 3          | 2½        | 4*          | 8         | *(Ma)           | 21½          |
| 1560/40       |                      |                      | 13        | 4         |            | 8         |             | 22*       | *(Ve)           | 47           |
| 1561/92a      |                      |                      | 6         |           |            | 2         |             | 5         |                 | 13           |
| 1563/93       |                      |                      | 8*        |           |            | *         |             | 10        |                 | 18           |
| 1570/317      |                      |                      |           |           |            | 1         |             | 1         |                 | 2            |
| 1587/65a      |                      |                      | 13*       |           |            | *         |             | 14        |                 | 27           |
| 1623/186      |                      |                      | 4*        |           | *          | 7         |             | 6         |                 | 17           |
| 1628/139      |                      |                      | 1*        |           |            | *         |             | 1         |                 | 2            |
| 1633/175      |                      |                      | 10*       |           |            | *         |             | 8         |                 | 18           |
| 1634/121      |                      |                      |           | 3*        |            | *         |             | 6         |                 | 9            |
| 1643/37       |                      |                      | 1½        |           |            | 7         |             | 9         |                 | 17½          |
| 1649/92       |                      |                      | 24*       | *         |            | *         |             | 21        |                 | 45           |
| Elmley Lovett |                      |                      |           |           |            |           |             |           |                 |              |
| 1582/20c      | 5                    | 5                    |           |           |            |           |             |           |                 | 10           |
| 1619/25       | 5                    | 12                   |           |           |            |           |             |           |                 | 17           |
| 1622/68       |                      |                      | 13*       |           | *          | 4         | †           | 9†        | †(Ve)           | 26           |
| 1630/154      |                      | 8                    | 9*        |           | *          |           |             |           |                 | 17           |
| 1639/15       | 12                   | 12                   |           |           |            |           |             |           |                 | 24           |
| Salwarpe      |                      |                      |           |           |            |           |             |           |                 |              |
| 1558/848      | 6                    |                      |           |           |            |           |             | 8*        | 3½(Ma)<br>*(Ve) | 17½          |
| 1560/60       | 10                   | 11                   |           |           |            |           |             |           |                 | 21           |
| 1594/84       |                      |                      | 14*       | *         | *          | †         | †           | 16†       | †(Ve)           | 30           |
| 1601/181      |                      |                      |           | 2         |            | 3         | *           | 4*        | 2(Ma)           | 11           |
| 1603/83       |                      |                      |           |           | 5          | 1         | 4*          |           | *(Ve)           | 10           |

The main problem in dealing with common-field agriculture in this district lies, therefore, not so much with the pattern of production, which seems reasonably clear, but with the methods of field management in those townships where complex divisions were recorded. Collective management must have persisted in at least some spheres, since common pasture stints are recorded in glebe terriers, and one can only assume that most fields were grouped for rotation either on the basis of the entire township or in sectors. The other main problem is to assess the impact of piecemeal enclosure on production, and this is extremely difficult because one cannot be sure that any township lay wholly enclosed during this period, and there was certainly no sharp boundary beyond which farms with a large enclosed sector could be recognized from their crop combinations. It appears from later evidence,<sup>1</sup> however, that the general result of enclosure was to break down the pre-existing symmetry of production, and to emphasize spring crops to a greater extent. But no township can be said with certainty to have been dominated by this type of cropping pattern within the study period.

## IV

The next district to be considered is the Severn Valley, beginning with the section north of Worcester where almost all the arable was located on light or very light soils. Here common field was still present in many parishes before 1660, but was of very varying importance. It was probably of greatest extent in Ombersley where piecemeal closes were relatively few in 1605, and mainly in the outer parts of the parish, whilst the central part definitely possessed a three-field system.<sup>2</sup> Three fields are also mentioned in a glebe terrier (1585) of Churchill near Kidderminster, which lay on sandstone soils immediately to the north of the present study region. Again, a court roll of Hartlebury (1649)<sup>3</sup> was concerned with regulating common pasture in the "campos siligenos" and "campos hordeos" of Charlton and Torton hamlets. In short, where large amounts of common field remained they were almost certainly cropped in a three-course pattern, and examination of individual inventories must be concerned to reveal the details of this practice, and to see if it dominated crop production as a whole.

The inventories of the two largest parishes, Chaddesley Corbett and Ombersley, have been selected for more detailed study (Table V). It is noticeable that during the study period the crop choice changed more radically in these parishes than in those previously encountered. In both cases, however, the sixteenth-century entries relate mainly to rye and barley, a feature which is equally true if one looks beyond the acreage statistics to the far larger number

<sup>1</sup> J. A. Yelling, *op. cit.*, p. 381.

<sup>2</sup> WRO 3190/29.

<sup>3</sup> Court Roll, 5 April 1649, WRO 2636 (92373).

of inventories which recorded their crops in some other way. In Chaddesley pulses and wheat were not specifically mentioned in an inventory until 1627, but oats and pulses were quite common in the second quarter of the seven-

TABLE V

## THE SEVERN DISTRICT

L=Lands. Other abbreviations as in Table I; symbols and references as in Table III.

|                       | <i>Winter<br/>Crops</i> | <i>Spring<br/>Crops</i> | <i>Wh</i> | <i>Mu</i> | <i>Rye</i> | <i>Ba</i> | <i>Oats</i> | <i>Pu</i> | <i>Other</i> | <i>Total</i> |
|-----------------------|-------------------------|-------------------------|-----------|-----------|------------|-----------|-------------|-----------|--------------|--------------|
| Chaddesley<br>Corbett |                         |                         |           |           |            |           |             |           |              |              |
| 1545/23               |                         |                         |           |           | 16         | 16        |             |           |              | 32           |
| 1598/53               |                         | 6                       |           |           | 8          |           |             |           |              | 14           |
| 1598/54               |                         | 3½                      |           |           | 3          |           |             |           |              | 6½           |
| 1601/47               |                         |                         |           |           | 5          | 1         |             |           |              | 6            |
| 1614/226              |                         |                         |           |           | 8          | 5         | 3           |           |              | 16           |
| 1624/24               |                         |                         |           |           | 3          |           |             |           | 4(Dr)        | 7            |
| 1627/25               | 4                       |                         |           |           |            | 3¾        | ½           | 1         | 1½(Ve)       | 10¾          |
| 1627/142              |                         |                         |           | 1         |            |           | 2           |           |              | 3            |
| 1644/90               |                         |                         |           |           | 3          | *         | 4           | 7*        |              | 14           |
| Ombersley             |                         |                         |           |           |            |           |             |           |              |              |
| 1568/64               |                         |                         |           |           | 6          | 13*       | *           |           | *(Ve)        | 19           |
| 1593/31               |                         |                         |           |           | 8          | 9         |             |           |              | 17           |
| 1614/70               |                         |                         |           |           | 2          | 1         |             |           | 3L(Ve)       |              |
| 1614/204              | 6                       | 6                       |           |           |            |           |             |           |              | 12           |
| 1619/16               |                         |                         |           |           | 10         |           | 2           | 3         |              | 6            |
| 1620/70               | 3                       | 3                       |           |           |            |           |             |           |              | 9            |
| 1625/130              | 4                       |                         |           |           |            | 1         | 4           |           |              | 43           |
| 1625/198              |                         |                         |           |           | 23         | 13        | 4           | 3         |              | 20           |
| 1638/129              |                         |                         | *         |           | 8*         | 6         |             | 6†        | †(Ve)        | 9            |
| 1641/115              |                         |                         |           |           | 5          |           | 1           | 3         |              |              |
| (1656)                |                         |                         |           |           |            |           |             |           |              |              |
| 794/33                |                         |                         | 16*       |           | *          | 16†       |             | †         |              | 32           |
| Severn Stoke          |                         |                         |           |           |            |           |             |           |              |              |
| 1565/51               |                         |                         |           |           | 8          | 5         |             | 1         |              | 14           |
| 1574/30               |                         |                         |           |           | 6          | 4         |             |           |              | 10           |
| 1574/73               |                         |                         |           |           | 7          | 5         |             | 3         |              | 15           |
| 1587/91               | 30                      |                         |           |           |            | 16        | *           | 22*       | *(Ve)        | 68           |
| 1589/52               |                         |                         |           |           | 7½         | 6½        | 1           | 1         |              | 16           |
| 1596/34               |                         |                         | 7*        |           | *          | 2         |             | 10        |              | 19           |
| 1603/76               |                         |                         |           |           | 4          | 7         |             | 1½        |              | 12½          |
| 1614/10               |                         |                         | 4*        |           | 10*        | 5         |             | 8         |              | 27           |
| 1643/100              |                         |                         |           | 2         |            | 2         |             | 2         |              | 6            |
| 1643/103              |                         |                         | 7*        |           | *          | 5         | 1           | 4         |              | 17           |

teenth century. At Ombersley, too, wheat was not recorded until 1626, but half the sixteenth-century inventories mentioned pulses, and these together with oats were normal crops after 1600.

A key feature in these returns is the presence or absence of balance between the acreages of spring and winter crops. During the sixteenth century, when rye and barley dominated, such a regularity does in fact occur in many inventories. Taken in conjunction with the survey evidence already recorded, including that relating to Ombersley itself, this strongly suggests that the current common-field rotation in this district was rye, barley, fallow. The next point to determine is what happened to this balance when oats and pulses became increasingly popular. Here, some contrast is noticeable, more especially after 1620, between Ombersley where regularity was preserved, and Chaddesley Corbett where it was not. The small number of inventories involved, however, make it necessary to go beyond the boundaries of the study period in order to reinforce this point.

INVENTORY CROP ACREAGES

|          | <i>Chaddesley Corbett</i> |               | <i>Ombersley</i> |               |
|----------|---------------------------|---------------|------------------|---------------|
|          | <i>winter</i>             | <i>spring</i> | <i>winter</i>    | <i>spring</i> |
| Pre-1620 | 40                        | 34½           | 32               | 35            |
| 1620-50  | 11                        | 23¾           | 59               | 60            |
| 1660-99  | 59¾                       | 133           | 65½              | 57½           |
| 1700-50  | 53                        | 108           | 102              | 153½          |

It seems reasonable to suppose that the balance between winter and spring crops at Ombersley, found throughout the seventeenth century, was connected with the strong survival of common field in that parish. The degree of enclosure was small in 1605, and although piecemeal enclosure developed strongly after the Civil War, a substantial amount of open land was still present in 1695.<sup>1</sup> Only after this date did spring crops attain the ascendancy. This means that pulses and oats were introduced into the common fields in the barley shift, which is theoretically logical, and in accord with the evidence of individual inventories. In effect, it brought common field practice in Ombersley very close to that of adjacent Elmley Lovett and Salwarpe (Table IV). The change may well be connected with the introduction of horses as plough animals instead of the oxen which predominated in the sixteenth century.

At Chaddesley Corbett, the proportion of spring crops—no more than half before 1620—was never less than two-thirds thereafter. This parish was cer-

<sup>1</sup> PRO E 134, 5W. & M., Mich., 54.

tainly wholly enclosed in 1745,<sup>1</sup> and in 1635 the vicarage had "five fields of arable, all which contain three score and twelve acres." It is likely, therefore, that the cropping practice observed after 1620 related mainly to enclosed arable; thus there was some contrast with the production in common fields in the same district. Whether common land was present in any quantity in Chaddesley Corbett before 1620 is a matter for speculation, but it seems a strong possibility.

Lastly, the crop region delimited to the south of Worcester on Fig. II can be shown by more detailed analysis to consist of two distinct parts. To the east most parishes followed the practice of the South, their arable being mainly open and cropped according to the four-course arrangement. Only the parishes actually bordering the Severn, where much of the arable was located on light terrace soils, followed a distinctive practice similar to that of the Severn district north of Worcester. Severn Stoke is an example (Table V). The crop choice appears similar to that further north except that pulses were more common and oats less so. From the reasoning of the last paragraph, most of the arable in the seventeenth century would seem to have been enclosed, because spring crops dominate. On the other hand, in the sixteenth century the arable, even if enclosed, was cropped according to the prevailing common-field pattern.

## V

The final region, the north-east, was the most enclosed part of East Worcestershire, and predominantly pastoral in character. Although subject to continuing piecemeal enclosure, some common field persisted around most of the main nucleations, but these lay far apart. Although collective management still continued in some cases, there is no evidence of any regular common-field divisions during the study period. One solitary piece of evidence points to the previous existence of a three-field system.<sup>2</sup> In any event, closes must soon have come to dominate the arable in most parishes as crop production rose from 1540 onwards.

The early inventories for Bromsgrove and Tardebigge (Table VI) show that rye and oats were the main crops in this district with barley playing a lesser role. At Bromsgrove rye remained virtually unchallenged by wheat before 1650, and the main change was the gradual adoption of pulses. The inventory record is not satisfactory before 1600, but after this date spring crops certainly predominated. Wheat was much more important at Tardebigge where the presence of common field in substantial quantities also seems more likely. There were certainly farms in the north-east during the sixteenth century where most of the arable lay in common field—the glebe at Belbroughton in

<sup>1</sup> WRO 844.

<sup>2</sup> At Shurnock (Feckenham) in 1237.—H. L. Gray, *op. cit.*, p. 504.

TABLE VI

## THE NORTH-EAST

*Fl*=Flax, *de*=days earth (i.e. work). Other abbreviations as in Table I; symbols as in Table III.

|                 | <i>Winter</i> | <i>Spring</i> | <i>Wh</i> | <i>Rye</i> | <i>Ba</i> | <i>Oats</i> | <i>Pu</i> | <i>Other</i>   | <i>Total</i> |
|-----------------|---------------|---------------|-----------|------------|-----------|-------------|-----------|----------------|--------------|
| Tardebigge      |               |               |           |            |           |             |           |                |              |
| 1560/85         |               |               |           | 3de        | *         | 4de         | *         |                | 7de          |
| 1563/35         |               |               |           | 4          | 1         | 5           |           |                | 10           |
| 1587/31         |               |               |           | 6          |           | 5           |           |                | 11           |
| 1591/74         |               |               | 9*        | *          | 8         | 6           |           |                | 23           |
| 1603/113        |               |               | 2         | 11         |           | 19          |           |                | 32           |
| 1641/12         |               |               | 1         |            | 4*        | 2           | *         |                | 7            |
| 1642/28         |               |               | 6         |            |           | 4           |           | 1( <i>Fl</i> ) | 11           |
| Bromsgrove      |               |               |           |            |           |             |           |                |              |
| 1552/95         |               |               |           | 1          |           |             |           | 1( <i>Dr</i> ) | 2            |
| 1552/98         |               |               |           | 1          |           | 1           |           |                | 2            |
| 1567/85         |               |               |           | 1de        | 1de       |             |           |                |              |
| 1569/34         |               |               |           | 18         |           | 20          |           | 8( <i>Ma</i> ) | 46           |
| 1602/56         |               |               |           | 5          |           | 21          |           |                | 26           |
| 1603/44         |               |               |           | 14         |           | 42          |           |                | 56           |
| 1614/164        |               |               |           | 14         | 4         |             |           |                | 18           |
| 1616/17         |               |               |           | 2½         | *         | 5½*         |           | *( <i>Ve</i> ) | 8            |
| 1616/29         |               |               |           | 7          | 3         | 5           |           |                | 15           |
| 1617/1          |               |               |           | 2          |           | 3½          | ½         |                | 6            |
| 1625/103        |               |               |           | 5          |           | 4           | 2         |                | 11           |
| 1628/142        | 4             |               |           |            | 16        |             |           |                | 20           |
| 1642/63         |               |               |           | 2          | 3         | 5½*         |           | *( <i>Ve</i> ) | 10½          |
| 1644/21         |               |               |           |            | 3         | 3           | 3         |                | 9            |
| 1646/83         |               |               |           |            | ½         | 3           |           |                | 3½           |
| 1648/40         |               |               |           | 6          |           | 6           |           |                | 12           |
| Feckenham       |               |               |           |            |           |             |           |                |              |
| 1592/80         | 10            |               |           | 2½         | 6         | *           | 18*       |                | 36½          |
| 1632/20         |               |               | 9*        | *          | 1½        | 7           | 7         |                | 24½          |
| (1634) 821/3874 |               |               | 3         |            | 2         | *           | 6*        |                | 11           |
| 1646/52         |               |               |           |            | 3         | 2½          | 1         |                | 6½           |
| Stoke Prior     |               |               |           |            |           |             |           |                |              |
| 1552/94         | 7de           | 2de           |           |            |           |             |           |                | 9de          |
| 1576/1          | 7             |               |           |            | £1        | *           | 6*        |                |              |
| 1593/5d         | 12            | 6             |           |            |           |             |           |                | 18           |
| 1624/6          |               |               |           |            | 3         | 2           | 4         |                | 9            |
| 1638/162        |               |               | 16*       | *          | 2         | 13†         | †         |                | 31           |
| Hanbury         |               |               |           |            |           |             |           |                |              |
| 1579/304        |               |               | 29*       | *          | †         |             | 34†       |                | 63           |

1585 is one example. Although there is no proof, it may well be that the cropping pattern on such common land was similar to that suggested in the early inventories for Tardebigge, namely, one shift of rye, one of oats with a little barley, and a third fallow. Such an arrangement would be similar to that practised immediately to the west, except that oats was substituted for barley because of the higher altitude and wetter climate of the plateau region.

The inventories show that the parishes of Feckenham, Hanbury, and Stoke Prior possessed crop combinations which were rather distinct from those of the rest of the north-east. All those places lay off the plateau itself, just to the south, and grew less oats in favour of pulses, whilst wheat was also more prominent (Table VI). Unfortunately, there are not enough inventories to describe the pattern in more detail, but the three-course framework found elsewhere in the North and West is discernible. In many ways the choice of crops appears similar to that of the Droitwich district, but the entries show a greater degree of irregularity.

## VI

The cropping arrangements revealed by these more detailed investigations are conveniently summarized in Fig. III. Perhaps the most surprising feature is the extent to which farms in many parts of the North and West followed regular cropping systems similar to those of their neighbours. In most cases these systems were the ones used in the common fields, and the regularity prevailed despite the frequent presence of piecemeal closes and complex field divisions. Especially in the early part of the study period, when pastoral products received most attention, the bulk of the arable in many parishes lay open, and in others farms with a mixture of open and enclosed land may have continued to use the normal rotation of the district in which they lay. This does not mean that cropping practice was inflexible. Indeed, it is clear that the communal system was capable of accommodating marked changes in crop combinations within limited areas where physical or economic conditions required these. If the probable rye-oats-fallow of the north-east is allowed, there were at least five different regional cropping systems in East Worcestershire's common fields.

There is also no reason to believe that common-field practice remained static for a very long time in the face of decisive economic trends. In the study period arable products were becoming more profitable, and in the North and West oxen were being replaced by horses. The economy of the South was already well-suited to take advantage of these new conditions. In the North and West, too, many districts used a wide variety of crops with some choice within the principal shifts. It was the two-crop districts of the mid-sixteenth century which underwent most alteration in cropping practice before 1650, including,

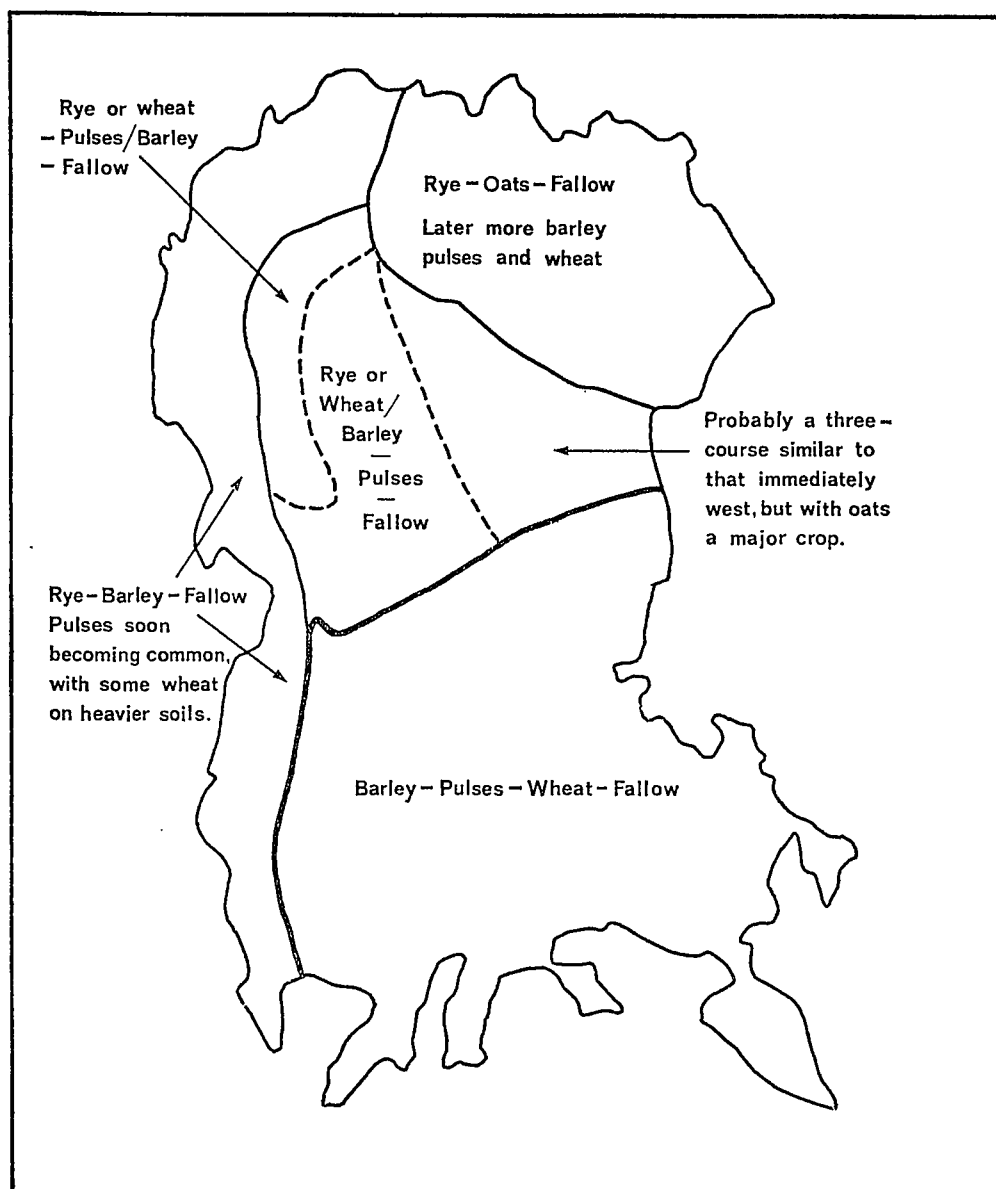


FIG. III

TENTATIVE MAP OF DOMINANT CROPPING TYPES

on common-field land, the introduction of a wider range of crops into the Spring Field. It may be added that, since the economy of the medieval period was by no means static, none of the rotations prevalent in the sixteenth century can be regarded as necessarily of great antiquity.

A more stable element appears in the boundary between four-course and three-course cropping, which more or less coincided with the edge of the

champion district. This association of the most intensive rotation with the area most dependent on arable seems logical, but it was almost certainly of relatively recent origin. The boundary itself is not easy to explain in purely physical and economic terms, except on the Severn side. To the north the coincidence with the edge of the Lias is only approximate and not very convincing. Modern accounts of soil and land use<sup>1</sup> give no emphasis to such a boundary, and it is not apparent in the crop and fallow distributions revealed by the early Agricultural Returns. On the other hand, this same line of division is significant in the enclosure history of the area and in the distribution of settlement types,<sup>2</sup> features which may have been shaped in character at a relatively early stage of colonization. In sum, there are strong reasons to suspect that this is an inherited boundary, but there can be no proof until the limits of the medieval two-field system and the date of origin of the Northern three-course are established.

Finally, there is the problem of enclosed arable in the woodland district. As already mentioned, this does not appear to have had much direct impact on cropping arrangements in the early part of the study period, but the indirect effect, through the creation of a more pastoral economy, may have been considerable. In any case, enclosed arable came into greater prominence as time progressed, both as the result of contemporary enclosure activity and the conversion of land previously under pasture. The relative flexibility of the communal system ensured that there was no dramatic contrast between the cropping of such enclosed land and that of neighbouring common field; for instance, the same crops were used on each. But there were recognizable differences, at least in the seventeenth century. In particular, the equivalence in the acreages of specific groups of crops, denoting a regular shift structure, was not characteristic of enclosed ground. Related to this was the dominance of spring crops, comprising two-thirds or more of the total output. In this respect, production became similar to that of the South, and, although there is no evidence, there may also have been some lengthening in the fallow interval. In any event, the main impact of enclosure was probably to upset the regional three-shift arrangements formerly characteristic of Northern cropping. This meant the rejection of an aspect of communal cropping which seems to owe more to historical inheritance than to current needs.

<sup>1</sup> For example K. M. Buchanan, *The Land of Britain, Part 68, Worcestershire*, 1944.

<sup>2</sup> J. A. Yelling, *op. cit.*, pp. 23-63.

# Underdraining and the English Claylands, 1850-80: A Review

By A. D. M. PHILLIPS

NINETEENTH-century underdraining has lacked detailed studies in the literature of English agricultural history.<sup>1</sup> The recent articles of Sturgess<sup>2</sup> and of Collins and Jones,<sup>3</sup> discussing clayland agriculture during the period 1850-80, are, therefore, welcome for drawing attention to the role of underdraining. Yet it is a reflection upon the equivocal nature of the evidence so far utilized that their interpretations of the importance of this improvement differ so widely.

Sturgess has argued that before 1850 "attempts . . . to increase the supply of provender from the arable and to expand the livestock sides" of the "farms failed because of the difficulty of growing fodder crops on undrained clays."<sup>4</sup> But during the 'fifties and 'sixties this lack of fodder was overcome by supplementing hay with oilcake, and by improving crop yields with the introduction of draining and artificial fertilizers. Vetches and mangolds were grown and yields of hay were increased, which together permitted an increase in livestock production. According to Sturgess these changes were restricted to the clayland farms of the wet north and west, for on the clays of the drier east and south it was difficult to establish permanent pasture. He made no estimate of the amount of land drained.<sup>5</sup>

Collins and Jones in reply, although recognizing a regional distinction between the midlands and the south and east, preferred to regard the claylands as three linked ecosystems comprising clayland dairying, clayland fattening, and clay wheat-and-bean husbandry, each of which was marked by "well-defined systems of interacting living organisms and physical environment."<sup>6</sup> Within the area so delimited, they argued that there was no revolution in technique during the period 1850-80, but merely a series of adaptations to the

<sup>1</sup> I am grateful to Lord Barnard, the Duke of Northumberland, and the Trustees of the Bedford Settled Estates for giving me access to papers in their possession. I also wish to thank Professor H. C. Darby, Mr H. C. Prince, Dr F. M. L. Thompson, and Dr A. R. H. Baker for their comments on, and criticisms of, this paper.

<sup>2</sup> R. W. Sturgess, 'The Agricultural Revolution on the English Clays', *Agricultural History Review* (hereafter A.H.R.), xiv, 1966, pp. 104-21; R. W. Sturgess, 'The Agricultural Revolution on the English Clays: a Rejoinder', A.H.R., xv, 1967, pp. 82-7.

<sup>3</sup> E. J. T. Collins and E. L. Jones, 'Sectoral Advance in English Agriculture, 1850-80', A.H.R., xv, 1967, pp. 65-81.

<sup>4</sup> R. W. Sturgess, *op. cit.*, p. 120.

<sup>5</sup> *Ibid.*, p. 112.

<sup>6</sup> E. J. T. Collins and E. L. Jones, *loc. cit.*, pp. 65-6.

swings in the market towards livestock production. No revolution in terms of agricultural outputs took place because there was too little input in terms of capital investment. Insufficient draining was done, and the draining which had been carried out had not improved clayland agriculture. The effects of this neglect were not offset by the use of oilcake and fertilizer. By comparison, in the light land ecosystem productivity was much higher.

Sturgess, in a rejoinder, defined his argument more concisely and claimed that "over the 'fifties and 'sixties there occurred a technical revolution on the clays of the north and west of the country which consisted in the conversion of cornland to an intensive grassland husbandry on newly drained farms."<sup>1</sup> He emphasized the fact that the clay areas of the north and west were well drained, estimating that over 2 million acres had been drained there, in contrast to the neglected Weald, East Anglia, and the East Midlands.<sup>2</sup>

Each argument hinges on replies given to two basic sets of questions, the technical and the economic. The former deal with the extent of draining and the amount of oilcake and artificial fertilizer used; the latter with the amount of capital investment needed and applied, and the extent to which productivity was affected. This paper intends to analyse one aspect of the technical problems, that of draining.

Greatly differing estimates have been advanced of the amount of land drained in the nineteenth century. It is not known accurately how much land was drained, either regionally or locally, and the evidence submitted both by Sturgess and by Collins and Jones is insufficient to support their cases: their conclusions about the extent of draining, therefore, remain unproved. As Collins and Jones first offered an estimate of amount of land drained, their figure will be discussed before that of Sturgess.

### *The Estimate of Collins and Jones*

Collins and Jones base their assumption that too little land was drained on three sources: (a) the 1870 Agricultural Returns; (b) Bailey Denton's 1880 estimate; (c) Caird's 1873 estimate. But each of these sources is unreliable. (a) The 1870 Returns contain no information as to acreages drained, and are simply qualitative statements, to which "Agriculturalists who are well acquainted with the manner in which our farming is carried on may not probably attach much importance . . ."<sup>3</sup> (b) Denton's figures are only estimates and even as such will bear more than one interpretation. Collins and Jones only use Denton's 1880 figures, but as Denton offered a similar set in 1873, it is useful to compare the earlier with the later set, and also to make direct com-

<sup>1</sup> R. W. Sturgess, A.H.R., xv, 1967, p. 87.

<sup>2</sup> *Ibid.*, pp. 84-5.

<sup>3</sup> *Agricultural Returns for Great Britain*, British Parliamentary Papers (hereafter B.P.P.), 1870, LXVIII, p. 16.

parison of Denton's and Caird's 1873 estimates. In 1873 Denton thought that 3 million acres had been drained in England and Wales.<sup>1</sup> This figure comprised two components:  $1\frac{1}{2}$  million acres drained with money borrowed under the various Land Improvement Acts—the public component; and  $1\frac{1}{2}$  million acres drained with money derived from the private capital of landowners—the private component. Denton believed that 20 million acres required draining in England and Wales. The acreage drained expressed as a percentage of the total requiring draining gives a figure of 15 per cent. Seventeen million acres remained undrained; but in his evidence Denton admitted that of the amount remaining to be drained, only 8 million acres would be capable of profitable draining, that is draining that would pay in the form of increased rental 5 per cent on the outlay.<sup>2</sup> He did not expand this statement, but assuming that the 3 million acres he had stated as drained were 'profitable draining', then the total acreage which had required draining and which would be profitable after draining would amount to no more than 11 million acres. That landowners or tenants would drain land which would not pay for draining is unlikely and it is more realistic to express Denton's 3 million acres drained as a percentage of the total of land that would pay for draining: in this case the proportion increases to 27 per cent (Tables I and II).

Denton was inconsistent in his estimates and by 1880 he had revised several of his figures. He repeated the statement that 3 million acres had been drained in England and Wales but changed the ratio of public to private draining.<sup>3</sup> With the money borrowed under the Land Improvement Acts, Denton suggested that  $1\frac{1}{3}$  million acres had been drained in England, Wales, and Scotland. As one-third of this amount had been spent in Scotland he reckoned that 1 million acres had been drained in England and Wales with public money, and that the remaining 2 million acres had been drained privately. He further reduced the total acreage requiring draining to 18.455 million acres. The amount drained expressed as a percentage of the total requiring draining, as in 1873, gives a low value of 16.5 per cent (Table I). But, as in 1873, Denton admitted that only half of the undrained land would pay for draining.<sup>4</sup> Working on the assumption made for the 1873 estimates, the 3 million acres drained represented 28 per cent of the total that would pay for draining, a value that is much higher than the 16 per cent calculated by Collins and Jones (Table II).

(c) Collins and Jones further note that Caird's estimate of the acreage of drained land in 1873 agrees closely with that of Denton. But Caird thought

<sup>1</sup> *Select Committee of the House of Lords on the Improvement of Land*, B.P.P., 1873, xvi, Q. 586-9.

<sup>2</sup> *Ibid.*, Q. 798-807.

<sup>3</sup> *Royal Commission on the Depressed Condition of the Agricultural Interests, 1880-1882*, B.P.P., 1881, xv, Q. 4707-22.

<sup>4</sup> *Ibid.*, Q. 6324, 6385-6.

that only 10 million acres required draining.<sup>1</sup> He also claimed that with the money borrowed under the Land Improvement Acts, 2 million acres had been drained. But Caird did not include the acreage drained out of private capital; if draining financed privately were to be included, there would be little correspondence between Caird's estimate and that of Denton, which included the private capital element.

TABLE I  
LAND DRAINED: ESTIMATES OF CAIRD AND DENTON  
(In millions of acres)

| <i>A</i>    | <i>B</i>         | <i>C</i>                       | <i>D</i>                              |                           | <i>E</i>                            | <i>F</i>                  |
|-------------|------------------|--------------------------------|---------------------------------------|---------------------------|-------------------------------------|---------------------------|
| <i>Date</i> | <i>Authority</i> | <i>Area requiring draining</i> | <i>Land drained With public money</i> | <i>With private money</i> | <i>Land remaining to be drained</i> | <i>Percentage drained</i> |
| 1873        | Denton           | 20                             | 1.5                                   | 1.5                       | 17                                  | 15                        |
| 1873        | Caird*           | 10                             | 2                                     | —                         | —                                   | —                         |
| 1880        | Denton           | 18.455                         | 1                                     | 2                         | 15.455                              | 16.5                      |

\* Caird's estimates refer to England, Wales, and Scotland; Denton's to England and Wales.

TABLE II  
LAND DRAINED: ITS RELATION TO LAND THAT WOULD PAY FOR DRAINING  
(Based on Denton's estimates: in millions of acres)

| <i>A</i>    | <i>B</i>               | <i>C</i>                 | <i>D</i>                                       | <i>E</i>                                                     | <i>F</i>                               |
|-------------|------------------------|--------------------------|------------------------------------------------|--------------------------------------------------------------|----------------------------------------|
| <i>Date</i> | <i>Acreage drained</i> | <i>Acreage undrained</i> | <i>Amount of C that would pay for draining</i> | <i>Total acreage that would pay or had paid for draining</i> | <i>Area drained as percentage of E</i> |
| 1873        | 3                      | 17                       | 8                                              | 11                                                           | 27                                     |
| 1880        | 3                      | 15.455                   | 7.5                                            | 10.5                                                         | 28                                     |

Not only do the estimates vary, but it is necessary to remember that they are only estimates, and that their reliability may be questioned. Denton in 1873 claimed that 20 million acres required draining, but as the total cultivated area of England and Wales at the time was 26½ million acres,<sup>2</sup> the idea that

<sup>1</sup> *Select Committee of the House of Lords on the Improvement of Land*, B.P.P., 1873, xvi, Q. 4126.

<sup>2</sup> *Agricultural Returns for Great Britain*, B.P.P., 1873, LXIX (2).

20 million acres required draining was, as the *Edinburgh Review* noted, exaggerated.<sup>1</sup> Denton's figure of 3 million acres drained by either 1873 or 1880 is also open to question. The 1873 estimate according to the *Edinburgh Review* was "purely speculative and probably inaccurate."<sup>2</sup> Caird's figures differed distinctly from those of Denton: in estimating the total acreage drained with money borrowed under the Land Improvement Acts in England, Wales, and Scotland, Caird put the figure at 2 million acres in 1873 while Denton in 1880 calculated the acreage for the same area as  $1\frac{1}{3}$  million. Yet to some extent the acreage estimated to have been drained under the Improvement Acts should have been fairly easy to ascertain as the inclosure commissioners printed the amount lent under such acts, and all that was necessary was to divide this total sum by a figure which represented the average cost of draining per acre.

No such calculation could be made for draining executed out of private capital: to account for this sector of draining, Denton and Caird put forward ratios attempting to explain the relationship of draining financed by public money to draining financed privately. Such ratios could be little more than guess-work and the variations amongst those proposed reveal this fact. Denton in 1873 calculated that the ratio between public and private expenditure on draining was 1 : 1;<sup>3</sup> in 1880 his ratio rose to 1 : 2;<sup>4</sup> in the *Edinburgh Review*, Caird was reported as estimating the ratio at 1 : 3,<sup>5</sup> while the *Edinburgh Review* itself in 1880 felt that Caird underestimated the amount spent privately.<sup>6</sup> The fact that Denton doubled the estimate of private draining in seven years and that Caird, who as an inclosure commissioner had as much opportunity as Denton of gauging the amount of land drained, put his ratio even higher, is an indication of the uncertainty existing in measuring the acreage drained privately.

Collins and Jones believed that too little land was drained in the period 1850-80: but what has emerged is the unreliability of the figures advanced by both Denton and Caird. These are crude estimates which when inspected closely give contrasting results; and their calculation makes their approximation to reality difficult, if not impossible, to gauge. With such conflicting statements it would seem unwise to form any conclusions about the amount of land drained.

### *The Estimate of Sturgess*

To support his claim of sufficient draining in the north and west Sturgess has noted that "of the first £2½ million borrowed from the government and

<sup>1</sup> 'Agricultural Depression', *Edinburgh Review*, 151, 1880, p. 29.

<sup>2</sup> *Ibid.*, p. 29.

<sup>3</sup> *Select Committee of the House of Lords on the Improvement of Land*, B.P.P., 1873, xvi, Q. 586.

<sup>4</sup> *Royal Commission on the Depressed Condition of the Agricultural Interests, 1880-1882*, B.P.P., 1881, xv, Q. 4719-21.

<sup>5</sup> 'Agricultural Depression', *Edinburgh Review*, 151, 1880, p. 30.

<sup>6</sup> *Ibid.*

improvement companies between 1846 and 1855, 83 per cent was spent on estates in counties to the north and west of Leicestershire."<sup>1</sup> This percentage was derived from notices of applications in the *London Gazette* for draining loans. But inconsistencies occur in the material. The loans recorded in the *London Gazette* covered only those made under the government loans of 1846 and 1850 and the Private Money Draining Act, 1849. The improvement companies were not required to publish notices of applications there. The percentage that Sturgess has established for the amount drained in the north and west of England applies only to loans under the government loans and Private Money Draining Act; the pattern that these are supposed to indicate may not bear any relationship to that established by the loans issued by the improvement companies.

Furthermore, the sums referred to in the *London Gazette* notices were not necessarily the sums borrowed by the landowners. All that a notice of application in the *London Gazette* indicated was that a loan was intended to be made on the estate named:<sup>2</sup> the loan itself may not have been taken up, or, if it was, not to the amount stated in the notice. Thus the Earl of Ellesmere undertook in 1847 to borrow £4,000 to drain his Northamptonshire estate, but no evidence exists of such a loan having been made:<sup>3</sup> again the Duke of Cleveland agreed to borrow £6,170 to drain his Northamptonshire estate in his notices of application, but the amount actually borrowed was only £5,000.<sup>4</sup>

The pattern Sturgess suggests is known to be an inaccurate one, nor can it be applied to other and later loans. But the total amount borrowed under such loans is at least known. In calculating the area drained in the north and west at over 2 million acres, Sturgess has to estimate the amount drained privately and he has adopted Denton's 1880 ratio of public to private draining of 1 : 2. The use of this ratio at once places Sturgess's figures in the same realm of unreliability as those advanced by Denton himself.

The areas that Sturgess adopts of differing intensities of draining are at variance. He claims that there was a lack of draining in the East Midlands:<sup>5</sup> but in his area of sufficient draining—that is the area to the north and west of Leicestershire—he includes Leicestershire and Nottinghamshire which in any reckoning must count as part of the East Midlands.

<sup>1</sup> R. W. Sturgess, A.H.R., xv, 1967, pp. 84-5.

<sup>2</sup> Public Money Draining Act, 9 & 10 Vict., c. 101, s. 18; Private Money Draining Act, 12 & 13 Vict., c. 100, s. 5.

<sup>3</sup> Notice of Application in the *London Gazette* dated 9 February 1847; Public Record Office, IR3/6-38, Certificates of Draining Advances under the Public Money Draining Acts.

<sup>4</sup> Notices of Application in the *London Gazette* dated 12 February 1847, 28 August 1850, 25 August 1851; Raby MSS., Staindrop, Durham; Draining Reports on the Government Loan, 1848-53.

<sup>5</sup> R. W. Sturgess, A.H.R., xv, 1967, p. 84.

*Was Draining Confined to the Claylands?*

Neither Sturgess nor Collins and Jones make out a strong case for their arguments because they are unaware of how much land was drained both regionally and totally throughout England. Detailed studies have to be made of the areas and the amount of land drained. On the Duke of Northumberland's estate in Northumberland, for example, a great deal of draining was carried out during the period as Table III demonstrates. In the Barrasford, Chatton,

TABLE III  
ACREAGE DRAINED ON THE NORTHUMBERLAND ESTATES  
OF THE DUKE OF NORTHUMBERLAND\*

| <i>Bailiwick</i> | <i>Total acreage<br/>of bailiwick, 1866</i> | <i>Total acreage<br/>drained in bailiwick<br/>1844-80</i> | <i>Acreage drained as<br/>percentage of total<br/>acreage of bailiwick</i> |
|------------------|---------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------|
| Alnwick          | 9,685                                       | 6,718                                                     | 69                                                                         |
| Barrasford       | 8,098                                       | 1,747                                                     | 22                                                                         |
| Chatton          | 19,391                                      | 4,652                                                     | 24                                                                         |
| Longhoughton     | 6,353                                       | 4,895                                                     | 77                                                                         |
| Lucker           | 9,330                                       | 5,854                                                     | 63                                                                         |
| Newburn          | 3,269                                       | 2,271                                                     | 69                                                                         |
| Prudhoe          | 4,997                                       | 2,365                                                     | 47                                                                         |
| Shilbottle       | 5,179                                       | 3,571                                                     | 69                                                                         |
| Rothbury         | 15,524                                      | 2,520                                                     | 16                                                                         |
| Tindale          | 60,747                                      | 2,602                                                     | 4                                                                          |
| Tynemouth        | 4,522                                       | 3,404                                                     | 75                                                                         |
| Warkworth        | 4,371                                       | 3,471                                                     | 79                                                                         |

\* Alnwick MSS., Alnwick Castle, Northumberland, Business Minutes, vol. 37, p. 208, 16 February 1866; Fields Drained, vols. 1-3, 1844-1903.

Rothbury, and Tindale bailiwicks, the amount was small but this is explained by the fact that they contained large areas of moorland where open draining was more important than underdraining: the other bailiwicks were all low-lying and covered with boulder clay. The Duke of Cleveland's Northamptonshire estate was also well drained. It lay mainly on boulder and Oxford clays, and by 1872 virtually the whole estate of about 3,500 acres had been drained. Between 1849 and 1853 on the Sudborough section of the estate, which contained about 1,000 acres, no less than 920 acres had been drained.<sup>1</sup> Both these estates diverge from the pattern established by Sturgess and by Collins and Jones, being estates that were well drained; that of the Duke of Cleveland is

<sup>1</sup> Raby MSS., Draining Account Books, 1861-72 and 1864-71; Draining Reports on the Government Loan, 1848-53.

also an example of a well-drained estate in the East Midlands. We need to know to what extent these were, or were not, typical of the pattern of draining during the period 1850-80.

Both Sturgess and Collins and Jones have discussed draining that occurred specifically on the claylands, but it is necessary to establish if this was always the case. Although Collins and Jones recognized different types of soils in their light land ecosystem,<sup>1</sup> they did not elaborate the pedological variations in their clayland ecosystems. They may be fully aware of their definition of clayland, but it must be remembered that claylands are to be found in most parts of the country<sup>2</sup> and encompass a great variety of soil types. For example the boulder clays in Northumberland vary from heavy, stiff clays in the south-east of the county to sandy loams on Tweedside. It is unquestionable that draining occurred on soils which could never be classed as clays and which could not be fitted into the clayland ecosystems of Collins and Jones. For example, on Burton Farm (about 1,040 acres) near Bamburgh, which lay on boulder clay, and which formed part of the estate of the Earl Grey in Northumberland, only 13 per cent of the 458 acres drained by 1847 was regarded by the tenant as 'clay', while 48 per cent was 'clay-turnip soil', 35 per cent 'turnip soil', 3 per cent 'loam', and 1 per cent 'bog'.<sup>3</sup> On the same estate, on West Learmouth and Sunnyslaw Farm (about 1,250 acres) near Cornhill, which lay on boulder clay and glacial sands and gravels, only 6 per cent of the 226 acres drained by 1847 was classed as 'clay', while 19 per cent was 'moor-land', 26 per cent 'turnip soil' and 'turnip land', and 48 per cent loams of various descriptions.<sup>4</sup> We need to know to what extent such proportions were typical not only in Northumberland, but in the country as a whole, before the impact of draining on clayland agriculture can be judged.

#### *Was Drained Land Converted to Pasture?*

Not only can the amount of land drained be questioned, but also the agricultural practice after draining. Sturgess argues that in the north and west of the country during the 'fifties and 'sixties, cornland was converted into intensive grassland on newly drained farms. But studies on two estates in Northumberland reveal no such consequential conversion. On the estate of the Earl Grey a study of the cropping of eight farms covering about 5,000 acres was made with the purpose of discovering the percentage occupied by corn and grass (Table IV). All corn crops—wheat, barley, and oats—were included in

<sup>1</sup> E. J. T. Collins and E. L. Jones, *loc. cit.*, p. 66.

<sup>2</sup> See map in H. C. Darby, 'The Draining of the English Claylands', *Geographische Zeitschrift*, 52, 1964, p. 191.

<sup>3</sup> Grey MSS., Department of Palaeography and Diplomatic, University of Durham, Draining Reports for 1847, Box 550.

<sup>4</sup> *Ibid.*

the corn percentage, while the total of old grass, new grass (grass in an arable rotation), hay, and seeds made up the grass percentage. Percentages were worked out at ten-yearly intervals from 1845, over the period in which Sturges suggested change took place, with a percentage in 1870 to mark the end of the period. On these farms draining started in 1840, and the main body of the work was completed by 1855: only at Ulgham Grange did draining on a large scale extend for a longer period, with as much being done between 1850 and 1865 as between 1841 and 1850. The eight farms were located in different parts of Northumberland: Ulgham Grange and Broomhill were situated near the coast

TABLE IV  
PERCENTAGE OF CORN AND GRASS LAND ON EIGHT FARMS  
OF THE GREY ESTATE, NORTHUMBERLAND\*

| <i>Farm</i>        | <i>Acreage<br/>in<br/>1845</i> | <i>Completion<br/>date of<br/>main body<br/>of draining</i> | 1845         |             | 1855         |             | 1865         |             | 1870         |             |
|--------------------|--------------------------------|-------------------------------------------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                    |                                |                                                             | <i>Grass</i> | <i>Corn</i> | <i>Grass</i> | <i>Corn</i> | <i>Grass</i> | <i>Corn</i> | <i>Grass</i> | <i>Corn</i> |
| Burton             | 1,044                          | 1848                                                        | 37           | 34          | 32           | 38          | 44           | 22          | 43           | 33          |
| Bradford           | 495                            | 1851                                                        | 34           | 33          | 37           | 39          | 47           | 35          | 40           | 38          |
| East<br>Learmouth† | 889                            | 1852                                                        | 38           | 34          | 21           | 41          | 12           | 46          | —            | —           |
| Ancroft            |                                |                                                             |              |             |              |             |              |             |              |             |
| East Side          | 636                            | 1850                                                        | 37           | 40          | 30           | 31          | 29           | 38          | 35           | 42          |
| Broomhill          | 546                            | 1854                                                        | 41           | 29          | 28           | 32          | 52           | 26          | 48           | 28          |
| Presson            | 965                            | 1858                                                        | 39           | 37          | 39           | 38          | 42           | 32          | 37           | 34          |
| Town               |                                |                                                             |              |             |              |             |              |             |              |             |
| Howburn‡           | 228                            | 1854                                                        | 47           | 38          | 43           | 25          | 42           | 32          | 46           | 37          |
| Ulgham<br>Grange   | 360                            | 1865                                                        | 21           | 36          | 34           | 29          | 44           | 27          | 33           | 35          |

\* Grey MSS., Estate Cropping Book, 1845-78; Draining Material, 1840-69, Boxes 550 and 551.

† No returns recorded after 1867.

‡ No returns for 1865: percentage based on returns for 1864.

south of Howick; Burton, Bradford, and Ancroft East Side about Bamburgh and Ancroft; and East Learmouth, Presson Town, and Howburn on Tweed-side near Cornhill. All the farms lay on boulder clay, with the exception of East Learmouth Farm which was on glacial sands and gravels. Percentages of corn and grass fluctuated throughout the period, but in 1870 although there was an increase in grassland in most places in comparison with the 1845 figures, cornland could not be said to have declined greatly and on some of the farms it had increased. On this estate no general conversion from cornland to grassland after draining seems to have occurred.

A similar study of five farms, from different bailiwicks on the Duke of Northumberland's estate, conveys the same impression. It was based on land use noted on farm agreements, which did not specify crops but did indicate whether the land was in tillage or old grass, arable or pasture (Table V). The main work of draining on these farms had been carried out by 1860, but by that

TABLE V  
PERCENTAGE OF LAND UNDER GRASS OR ARABLE ON FIVE FARMS ON  
THE DUKE OF NORTHUMBERLAND'S ESTATE\*

| <i>Farm and<br/>bailiwick</i>          | <i>Acreage<br/>c. 1850</i> | <i>Percentage<br/>of farm<br/>drained by<br/>1860</i> | <i>Tillage</i> | <i>Grass</i> | <i>Tillage</i> | <i>Grass</i> | <i>Arable</i> | <i>Pasture</i> |
|----------------------------------------|----------------------------|-------------------------------------------------------|----------------|--------------|----------------|--------------|---------------|----------------|
| Greenfield<br>(Alnwick)                | 448                        | 76                                                    | 1852<br>80     | 20           | 1878<br>78     | 22           | 1901<br>28    | 72             |
| Hole and<br>Highstead<br>(Tindale)     | 337                        | 37                                                    | 1850<br>37     | 63           | 1884<br>26     | 74           | 1897<br>—     | 100            |
| Acklington High<br>Park<br>(Warkworth) | 461                        | 44                                                    | 1849<br>54     | 46           | 1861<br>54     | 46           | 1875<br>48    | 52             |
| Wandon and<br>Blakelaw<br>(Chatton)    | 494                        | 49                                                    | 1848<br>97     | 3            | 1858<br>92     | 8            | 1880<br>67    | 33             |
| Chishillways<br>(Barrasford)           | 445                        | 45                                                    | 1850<br>50     | 50           | 1868<br>51     | 49           | 1881<br>36    | 64             |

\* Alnwick MSS., Farm Agreements.

date there had been no appreciable conversion of arable to pasture. The exception was Hole and Highstead farm: here, however, the fields in arable in 1850 were still in arable in 1884 and the increase in the pasture percentage is a result of the addition of 100 acres of pasture before 1884. In the period from 1850 to 1884 on this farm there was no conversion of arable to pasture after draining. The evidence from these two estates, where the farms were well drained, does

not support Sturges's view of change. The figures in Table V suggest that the movement from arable to pasture occurred after 1870, not directly after draining had been carried out. It would seem to be a consequence not of technical change but of economic factors.

*Was Land Improved by Draining?*

Collins and Jones put forward a contradictory case in describing agricultural change after draining. They note that draining allowed the introduction of green crops and roots on to fallows,<sup>1</sup> but previously they claim that hopes for introducing turnips on to clays after draining were misjudged and the "belief that drainage could introduce the turnip husbandry to clayland farms" was unrealized.<sup>2</sup> With such conflicting statements it is relevant to discuss whether draining could bring about the introduction of green crops and roots to clay farms. Collins and Jones have assumed that unless draining led to the introduction of turnip husbandry it had failed in its aims. But not all agriculturalists believed that draining could bring about the revolutionary changes predicted by Joshua Trimmer in 1847.<sup>3</sup> William Sample, agent for the Duke of Portland's Bothal (Northumberland) estate, realized in 1852 that, even with draining, strong clayland could "poach" in a wet season with sheep feeding on it.<sup>4</sup> But this fact did not deter him, and it was the necessity of removing excess water from the land that encouraged him to implement an intensive programme of draining between 1835 and 1880.<sup>5</sup>

Yet draining could bring changes: on the Duke of Northumberland's estate much drained land in the 'fifties was used for the cultivation of turnips;<sup>6</sup> in Devon on the Duke of Bedford's mid-Devon estate, of the 135 acres drained between 1868 and 1870 on Wheatley Farm (which was farmed by the estate over the same period), 35 acres were put to turnips immediately after draining.<sup>7</sup> There could be a change in husbandry: Thomas Sample could write in 1885 of the Duke of Portland's Northumberland estate, "the better class of land by draining became capable of producing turnips and thus the rents of the farms did not so entirely depend upon the wheat crop as they formerly did." (This statement refers to the period between 1858 and 1885.)<sup>8</sup> On the same estate, William Sample in 1849 realized the necessity to drain land if green crops were

<sup>1</sup> E. J. T. Collins and E. L. Jones, *loc. cit.*, p. 75.

<sup>2</sup> *Ibid.*, pp. 67-8, 72.

<sup>3</sup> *Ibid.*, p. 67, quoting J. Trimmer, 'On the Improvement of Land as an Investment for Capital', London, 1847.

<sup>4</sup> Northumberland Record Office (hereafter N.R.O.), ZSA/1/2, Letter from William Sample to the Duke of Portland, 13 October 1852.

<sup>5</sup> N.R.O. ZSA/1/2, Letter Book of William Sample.

<sup>6</sup> Alnwick MSS., Statistical Report of Farms on the Duke of Northumberland's Estate for 1850.

<sup>7</sup> Bedford MSS., Bedford Estate Office, London, Annual Reports, 1868-70.

<sup>8</sup> N.R.O. ZSA/3/31, Memorandum re Corn Scale regulating the Rents of the Bothal Estate, 3 February 1885.

to be grown: he wrote: ". . . it is intended that the land which has not been drained had better not be sown with winter tares . . ."<sup>1</sup> Draining could lead to the cultivation of turnips and other green crops, and in some cases help in the adoption of turnip husbandry. The theory of Collins and Jones of the failure of draining to bring about such changes breaks down in certain localities. Whether these examples are merely exceptions to the theory cannot as yet be judged; this will be revealed only by more detailed research. What is suggested is that the statements of Collins and Jones must be treated with reserve.

### *Conclusion*

The generalizations that Sturges, and Collins and Jones have made about draining may be questioned. The acreage drained during the period 1850-80 is unknown: the evidence offered by them does not alter this fact. It is unwise to put any confidence in estimates which are so variable and unreliable, and in notices of applications for draining loans which provide only a partial account. Regional differentiation in draining activity cannot be gauged, nor is it clear how much draining took place on soils other than clays. The claims of Sturges and of Collins and Jones of agricultural change after draining do not apply in all cases. A conversion of cornland to grassland after draining did not occur in all parts of the north and west of the country; while draining could lead to the cultivation of turnips and other green crops on clayland farms.

In spite of these conclusions, the contributions of Sturges and of Collins and Jones are significant in drawing attention to the existence of underdraining as an agricultural improvement. They have reviewed its importance and attempted within the limitations of their generalized data to answer the questions of its regional occurrence and its effects upon agricultural practice. These are questions that we must continue to ask, but with the use of more detailed studies. Acreage drained must have a more statistically correct background, as must the locale and the occasion of draining; and if judgements are to be made about changes in agricultural practice, land use and yields before and after draining must be carefully examined. The answers are to be found in studies both of the draining activities on landed estates, regionally and according to size, and of the various government and improvement companies' draining loans. Such investigations are likely to produce some progress in the understanding of the significance of draining in nineteenth-century agriculture.

<sup>1</sup> N.R.O., ZSA/1/2, Letter from William Sample to the Duke of Portland, 31 July 1849.

# List of Books and Articles on Agrarian History issued since June 1967<sup>1</sup>

Compiled by H. A. BEECHAM

## BOOKS AND PAMPHLETS

- ANDERSON, M. L. *A History of Scottish forestry*. Ed. C. J. Taylor. Nelson. 1967.
- ANON. *A History of the Sherwood Oaks*. W. & J. Linney, West Gate, Mansfield, Notts.
- BALLARD, E. and HARGREAVES, J. E. *A Chronicle of Crompton, together with a History of the Families of Crompton and Milne, and of A. & A. Crompton & Co.* Crompton Public Library. 1967.
- BARCLAY, R. S. *The Court Books of Orkney and Shetland, 1614-1615*. Scottish Hist. Soc. Pubs., 4th ser., vol. IV. 1967.
- BEAN, J. M. W. *The Decline of English Feudalism, 1215-1540*. Manchester U.P.
- BECKWITH, I. *Victorian Village: Roxby, a Lincolnshire Village in the Nineteenth Century*. Beckwith, Flat 3, Canwick House, Canwick, Lincoln. 1967.
- BELLHOUSE, M. A. L. *The Story of Combs, my Village*. Old Brook House, Combs, Chapel-en-le-Frith, Stockport, Cheshire.
- BENNETT, H. S. *The Pastons and their England: Studies in an Age of Transition*. 2nd ed. Cambridge U.P.
- BISCHOFF, J. *A comprehensive History of the Woollen and Worsted Manufactures*. 1st ed., new impr. Cass.
- BOLITHO, J. R. *Tudor Tottenham*. Edmonton Hundred Historical Society. Occasional papers, new ser., no. 11. 1967.
- BOWKER, M. (ed.). *An Episcopal Court Book for the Diocese of Lincoln, 1514-1520*. Linc. Rec. Soc., vol. LXI. 1967.
- BRANCH-JOHNSON, W. *Welwyn by and large: Historical Gossip from a Hertfordshire Village*. Bangor House, Welwyn, Herts. 1967.
- BRILL, E. *Old Cotswold*. David & Charles.
- BRISTOL UNIVERSITY. *Wrington Village Records: Studies of the History of a Somerset Village*. Dept. of Extra-Mural Studies, 20A Berkeley Square, Bristol 8. 1967.
- BROCKBANK, W. and KENWORTHY, F. *The Diary of Richard Kay, 1716-51, of Baldingstone, near Bury, a Lancashire doctor*. Chetham Soc., vol. XVI.
- CAIRD, J. *English Agriculture in 1850-51*. 2nd ed., new introd. by G. E. Mingay. Cass.
- CAIRD, J. *The Landed Interest and the Supply of Food*. New introd. by G. E. Mingay. 5th ed. Cass. 1967.
- CHARLES, B. G. (ed.). *Calendar of the Records of the Borough of Haverford-west, 1539-1660*. Univ. of Wales P. 1967.
- CHAUNDLER, C. *Everyone's Book of ancient Customs*. A. R. Mowbray.
- CHIBNALL, A. C. (ed. and introd.). *Taxation Returns: Taxation of Personal Property in 1332 and later*. Bucks. Rec. Soc., vol. XIV. 1966.
- CHILDS, W. *The Town of Reading during the early Part of the Nineteenth Century*. 1st ed. reprinted. Reading Public Libraries. 1967.
- CHOPE, R. P. *Early Tours in Devon & Cornwall*. 1st ed. reprinted with new introd. by A. Gibson. David & Charles. 1967.
- CHRISTIE, I. R. (ed.). *Essays in Modern History, selected from the "Transactions" of the Royal Historical Society on the Occasion of its Centenary*. Macmillan.
- CLAY, C. T. (ed.). *Early Yorkshire Charters, vol. XII, based on the MSS. of the late William*

<sup>1</sup> The date of publication is 1968 unless otherwise stated.

- Farrer. Yorks. Arch. Soc. Rec. Ser., Extra Ser., vol. x. 1965.
- COBBETT, W. *Rural Rides*. Ed. G. Woodcock. Harmondsworth, Penguin. 1967.
- CONNOLLY, J. G.C.E. *O-level & C.S.E. English Economic and Social History, 1760-1939*. Seymour P.
- COWLING, G. C. *The History of Easingwold and the Forest of Galtres*. Huddersfield Advertiser P.
- CROSSING, W. *Hundred Years on Dartmoor*. New ed., ed. and introd. by B. Le Mesurier. David & Charles. 1967.
- DAVENPORT, F. G. *The Economic Development of a Norfolk Manor, 1086-1565*. 1st ed., new impr. Cass. 1967.
- DAVIES, J. H. *History of Pontadawe and District: from Earliest to Modern times*. C. Davies. 1967.
- DICKINSON, H. T. (ed.). *The Correspondence of Sir James Clavering*. Surtees Soc. pubs., vol. CLXXVIII. 1967.
- DREWERY, R. F. *A Select List of Books on Hull and District: a Guide to the Collections in the Local History Library*. City Libraries.
- DUNSTAN, G. R. *The Register of Edmund Lacy, Bishop of Exeter, 1420-1455, Registrum Commune, vol. III*. Devon & Cornwall Rec. Soc., vol. XIII.
- DUTTON, R. *Hinton Ampner: a Hampshire Manor*. Batsford.
- DYER, J. and others. *The Story of Luton*. 2nd ed. rev. White Crescent P. 1967.
- ELRINGTON, C. R. *A History of the County of Gloucester*. Victoria History of the Counties of England, vol. 8. Oxford U.P.
- EMMISON, F. G. *How to read Local Archives, 1550-1700*. Historical Association. 1967.
- FARR, B. (ed.). *The Rolls of Highworth Hundred, 1275-1287*. Wilts. Arch. & Nat. Hist. Soc. Rec. Branch, vol. XXII.
- FERGUSON, J. P. S. *Scottish Family Histories held in Scottish Libraries*. 1st ed. reprinted. Scottish Central Library.
- FINBERG, H. P. R. and SKIPP, V. H. T. *Local history: Objective and Pursuit*. David & Charles. 1967.
- FINN, R. W. *The Eastern Counties*. Longmans. 1967.
- FLETCHER, A. *Tudor Rebellions*. Longmans.
- FRANCE, R. S. (ed.). *A Lancashire Miscellany*. Lancashire and Cheshire Record Soc. 1965.
- FRASER, C. M. (ed.). *The Northumberland Lay Subsidy Roll of 1296*. Society of Antiquaries of Newcastle-upon-Tyne.
- GARTH. *Ashdown Forest*. Society of the Friends of Ashdown Forest, The Square, Forest Row, Sussex. 1967.
- GAVIN, W. *Ninety Years of Family Farming: the Story of Lord Rayleigh's and Strutt & Parker Farms*. Hutchinson. 1967.
- GLEDHILL, ROLF. *A Thousand Years of Norton History*. British Publishing.
- GOAMAN, M. *Old Bideford and District*. E. M. & A. B. Cox.
- GOODWYN, E. A. *A Century of a Suffolk Town: Beccles, 1760-1860*. College Gateway Bookshop, Silent Street, Ipswich.
- GOUGH, R. *Human Nature displayed in the "History of Myddle"; also known as "Antiquities and Memoirs of the Parish of Myddle, County of Salop"*. 1st ed. reprinted, new introd. by W. G. Hoskins. Centaur P.
- HALES, J. *Three Centuries at Holt*. Priest Publications.
- HARRISON, J. A. *A West Riding Childhood*. Revised and extended edition. Lanehead, Kelcliffe Lane, Guiseley, Leeds. 1967.
- HASSALL, W. I. *Index of Persons in Oxfordshire: deeds acquired by the Bodleian Library, 1878-1963*. Ox. Rec. Soc., vol. XLV. 1966.
- HEAD, Sir G. *A Home Tour through the Manufacturing Districts of England in the Summer of 1835*. 2nd ed., new introd. by W. H. Chaloner. Cass.
- HEATH, J. E. *A brief History of Long Eaton and Sawley, from 1750 to 1914*. Long Eaton Urban District Council. 1967.
- HILL, C. *Reformation to Industrial Revolution: a Social and Economic History of Britain, 1530-1780*. Weidenfeld & Nicholson. 1967.
- HILLS, R. L. *Machines, Mills and uncountable costly Necessities: a short History of the Drainage of the Fens*. Goose & Son. 1967.
- HOME, M. *Winter Harvest: Norfolk Boyhood*. Macdonald & Co. 1967.
- HOWELLS, B. *A Calendar of Letters relating to North Wales, 1533-circa 1700: from the Llanfair-Brynodol, Gloddaeth, Crosse of*

- Shaw Hill, and Rhual Collections in the National Library of Wales.* Wales U.P. 1967.
- HOWSE, J. S. *Denchworth through the Centuries.* Rosemary House, Stanford-in-the-Vale, Faringdon, Berks. 1967.
- HOWSE, V. M. *Stanford-in-the-Vale: a Parish Record, Part V.* Rosemary House, Stanford-in-the-Vale, Faringdon, Berks. 1967.
- HUGHS, T. *Ruthin: a Town with a Past.* T. Hughs, Bryn Medwyn, Ruthin, Den. 1967.
- IVIMEY, A. *Westleton from the 1830's to the 1960's: Survey of a Suffolk Village.* W.E.A. (Westleton Branch).
- JENNINGS, B. (ed.). *A History of Nidderdale.* Written by Pately Bridge Local History Tutorial Class, W.E.A. Advertiser P. 1967.
- JOBSON, A. *The Felixstowe Story.* Hale.
- JOHNSON, D. *The Monmouth Rebellion and the Bloody Assizes: a Collection of Contemporary Documents.* Cape.
- JONES, E. L. *Agriculture and Economic Growth in England, 1650-1815.* Methuen. 1967.
- KERR, B. *Bound to the Soil: a Social History of Dorset, 1750-1918.* Baker.
- KERRIDGE, E. *The Agricultural Revolution.* Allen & Unwin. 1967.
- KILBUCHO, T. T. *Sixty Rural Years.* A. Walker & Son Ltd.
- LAWRANCE, N. A. H. *Fasti Parochiales, vol. III. Deanery of Pickering.* Yorks. Arch. Soc. Rec. Ser., vol. CXXIX. 1967.
- LIBRARY ASSOCIATION. *Reader's Guide to Books on Hanoverian Britain.* 2nd ed. Library Assoc. (County Libraries Group).
- LLOYD, R. *Dorset Elizabethans at Home and Abroad.* Murray. 1967.
- MADGE, S. J. *The Domesday of Crown lands; a study of the legislation, surveys, and sales of Royal Estates under the Commonwealth.* Cass reprint.
- MARSHALL, S. *Disley Ancient and Modern.* Lea Gate, Red Lane, Disley, Cheshire. 1967.
- MEEKINGS, C. A. F. and SHEARMAN, P. (ed. and introd.). *Fitznells Cartulary. A Calendar of Bodleian Library MS. Rawlinson B 430.* Surrey Rec. Soc., vol. XXVI.
- MILLER, G. *Rambles round the Edge Hills and in the Vale of the Red Horse.* New ed. Roundwood P. 1967.
- MINCHINTON, W. E. (ed.). *Essays in Agrarian History (in 2 vols.). Reprints edited for the British Agricultural History Society.* David & Charles.
- MINISTRY OF AGRICULTURE, FISHERIES AND FOOD. *A Century of Agricultural Statistics, Great Britain, 1866-1966.* H.M.S.O.
- MOORE, D. *Footsteps from the Past: a Dorset Village.* Blackmore P., Gillingham, Dorset.
- MOUNTAGUE, C. *A Booke of the several Customs of all the Lord Bishop of Winton's lands with several Presedents to each Custom and all the Knight's Fees; collected out of the Ancient Records by Sr. Charles Mountague, Knight, Steward of the Bishoprick in Anno 1617.* Trans. from Latin by E. Manning, Farnham Museum Society Publications. 1967.
- OFFLER, H. S. (ed.). *Durham Episcopal Charters.* Surtees Soc., vol. CLXXIX.
- ORWIN, C. S. and ORWIN, C. S. *The Open Fields.* 3rd ed. Clarendon P. 1967.
- PACKWOOD, G. F. L. and COX, A. H. (eds). *West Drayton and District during the Nineteenth Century.* West Drayton & District Loc. Hist. Soc. 1967.
- PAYNE, A. *Portrait of a Parish.* Roundwood.
- PENTRICH FESTIVAL ORGANIZING COMMITTEE. *Pentrich Revolution, 1817.* Derbys. Rec. Office, Matlock. 1967.
- PIERCE, E. (comp.). *List of documents relating to the Manor of Chester Deanery, deposited in the Dept. of Palaeography and Diplomatic.* Durham University. 1967.
- PIERCE, E. (comp.). *The Weardale Chest: list of documents relating to the Forest of Weardale and Stanhope Park, deposited in the Dept. of Palaeography and Diplomatic.* Durham University. 1967.
- PORTER, H. M. *The Saxon Conquest of Somerset and Devon.* Brodic. 1967.
- RAISTRICK, A. *Old Yorkshire dales.* David & Charles. 1967.
- READ, D. *Cobden and Bright: a Victorian Political Partnership.* Edward Arnold. 1967.
- READING UNIVERSITY. *G. E. Fussell: a Bibliography of his Writings on Agricultural History.* Museum of English Rural Life, University of Reading. 1967.
- ROLLINSON, W. *A History of Man in the Lake District.* Foreword by Prof. G. Manley. Dent. 1967.

- ROPER, J. S. *Early North Worcestershire Scythesmiths and Scythe-grinders: a Study based on Wills and Probate Inventories, 1541-1647*. 133 Tipton Road, Woodsetton, Dudley, Worcs. 1967.
- SACHSE, W. L. (ed.). *Minutes of the Norwich Court of Mayoralty, 1632-1635*. Norf. Rec. Soc., vol. XXXVI. 1967.
- SAWREY, H. 700+: *the History of a Country Parish*. Orton Vicarage, Orton, Westmorland. 1967.
- SAWYER, P. *Anglo-Saxon Charters: an annotated List and Bibliography*. Royal Hist. Soc.
- SCOTLAND. NATIONAL LIBRARY. *Scottish Manuscripts*. Library of Scotland, Edinburgh. 1967.
- SCOTTISH RECORD OFFICE. *Index to particular Register of Sasines for Sherriffdoms of Inverness, Ross, Cromarty and Sutherland, preserved in Her Majesty's General Register House, Edinburgh, Vol. III. 1721-80*. H.M.S.O.
- SCOTT-WILLEY, H. H. *A History of Chipstead in the County of Surrey*. Chipstead Community Assoc., High Wold, Chipstead, Surrey. 1966.
- SHORLAND, E. *The Pish (Parish) of Warfield and Easthampstead which includes the Old Bracknell*. Meadens, Church Lane, Warfield, Bracknell, Berks. 1967.
- SHORT, B. C. *The Isle of Purbeck*. 82 High Street, Poole, Dorset.
- SMITH, B. S. *Gloucestershire Historical Studies: Essays on Local Historical Records by the University Extra-Mural Class at Gloucester, 1966-67*. University of Bristol, Dept. of Extra-Mural Studies. 1967.
- SNOW, U. H. S. *100 Years in Churt*. Parochial Church Council of the Parish Church of St John the Evangelist, Symondstone Lane, Churt. 1967.
- SOUTHERN, R. W. (ed.). *Essays in Medieval History, selected from the "Transactions" of the Royal Historical Society on the Occasion of its Centenary*. Macmillan.
- SPRAKE, R. F. *Shalfleet, Isle of Wight: some Notes on a Country Parish*. 6 Malthouse Green, Newbridge, Yarmouth, Hants. 1967.
- STEER, F. W. *A Catalogue of Sussex Maps*. Sussex Record Society, vol. LXVI.
- STENTON, D. M. *Pleas before the King or His Justices, 1198-1212, vol. IV. Rolls or Fragments of Rolls from the Years 1207-1212*. Selden Soc., vol. LXXXIV. 1967.
- SUNDERLAND, N. *A History of Darlington*. Darlington Historical Society. 1967.
- TALBOT, C. H. *Letters from the English Abbots to the Chapter at Cîteaux, 1442-1521*. Royal Hist. Soc., Camden 4th ser., vol. IV. 1967.
- TATE, W. E. *The English Village Community and the Enclosure Movements*. Gollancz. 1967.
- TATE, W. E. and SINGLETON, F. B. *A History of Yorkshire: with Maps and Pictures*. 3rd ed. Darwen Finlayson. 1967.
- THOMAS, D. *A Village in Kent: the Historic and Cultural Heritage of New Ash Green*. Quadrangle Books. 1967.
- TOKIN, W. G. S. *A Forest Garland: Epping Forest in Poetry and Prose*. Walthamstow Antiq. Soc., Monographs, new ser., no. 6. Central Library, High Street, Walthamstow, E.17. 1967.
- TREMEWAN, T. *Cornish Youth: Memories of a Perron Boy, 1895-1910*. O. Blackford Ltd.
- TUPLING, G. H. *Lancashire Directories, 1684-1957: revised and enlarged*. Central Library, Manchester 2.
- TYRER, F. and BAGLEY, J. J. (eds). *The Great Diurnal of Nicholas Blundell of Little Crosby, Lancashire, vol. I, 1702-1711*. Rec. Soc. of Lancs. & Chesh., vol. CX.
- UNIVERSITY OF DURHAM. *Howard Family Documents: List of Miscellaneous Papers relating to Cumberland, formerly at Naworth Castle, now deposited in the Department of Palaeography and Diplomatic*. University of Durham, Dept. of Palaeography and Diplomatic.
- VICTORIAN SOCIETY. *Victorian Rural England*. Victorian Society, 12 Magnolia Wharf, Strand-on-the-Green, W.4. 1966.
- VINOGRADOFF, P. *Villeinage in England: Essays in English Medieval History*. 1st ed. reprinted. Oxford: Clarendon P.
- WATSON, W. *Flint Implements: an Account of the Stone Age Techniques and Cultures*. British Museum.
- WATTS, S. *A Walk through Leicester*. 3rd ed. Leic. U.P. 1967.

- W.E.A. BRASSINGTON CLASS. *Life and History of Brassington Village, Derbyshire*. 63 Field Lane, Alvaston, Derbys. 1967.
- WEINSTOCK, M. B. *Old Dorset*. David & Charles. 1967.
- WELCH, E. *Plymouth Building Accounts of the sixteenth and seventeenth Centuries*. Dev. & Corn. Rec. Soc., new ser., vol. XII. 1967.
- WILLIAMS, S. (ed.). *Glamorgan Historian*, vol. IV. 1 Crossfield Road, Barry, Glam. 1967.
- WILLIS, A. J. and MERSON, A. L. (comp.). *A Calendar of Southampton Apprenticeship Registers, 1609-1740*. Southampton Record Series, vol. XII.
- WRENN, D. P. H. *Shrewsbury and Shropshire*. Longmans Young Books.

## ARTICLES

- ALCOCK, N. W. *A Devon farm: Bury Barton, Lapford*. Dev. Assoc. Rep & Trans., vol. XCVIII, 1966, pp. 105-31.
- BATLEY, L. *Rolls of the Great Court Baron of Tinsley*. Hunter Arch. Soc. Trans., vol. IX, pt. 2, 1966, pp. 61-74.
- BEECHAM, H. A. *List of Books and Articles on Agrarian History issued since September 1966*. Agric. Hist. Rev., vol. XVI, pt. 1, pp. 54-60.
- BRADLEY, R. *The Deserted Medieval Village of Racton*. Sussex Notes & Queries, vol. XVI, no. 10, 1967, pp. 328-9.
- BRANIGAN, K. *Romano-British Rural settlement in the Western Chilterns*. Arch. Jnl, vol. CXXIV, pp. 129-59.
- BROWN, J. *Scottish and English Land Legislation, 1905-11*. Scottish Hist. Rev., vol. XLVII, no. 1, pp. 72-85.
- BROWNSDEN, T. E. *An Historical Note on Manx Agriculture*. Isle of Man Nat. Hist. & Antiq. Soc. Proc., vol. VII, no. 1, 1967, pp. 5-12.
- BUTLIN, R. A. *Enclosure and Improvement in Northumberland in the Sixteenth Century*. Archaeologia Aeliana, 4th ser., vol. XLV, 1967, pp. 140-60.
- CANTOR, L. M. and WILSON, J. B. *The medieval Deer Parks of Dorset, VII*. Dorset Nat. Hist. & Arch. Soc. Proc., vol. LXXXIX, pp. 171-80.
- CATER, L. "W. G. S." and the Potato Blight Mystery. Beds. Mag., vol. XI, no. 83, pp. 91-6.
- CHALONER, W. H. *The Anti-Corn League*. History Today, vol. XVIII, no. 3, pp. 196-204.
- COATES, B. E. *Parklands in Transition*. Hunter Arch. Soc. Trans., vol. IX, pt. 3, 1967, pp. 132-50.
- COOPER, J. P. *The Social Distribution of Land and Men in England, 1436-1700*. Econ. Hist. Rev., 2nd ser., vol. XX, no. 3, 1967, pp. 419-40.
- COULL, J. R. *Crofters' Common Grazings in Scotland*. Agric. Hist. Rev., vol. XVI, 2, pp. 142-54.
- DANACHAIR, C. O. *Animal Droppings as Fuel*. Folk Life, vol. VI, pp. 117-20.
- DICKS, T. R. B. *Farming in Elizabethan Pembroke-shire, 1588-1603*. Nat. Lib. of Wales Jnl, vol. XV, no. 2, 1967, pp. 215-25.
- DODGSON, JIM. *The Significance of the Distribution of the English Place-name in -ingas, -inga- in south-east England*. Med. Arch., vol. X, 1967, pp. 1-29.
- DONNACHIE, I. L. *Scottish Windmills: an Outline and Inventory*. Soc. Antiq. Scot. Proc., vol. XCVIII, 1967, pp. 276-99.
- DREW, J. H. *The Welsh Road and the Drovers*. Birm. Arch. Soc. Trans. & Proc., vol. LXXXII, 1967, pp. 38-43.
- DUNBABIN, J. P. D. *The Incidence and Organization of Agricultural Trades Unionism in the 1870's*. Agric. Hist. Rev., vol. XVI, pt 2, pp. 114-41.
- DUNBAR, R. G. *The Role of Agricultural history in Economic Development*. Agricultural History, vol. XLI, no. 4, 1967, pp. 329-44.
- DYER, C. J. *The Deserted Medieval Village of Woslashill*. Worc. Arch. Soc. Trans., 3rd ser. vol. I, pp. 55-61.
- EMMISON, F. G. *Reconstruction of an Estate Archive*. Archives, vol. VIII, no. 39, pp. 130-2.
- EVANS, J. A. *The Woodlands of the Great Bookham Area, 1790-1840*. Leatherhead & Dist. Loc. Hist. Soc. Proc., vol. III, no. 1, 1967, pp. 27-32.
- FAIRHURST, H. *The Archaeology of Rural Settlement in Scotland*. Glasgow Arch. Soc. Trans., new ser., vol. XV, pt 4, 1967, pp. 139-58.

- FLETCHER, J. M. *Three medieval Farmhouses in Harwell*. Berks. Arch. Jnl, vol. LXII, 1965-6, pp. 45-69.
- FOWLER, P. J. and EVANS, J. G. *Plough-Marks, Lynchets, and Early Fields*. Antiquity, vol. XLI, no. 164, 1967, pp. 289-301.
- FRASER, C. M. *The Cumberland and Westmorland Lay Subsidies for 1332*. Cumb. & Westm. Antiq. & Arch. Soc. Trans., vol. LXVI, 1966, pp. 131-58.
- FRASER, D. *Birmingham and the Corn Laws*. Birm. Arch. Soc. Trans. & Proc., vol. LXXXII, 1967, pp. 1-20.
- FUSSELL, G. E. *The Agricultural Revolution, 1600-1850*. Technology in Western Civilization, vol. 1, 1967, pp. 128-42.
- FUSSELL, G. E. *Professor first: Parson later. J. S. Henslow and his "Letters to Suffolk Farmers"*, 1843. Suff. Rev., vol. III, no. 6, pp. 221-2.
- FUSSELL, G. E. *Social Change but Static Technology: Rural England in the Fourteenth Century*. History Studies, vol. 1, no. 1, pp. 23-32.
- GORDON, C. A. *The Pictish Animals observed*. Soc. Antiq. Scot. Proc., vol. XCVIII, 1967, pp. 215-24.
- GRANGER, C. W. J. and ELLIOTT, C. M. *A fresh Look at Wheat Prices and Markets in the eighteenth Century*. Econ. Hist. Rev., 2nd ser., vol. XX, no. 2, 1967, pp. 257-65.
- GREEN, A. *The Stewardship of the Liberty of Eight and a Half Hundreds*. Suff. Inst. Arch. Proc., vol. XXX, pt 3, 1967, pp. 255-62.
- GRESHAM, C. A. *The Origin of the Clenennau Estate*. Nat. Lib. of Wales Jnl, vol. XV, no. 3, pp. 335-43.
- HALLAM, H. E. *The Agrarian Economy of South Lincolnshire in the mid-Fifteenth Century*. Nottingham Medieval Studies, vol. XI, 1967, pp. 86-95.
- HARLEY, J. B. *Maps for the Local Historian: a Guide to British sources. 2: Estate Maps*. The Amateur Historian, vol. VII, no. 7, 1967, pp. 223-31.
- HARLEY, J. B. *Maps for the Local Historian: a Guide to British Sources. 3: Enclosure and Tithe Maps*. The Amateur Historian, vol. VII, no. 8, 1967, pp. 265-74.
- HARVEY, B. F. *Abbot Gervase de Blois and the Fee-farms of Westminster Abbey*. Bull. of the Inst. of Hist. Research, vol. XL, no. 102, 1967, pp. 127-42.
- HOLLAND, D. *A Note on the Deserted Village of West Burton*. Thoroton Soc. Trans., vol. LXXI, 1967, pp. 70-1.
- HOSKINS, W. G. *Harvest Fluctuations and English Economic History, 1620-1759*. Agric. Hist. Rev., vol. XVI, pt 1, pp. 15-31.
- HOWELLS, B. *The Distribution of the Customary Acre in South Wales*. Nat. Lib. of Wales Jnl, vol. XV, no. 2, 1967, pp. 226-33.
- HUDLESTON, C. R. *Cumberland and Westmorland Lay Subsidies for 1332*. Cumb. & Westm. Antiq. & Arch. Soc. Trans., vol. LXVI, 1966, pp. 159-64.
- HUNT, E. H. *Labour productivity in English Agriculture, 1850-1914*. Econ. Hist. Rev., 2nd ser., vol. XX, no. 2, 1967, pp. 280-92.
- JACK, S. *Monastic Lands in Leicestershire and their Administration on the Eve of the Dissolution*. Leics. Arch. & Hist. Soc. Trans., vol. XLI, 1967, pp. 9-40.
- KELLER, A. *The Age of the Projectors*. History Today, vol. XVI, 1966, pp. 467-74.
- KENNEDY, J. *Local Archives of Great Britain: XXX. The Norfolk and Norwich Record Office*. Archives, vol. VIII, no. 38, 1967, pp. 63-9.
- KERR, B. *Dorset Fields and their names*. Dorset Nat. Hist. & Arch. Soc. Proc., vol. LXXXIX, pp. 233-56.
- KEW, J. E. *Mortgages in mid-Tudor Devonshire*. Dev. Assoc. Rep. & Trans., vol. XCIX, 1967, pp. 165-79.
- KING, J. S. *The Manor of Horton in Bradford Dale*. The Bradford Antiquary, Brad. Hist. & Antiq. Soc. Jnl, new ser., pt XLIII, 1967, pp. 210-14.
- LEWARNE, J. G. W. *Cartographical Survey of the Area: the Fetcham Enclosure Award, 1813*. Leatherhead & Dist. Loc. Hist. Soc. Proc., vol. III, no. 1, 1967, pp. 14-18.
- LIDDELL, W. H. *The Private Forests of S.W. Cumberland*. Cumb. & Westm. Antiq. & Arch. Soc. Trans., vol. LXVI, 1966, pp. 106-30.
- LINDLEY, E. S. *The Manor of Yate*. Bristol & Glos. Arch. Soc. Trans., vol. LXXXV, 1967, pp. 156-63.
- LINEHAM, C. D. *Deserted Sites and Rabbit-*

- Warrens on Dartmoor, Devon. Med. Arch., vol. x, 1967, pp. 112-44.
- LLOYD, E. *The Farm Accounts of the Manor of Hendon*. Lond. & Middlesex Arch. Soc. Trans., vol. xxi, pt 3, 1967, pp. 157-63.
- MASON, K. *Yorkshire Cheese-making*. Folk Life, vol. vi, pp. 7-17.
- MILLER, R. *Land Use by Summer Shielings*. Scottish Studies, vol. xi, pt 2, 1967, pp. 193-221.
- MUNDAY, J. T. *Eriswell: the Layout of a Fen Village*. Suff. Rev., vol. iii, no. 6, pp. 197-201.
- MYERS, A. R. *The Household of Queen Elizabeth Woodville, 1466-7, pts 1 & 2*. Bulletin of the John Rylands Library, Manchester, vol. L, no. 1, 1967, pp. 207-35, and no. 2, 1968, pp. 443-81.
- OFFLER, H. S. *A Northumberland Charter of King Henry I*. Archaeologia Aeliana, 4th ser., vol. xlv, 1967, pp. 181-8.
- OUTHWAITE, R. B. *The Price of Crown Land at the Turn of the Sixteenth Century*. Econ. Hist. Rev., 2nd ser., vol. xx, no. 2, 1967, pp. 229-40.
- PARRY, B. R. *The Caernarvonshire Record Office*. The Local Historian, vol. viii, no. 1, pp. 22-7.
- PARTON, A. G. *A Note on the Open-fields of Fetcham and Great Bookham*. Leatherhead & Dist. Loc. Hist. Soc. Proc., vol. iii, no. 1, 1967, pp. 25-6.
- PARTON, A. G. *The 1801 Crop Returns for the County of Surrey*. Surrey Arch. Coll., vol. LXIV, 1967, pp. 113-23.
- PEARSON, L. *A Note on the History of black-eared White Cattle*. Agric. Hist. Rev., vol. xvi, pt 2, pp. 159-60.
- POCOCK, E. A. *The First Fields in an Oxfordshire parish*. Agric. Hist. Rev., vol. xvi, pt 2, pp. 85-100.
- POSTAN, M. M. *Investment in Medieval Agriculture*. Jnl of Econ. Hist., vol. xxvii, no. 4, 1967, pp. 576-87.
- PUGH, R. B. *The Structure and Aims of the Victoria History of the Counties of England*. Bull. of the Inst. of Hist. Research, vol. xl, no. 101, 1967, pp. 65-73.
- REYNOLDS, P. J. *Experiment in Iron Age Agriculture*. Bristol & Glos. Arch. Soc. Trans., vol. LXXXVI, pp. 60-73.
- ROBERTS, B. K. *A Study of Medieval Colonization in the Forest of Arden, Warwickshire*. Agric. Hist. Rev., vol. xvi, pt 2, pp. 101-13.
- RODEN, B. *Field Systems in Ibstone, a Township of the south-west Chilterns, during the later Middle Ages*. Records of Bucks., vol. xviii, pt 1, 1967, pp. 43-57.
- ROLLINSON, W. *The Diary and Farm Accounts of William Fisher, a Low Furness Yeoman Farmer, 1811-1859*. Cumb. & Westm. Antiq. & Arch. Soc. Trans., vol. LXVI, 1966, pp. 382-401.
- ROWE, J. *An early West-Country Sheep Farmer in Australia*. Agric. Hist. Rev., vol. xvi, pt 1, pp. 49-53.
- RUDÉ, G. *English Rural Disturbances, 1830-1831*. Past & Present, no. 37, 1967, pp. 87-102.
- RYDER, M. L. *Sheep and the Clearances in the Scottish Highlands: a Biologist's View*. Agric. Hist. Rev., vol. xvi, pt 2, pp. 155-8.
- RYDER, M. L. *Sheep "Scauping"*. Folk Life, vol. v, 1967, pp. 100-2.
- SANDRED, K. I. *Notes on the Distribution of some Plough Terms in Modern English Dialects*. Studia Neophilologica, vol. xl, no. 1, pp. 80-93.
- SARGEANT, F. L. *Worcestershire Records*. Worc. Arch. Soc. Trans., vol. xli, 1967, pp. 55-62.
- SEARBY, P. *Great Dodford and the later History of the Chartist Land Scheme*. Agric. Hist. Rev., vol. xvi, pt 1, pp. 32-45.
- SPAIN, R. J. *The Len Water-Mills*. Arch. Cant., vol. LXXXII, pp. 32-104.
- STELL, C. F. *Hill Farm, Chalfont St. Peter*. Records of Bucks, vol. xviii, pt 1, 1967, pp. 73-7.
- STORRIE, M. C. *Landholdings and Population in Arran from the late eighteenth Century*. Scottish Studies, vol. xi, pt 1, 1967, pp. 49-74.
- SWANN, B. *The Historical Background to the Registration of Common Land*. The Amateur Historian, vol. vii, no. 7, 1967, pp. 232-40.
- SYLVESTER, D. *Glasbury Norton, and the Problem of the Nucleated Village in Radnorshire*. Rad. Soc. Trans., vol. xxxvii, 1967, pp. 17-26.
- TAYLOR, C. C. *Population Studies in 17th-century and 18th-century Wiltshire*. Wilts.

- Arch. & Nat. Hist. Mag., vol. LX, 1965, pp. 100-8.
- TAYLOR, C. C. *Strip Lynchets*. Antiquity, vol. XL, no. 160, 1966, pp. 277-84.
- TAYLOR, C. C. *Whiteparish: a Study of the Development of a Forest-Edge Parish*. Wilts. Arch. & Nat. Hist. Mag., vol. LXII, 1967, pp. 79-102.
- THACKER, D. M. D. *Country Cider*. Folk Life, vol. VI, pp. 104-12.
- THOMAS, C. *Thirteenth-Century Farm economies in North Wales*. Agric. Hist. Rev., vol. XVI, pt 1, pp. 1-14.
- THOMPSON, F. M. L. *The Second Agricultural Revolution, 1815-1880*. Econ. Hist. Rev., 2nd ser., vol. XXI, pp. 62-77.
- ULYANOV, Y. U. R. *The Stonor family Estates in the Eleventh to Thirteenth Centuries: on the Problem of Genesis of small Estates in Medieval England*. Srednie Veka, no. 30, 1967, pp. 180-210.
- ULYANOV, Y. U. R. *Watlington Manor, Oxfordshire, 1086-1300*. Srednie Veka, no. 29, 1966, pp. 28-69.
- USHERWOOD, S. *The Tolpuddle Martyrs, 1834-37*. History Today, vol. XVIII, no. 1, pp. 14-21.
- WEBSTER, D. & H. and PETCH, D. F. *A possible Vineyard of the Romano-British Period at North Thoresby, Lincolnshire*. Lincs. Hist. & Arch., no. 2, 1967, pp. 55-61.
- WEST, L. A. *An Agricultural Machinery Museum*. Agricultural History, vol. XLI, no. 3, 1967, pp. 267-73.
- WHITEHEAD, B. J. *The Management and Land-use of Water Meadows in the Frome Valley, Dorset*. Dorset Nat. Hist. & Arch. Soc. Proc., vol. LXXXIX, pp. 257-81.
- WILSON, R. E. *William Turner, Shearsmith, and his Descendants*. Hunter Arch. Soc. Trans., vol. IX, pt 2, 1966, pp. 97-109.

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# Irish Agriculture

By JOSEPH LEE

REVIEW ARTICLE OF R. D. CROTTY, *Irish Agricultural Production. Its Volume and Structure*, Cork U.P., 1966. xv+384 pp. 42s.

THE traditional interpretation of nineteenth-century Irish agricultural history emphasizes that insecurity of tenure and rack rents destroyed all incentive for improvement until land reform at the end of the century transformed tenants at will into peasant proprietors and "produced a land tenure system incomparably superior to any formerly known in the country from the point of view of general husbandry."<sup>1</sup> Price movements after Waterloo favoured livestock rather than tillage, but population pressure prevented a change from tillage to pasture until the Great Famine of 1846-50, which reversed the population trends of a century, caused an immediate and permanent decline in tillage, and allowed farmers to follow prices by switching massively to livestock. Every aspect of this interpretation is now powerfully challenged in Mr Crotty's remarkable work.

Mr Crotty, combining the insights of the practical farmer and the agricultural economist, stresses the fundamental importance of the maritime climate, which, in contrast to the continental climate of western Europe, makes Ireland peculiarly suitable for grass and unsuitable for tillage. The costs of grassland farming are so low, and of tillage so high, that, while gross returns are far lower from extensive pasture than from intensive tillage, net returns are much the same.<sup>2</sup> Consequently Irish farmers, to a degree unique in western Europe, "are able to reorganize the structure of their farming, so as to alter considerably the value of their gross output and in the process greatly simplify their managerial problems, at

the cost of a relatively slight decline in net farming income." Pointing to the high cereal yields, the sound rotations as reflected in the low cereals/roots ratio, and the considerable amount of reclamation before 1871, Mr Crotty argues that insecurity of tenure exerted far less harmful effects than is generally believed, for "the overall low level of Irish agricultural output was not due to low yields of tillage crops but to the low proportion of tillage, which gave a low gross output." Peasant proprietorship, by failing to provide a substitute for competitive rents as a penalty for inefficiency, led to a serious misallocation of land, so that today one-third of Irish farmers are over 65 years of age and consequently highly conservative in their methods. The Famine, far from being a 'watershed', "caused hardly a tremor" in the demographic and agricultural trends established since 1820.<sup>3</sup> It will be apparent that Mr Crotty has stood the agricultural history of nineteenth-century Ireland on its head, and though two-thirds of the work is devoted to the period since 1922, no summary can do justice to the sustained power and originality of its historical section. However, the evidence adduced in support of the two basic themes—the economic irrelevance of the Great Famine and the disastrous consequences of peasant proprietorship—cannot bear the weight laid on it.

## I

After a detailed examination of the demographic developments of the 1830's, Mr Crotty concludes that all the trends characteristic of post-Famine Ireland had emerged before 1845, and "it was merely a matter of time before population would have started to decline; it was largely fortuitous that the decline commenced with the Famine."<sup>4</sup> It seems to me,

<sup>1</sup> J. R. Bellerby, *Agriculture and Industry, Relative Income*, London, 1956, p. 172.

<sup>2</sup> Crotty, pp. 4, 96, 53, 104-6, 50. <sup>3</sup> *Ibid.*, p. 46.

<sup>4</sup> Michael Drake, 'Marriage and Population Growth in Ireland, 1750-1845', *Econ. Hist. Rev.*, 2nd ser., xvi, 1963. Cf. my comments on Dr Drake's article in 'Marriage and Population in pre-Famine Ireland:

despite Dr Drake's cogent arguments to the contrary, that the rate of natural increase was slowing down in the 1830's, but Mr Crotty sharply exaggerates the rate of deceleration, and consequently underrates the demographic impact of the Famine. According to Mr Crotty, crude marriage rate fell from 6 per thousand in rural areas in 1830 to 5.5 in 1840 and to 3.8 in 1844.<sup>1</sup> But it is misleading to quote this extraordinary figure for 1844 without pointing out that it is based on data collected in 1851, which failed to record a substantial number of marriages, because one of the partners had died or emigrated during the intervening Famine years. No reliability can be placed on the marriage statistics from 1841 to 1845 as recorded retrospectively in 1851. Mr Crotty next argues that, at 30.3 per thousand, crude birth rate in the 1830's was already low by international standards.<sup>2</sup> The rate was not, however, 30.3, but 1 in 30.3, i.e. 33,<sup>3</sup> and as this, due to the customary understatement of the number of children and of infant deaths, was itself an underestimate, the actual rate was probably over 35, 50 per cent higher than the 24 per thousand a half-century later.<sup>4</sup> Mr Crotty further suggests that the Famine caused no long-term change in emigration rates. After a huge increase between 1846 and 1852, emigration "quickly settled back to the rate to which it had risen in 1841 (i.e. about 16 per thousand per annum)."<sup>5</sup> The figure for 1841 is derived from a weekly emigration of 2,500 between January and June, which, assuming a similar weekly rate from June to December, indicates an annual total of 130,000 emigrants.<sup>6</sup> As, however, pre-Famine emigration "was virtually confined to spring and early summer,"<sup>7</sup> total emigration cannot be calculated on the assump-

tion of a constant rate throughout the year. The January-June figures for 1841 constitute not half, but almost all, the emigration that year, the rate therefore being about 10 per thousand—substantial in its own right, but only three-fifths the customary post-1852 rates.

By concentrating on the overall national statistics, Mr Crotty overlooks the most dramatic demographic consequences of the Famine—the revolution in the rural class structure. Whatever doubt may attach to other demographic developments in the 1830's, it seems certain that the proportion of labourers to total rural population was still increasing. By 1880 the proportion of labourers had fallen to half its pre-Famine size.<sup>8</sup> Mr Crotty argues in another context that the rural proletariat of the early nineteenth century was transformed after the Famine by education and growing political consciousness into the rural bourgeoisie of the 1870's—referring, in both periods, to the farming classes.<sup>9</sup> But while politics and education were of some importance, the change was, on the whole, less subtle. The small farmers, and especially the labourers—the real rural proletariat—were decimated by the Famine. The rural proletariat was not so much transformed as buried. The majority of the rural bourgeoisie had always been bourgeoisie who now flourished on the graves of the proletariat. The radical change in the balance of the classes must surely count as more than a 'tremor' in the demographic and social structure of rural Ireland.

## II

Lack of reliable statistics complicates discussion of the impact of the Famine on tillage.

A Comment', *Econ. Hist. Rev.*, 2nd ser., xxi, 1968. That population trends were changing in the 1830's is, of course, an integral part of Prof. K. H. Connell's well-known interpretation of Irish demographic history.—*The Population of Ireland, 1750-1845*, Oxford, 1950.

<sup>1</sup> Crotty, pp. 40-1.

<sup>2</sup> *Ibid.*, p. 56.

<sup>3</sup> *Census of Ireland, 1841*, B.P.P. 1843, xxiv, p. 459.

<sup>4</sup> B. R. Mitchell and P. Deane, *Abstract of British Historical Statistics*, Cambridge, 1962, p. 32.

<sup>5</sup> Crotty, p. 50.

<sup>6</sup> *Ibid.*, p. 39.

<sup>7</sup> O. MacDonogh, 'Irish Overseas Emigration during the Famine', in R. D. Edwards and T. D. Williams, *The Great Famine*, Dublin, 1956, p. 319. It is worth noting that MacDonogh's statistics (p. 388) record 50 per cent less emigration in 1843 and 1844 than in the preceding two years.

<sup>8</sup> *Census of Ireland, 1841*, B.P.P. 1843, xxiv, p. 440; *Census of Ireland, 1881*, B.P.P. 1882, lxxvi, pp. 108, 112, 117.

<sup>9</sup> Crotty, p. 81.

The distribution of crops in some Tipperary parishes in 1834 has been reconstructed from tithe returns. Statistics on the size of holdings and on the number of livestock, but not on tillage acreages, were included in the Census of 1841.<sup>1</sup> Incomplete statistics of potato acreages exist for 1844-6. Acreages in the Union of Bailieborough, Co. Cavan, were recorded in a pilot survey in 1845. The first official statistics were not collected until 1847, and the main problem is how far these, in view of the catastrophic winter of 1846-7, reflect the pre-Famine pattern of crop distribution. Crucial to Crotty's argument that the tillage acreage was unaffected by the Famine is the assumption of a pre-Famine potato crop of only 1.3 million acres compared with P. M. A. Bourke's estimate of 2.5 million acres, based on the statistics collected by the police in 1846.<sup>2</sup> Whereas Bourke assumed that these returns, indicating a 1.5 million acreage, were in Irish acres (one Irish acre = 1.62 statute), Crotty believes that the police would have returned statute rather than Irish measure, despite the latter being used almost exclusively by farmers, in order to maximize the extent of the loss and thus exonerate themselves from responsibility for the anticipated increase in crime.<sup>3</sup> This seems to attribute an excess of guile to the police.<sup>4</sup> If the 1846 returns were exclusively in statute acres, it would hardly have been necessary to direct the constables collecting the first comprehensive agricultural statistics the following year to employ statute acres only, nor to issue conversion tables of Irish into statute measure to all police.<sup>5</sup> The limited comparative data conveniently available support the higher

estimate. The tithe returns of 1834 are compared in Table I with the police returns of 1846 for three Tipperary parishes.

The above strongly suggests that the 1846 returns must have been in Irish acres for these three parishes.

Mr Crotty rejects Bourke's assumption that one Irish acre of potatoes fed five people (i.e. a ratio of three people per statute acre), on the grounds that the organizer of the 1847 statistics, Thomas Larcom, assumed a ratio of 10 : 1.<sup>6</sup> But the evidence refutes Larcom, a harassed if able official. In the Tipperary parishes, even on the liberal assumption that the whole town of Carrick was supplied with potatoes from this area, and that one-eighth of the 'potatoes' consisted of other roots, the ratio was 4 : 1.<sup>7</sup> In Bailieborough it was 4.3 : 1.<sup>8</sup> If the national ratio was not quite as low as 3 : 1, it was closer to this than to 10 : 1, an absurd figure which simply illustrates how out of touch with reality even the ablest and best informed officials were in 1847.

On the basis of Bourke's estimate of 6½ tons of potatoes per statute acre, Crotty calculates that total demand—of humans, animals, and seed, could be supplied by 1.8 million acres.<sup>9</sup> Against this, he believes that yields generally exceeded 6½ tons, citing from the evidence before the Devon Commission a "fairly typical" case of 9½ tons.<sup>10</sup> It is, however, hazardous to rely on one estimate when yields varied so widely according to soil and region. The evidence of a Mayo witness illustrates the difficulties in gauging average yields:<sup>11</sup>

*Q.* What quantity of potatoes do you expect?

*A.* The quantity of potatoes varies so widely

<sup>1</sup> For an important analysis of the 1841 statistics cf. P. M. A. Bourke, 'The Agricultural Statistics of the 1841 Census of Ireland. A Critical Review', *Econ. Hist. Rev.*, 2nd ser., xviii, 1965.

<sup>2</sup> P. M. A. Bourke, 'The Extent of the Potato Crop in Ireland at the time of the Famine', *Jnl Stats. & Soc. Inquiry Soc. of Ireland*, xxx, 1959, pp. 1-19.

<sup>3</sup> Crotty, pp. 310-11.

<sup>4</sup> Ironically, police in India are alleged to have taken precisely the opposite attitude towards presenting their famine statistics, cf. B. M. Bhatia, *Famines in India*, London, 1960, p. 103, n. 3.

<sup>5</sup> *Returns of Agricultural Produce in Ireland in the year 1847*, B.P.P. 1847-8, 923, LVII, p. iv.

<sup>6</sup> Crotty, p. 314.

<sup>7</sup> Simington, *op. cit.*, p. 343; *Census of Ireland, 1831*, B.P.P. 1833, xxxix, pp. 27-8, 190.

<sup>8</sup> *Summary of the Agricultural Statistics of the Bailieborough Union, in Ireland, for the year 1845*, B.P.P. 1847 (68), LIX, p. 8. For the population of the Union in 1841, cf. *Agricultural Statistics of Ireland*, B.P.P. 1847-8 (923), LVII, p. 9. Population in 1845 may have been slightly higher than in 1841, raising the ratio to perhaps 4.5 : 1.

<sup>9</sup> Crotty, p. 315.

<sup>10</sup> *Ibid.*

<sup>11</sup> *Devon Commission*, B.P.P. 1845, xx, Witness 473, Qs. 18-19.

TABLE I\*

| Parish     | 1834<br>(statute acres) | 1845<br>(unspecified, assumed<br>to be Irish) | 1845<br>(converted to<br>statute ) |
|------------|-------------------------|-----------------------------------------------|------------------------------------|
| Derrygrath | 732                     | 400                                           | 648                                |
| Kilcash    | 796                     | 324½                                          | 526                                |
| Kiltegan   | 145                     | 96                                            | 154                                |

\* Simington, *op. cit.* p. 343; P.R.O.I. Relief Commission Papers, Constables' Reports, 1846, Tipperary. Simington publishes tithe returns for six parishes. A more thorough search might locate police returns for the whole of the other three parishes, for which I found only partial returns. I accept Crotty's contention that "Potatoes" in 1834 referred to roots, but not his unsupported assertion that "around one quarter of the total root and green crop acreage before the Famine consisted of crops other than potatoes" (pp. 312-13), which he immediately contradicts by assuming that only 0.3m. (19 per cent) of a total roots and greens acreage of 1.6m. consisted of such crops (p. 317). In the overlapping Carrick-on-Suir Electoral Division, potatoes accounted for two-thirds of total roots and greens (Crotty, p. 412) in 1847, despite the fact that, nationally, potatoes amounted to only one-fifth (Crotty's estimate) or one-eighth (Bourke's estimate) of the 1845 acreage, while turnip acreage had sharply increased. In Bailieborough, 15 per cent of total roots and greens consisted of crops other than potatoes in 1845. (*Summary of Agricultural Statistics of the Bailieborough Union, in Ireland, for the year 1845*, B.P.P. 1847 (68), LIX, p. 8.) It seems highly unlikely that roots other than greens can have accounted for more than one-eighth of the "potato" acreage recorded in Table I for 1834. Deducting this proportion gives the following results, confirming that the police used Irish measure in 1845.

| 1834 | 1845 (converted to statute) |
|------|-----------------------------|
| 640  | 648                         |
| 696  | 526                         |
| 127  | 154                         |

from the manner in which the crop is put in and manured etc; but if you ask me the quantity from a well-tilled acre of good quality, I can give you that. I should say an acre of potatoes turning out thirty-six barrels, of ten cwt. to the barrel, would be a very good crop. (11¼ tons to the statute acre, JL.)

Q. What have you generally in an ordinary crop?

A. Twenty barrels (6¼ tons, JL).

The average of the yields mentioned by 63 other witnesses who stated clearly their unit of measurement was 7½ tons per statute acre.<sup>1</sup> When it is recollected that these estimates usually refer to yields on better land—29 witnesses expressly stated them to be above

average, only two below average—6¼ tons seems a not unreasonable estimate of average yield in an average year. It is significant that the first official statistics returned a yield of only 7.2 tons in 1847—when the crop was regarded as exceptionally good.<sup>2</sup>

The third argument advanced in favour of the lower estimate is more technical. As the ratio of cereals to roots and greens "has remained perhaps the most constant feature of all in Irish agriculture" since 1847, being, in the 26-county area, 2.22 : 1 in 1851 and 2.14 : 1 in 1961, this strongly suggests a pre-Famine corn-root ratio of not less than 2 : 1.<sup>3</sup> Adding 0.3 million acres for other roots to Bourke's 2.5 million acres of potatoes, "a

<sup>1</sup> *Ibid.*, B.P.P. 1845, XIX-XXI, Witness and question numbers as follows: 360, 26; 362, 18; 369, 53; 403, 23; 432, 28; 462, 26; 514, 42; 591, 19; 599, 27; 606, 19; 643, 13; 652, 11; 655, 10; 666, 12; 675, 22; 718, 14; 727, 27; 729, 18; 730, 14; 735, 23; 777, 27; 802, 17; 816, 12; 830, 28; 831, 12; 846, 26; 854, 13; 857, 13; 864, 13; 866, 11; 868, 25; 885, 14; 886, 12; 896, 24; 910, 16; 924, 11; 925, 20; 927, 18; 928, 13; 934, 17; 940, 12; 952, 27; 954, 19; 955, 20; 962, 17; 964, 15; 969, 17; 971, 45; 976, 14; 978, 19; 979, 14; 985, 8; 991, 36; 1000, 17; 1001, 31; 1004, 13; 1009, 12; 1010, 16; 1013, 23; 1016, 19; 1017, 29; 1020, 23; 1021, 19.

<sup>2</sup> *Agricultural Statistics, 1847-1926*, Dublin 1928, p. 6; S. H. Cousens, "The Regional Variations in Mortality during the Great Irish Famine", *Proc. Roy. Irish Academy*, 63, 1963, p. 135.

<sup>3</sup> Crotty, p. 316.

ratio of 2 cereals to 1 corn suggests a cereal acreage of 5.6 millions and a total tillage acreage of 8.4 millions in 1845." As, however, there were only 3.3 million acres of cereals and a total of 4.1 million acres of tillage in 1847, "the suggestion is altogether unacceptable that the cereal crop declined by 2.3 million acres and total tillage by 3.3 million acres between 1845 and 1847. Changes in the cereal acreage of this order would inevitably be, but are not, reflected in exports of Irish corn between the early and late 1840's,"<sup>1</sup> whereas Crotty's own estimate of 1.3 million acres, plus 0.3 million for other roots, indicates, at a 2 : 1 ratio, a pre-Famine tillage acreage of 4.8 millions, much the same as in 1851.<sup>2</sup> Apart from the fact—contrary to Crotty's assertion—that cereal exports fell by no less than 50 per cent between 1842–5 and 1846–9,<sup>3</sup> the key to this argument is the alleged constancy of the cereals/roots ratio as suggested by the 1851 and 1961 figures. But far from being "perhaps the most constant feature of all in Irish agriculture," this ratio has fallen far below 2 : 1 in the last century—to 1.7 in 1861, 1.4 in 1871, and 1.1 in 1881, 1891, and 1901.<sup>4</sup> By overlooking the intervening decades between 1851 and 1961, Mr Crotty has been misled into a false assumption concerning the constancy of the ratio. No conclusions can therefore be drawn from the 1851 and 1961 ratios as to the probable pre-Famine relationships. The evidence, exiguous though it is, suggests a lower ratio than 2 : 1. In 1851, the proportion was lower in areas of particularly small holdings—even falling below a 1 : 1 ratio in some western areas.<sup>5</sup> But in 1845 small holdings were far more dominant than in 1847, the lower ratio being consequently more widespread. The Tipperary tithe returns, though

referring to relatively large farms, show a ratio of only 1.3 : 1.<sup>6</sup> The ratio in Bailieborough was 1.6 : 1.<sup>7</sup> The automatic trebling of total tillage acreage on the basis of the roots and greens acreage cannot be accepted and consequently the main technical argument in favour of a 1.3 millions pre-Famine potato acreage remains unconvincing.

The above analysis suggests that the Famine caused an immediate and permanent decline of about 1.2 million acres in the area under potatoes—acreage hovered around the one million mark in the 1850's—slightly offset by an increase of about 200,000 acres under other roots. Did grain acreage also contract immediately? My own guess is that it declined less spectacularly than roots, from not more than 3.8 million to 3 million acres between 1845 and 1851.<sup>8</sup> Equally relevant, however, is whether the decline in tillage generally was an accentuation or reversal of earlier trends. Mr Crotty believes that after 1815 tillage was on the defensive, the acreage being, at best, maintained against encroaching livestock only by reclamation of bog and hill land.<sup>9</sup> How plausible is this hypothesis? Assuming for the moment constant yields, 400,000 extra acres must have been laid down to potatoes between 1815 and 1845 to cater for 2,000,000 more mouths.<sup>10</sup> Other roots, estimated at 300,000 acres in 1845,<sup>11</sup> must have increased from next to nothing in 1815. Total roots therefore increased by at least 500,000 acres. Even at a 1 : 1 cereals/roots ratio, total tillage would have expanded by one million acres. The increase of 500,000 acres under grain would, at a constant yield of 0.75 tons per acre,<sup>12</sup> have conveniently supplied the increase of 400,000 tons in exports between 1815 and 1845. That reclamation could have wholly accounted for

<sup>1</sup> Crotty, p. 317.

<sup>2</sup> *Ibid.*

<sup>3</sup> G. R. Porter, *Progress of the Nation* (1851 ed.), p. 345.

<sup>4</sup> Crotty, p. 353.

<sup>5</sup> *Ibid.*, p. 316.

<sup>6</sup> *Ibid.*, p. 311.

<sup>7</sup> *Summary of the Agricultural Statistics of the Bailieborough Union, in Ireland, for the year 1845*, B.P.P. 1847 (68), LIX, p. 8.

<sup>8</sup> Dowdall's contemporary estimate, discovered by Mr Bourke, of a 4.2m. grain acreage in 1845 seems to me a trifle high. I hope to consider Dowdall's work in detail elsewhere.

<sup>9</sup> Crotty, p. 43.

<sup>10</sup> This is a conservative estimate, making no allowance for increased animal or seed demand.

<sup>11</sup> Crotty, p. 316.

<sup>12</sup> The yield in 1847, a good year, was 0.77 tons (Crotty, p. 317). Contrary to Crotty's assertion, yields in 1847 were regarded as being above average (T. P. O'Neill, 'Food Problems during the Great Irish Famine', *Jnl Roy. Soc. Antiquaries of Ireland*, LXXX, 11, 1952, p. 99).

an increase of one million acres under tillage is inconceivable,<sup>1</sup> and is, in any case, a slightly evasive solution. If tillage was on the defensive it was ceding its ground in peculiar fashion. True, Mr Crotty argues, on the basis of the export statistics, that the peak corn acreage was reached between 1834-8, the decline in exports in the following period, 1838-42, marking the turn of the tillage tide, as "the decline continued during the 1840's and afterwards."<sup>2</sup> The 1838-42 exports are biased downwards, however, by a series of particularly bad harvests,<sup>3</sup> Mr Crotty mechanistically interpreting exports as reflecting acreages, overlooking the effect of weather on yields. Exports recovered to the level of the mid-thirties in 1843-5, and only fell sharply from 1846,<sup>4</sup> though the partial recovery in the 1850's suggests that this reflects as much a diversion to home consumption as a decline in acreage.

The above calculations become more problematical once the assumption of constant yields is abandoned. Potato yields probably increased with the introduction of the more prolific Lumper, and an increase of 50 per cent in yields could have supplied the total growth in demand between 1815 and 1845. As an increase of this order seems unlikely, however, it is reasonable to assume that potato acreage increased by some unspecifiable amount.<sup>5</sup> On the other hand, the 1:1 cereals/roots ratio we have assumed is certainly too low for the average ratio of these years, though increased potato cultivation was concentrated on smaller farms, where the ratio was below average. A 25 per cent increase in yields, from 0.6 tons

per acre in 1815 to 0.75 in 1845, could have accounted for the total increase in grain exports.<sup>6</sup> There is little evidence whether Ireland shared in the increase in English wheat yields in this period, though if one follows Mr Crotty in thinking that the acreage expanded mainly on reclaimed, presumably poor quality, land this would have tended to pull down the average.<sup>7</sup> On the other hand, if home consumption did not increase proportionately to yields, more of the existing acreage would have been released for export production. This possibility must be particularly stressed, because home consumption was far more important than has hitherto been assumed. Total exports in 1845 were supplied by less than one million acres, indicating that two-thirds of total output was consumed at home, in striking contrast to the general assumption that corn was grown mainly for export. The problem becomes more intractable, of course, if home consumption increased faster than yields. To resolve the issues involved we must break down grain production and consumption into their component parts, and isolate the range of probabilities for each crop. But in our present state of knowledge we can only note that all these suggestions are attempts not to explain, but to explain away, evidence incompatible with the hypothesis of a declining, or even static, tillage acreage after 1815.

Mr Crotty is reluctant to believe that tillage acreage, in view of the increase in livestock numbers, could have expanded between 1815 and 1845. This increase amounted to, at most, 750,000 livestock.<sup>8</sup> Yet Mr Crotty apparently

<sup>1</sup> K. H. Connell in 'The Colonization of Waste Land in Ireland, 1780-1845', *Econ. Hist. Rev.*, 2nd ser., III, 1950, pp. 46-7, finds little evidence of reclamation between 1815 and 1840, but believes some may have occurred. P. M. A. Bourke in 'The Agricultural Statistics of the 1841 Census of Ireland. A Critical Review', *Econ. Hist. Rev.*, 2nd ser., XVIII, 1965, p. 391, corrects errors in the official statistics exaggerating the rate of reclamation between 1831 and 1851.

<sup>2</sup> Crotty, p. 42.

<sup>3</sup> T. Tooke, *History of Prices*, IV, London, 1848, pp. 36-7.

<sup>4</sup> G. R. Porter, *op. cit.*, p. 345.

<sup>5</sup> If the estimate of potato yields at 6½ tons per statute acre in a normal pre-Famine year (see above) is correct, yields did not increase after Wakefield's estimate of 6 tons in 1810.—E. Wakefield, *An Account of Ireland, Statistical and Political*, London, 1812, I, p. 381.

<sup>6</sup> Assuming 3,000,000 acres of grain in 1815.

<sup>7</sup> While spectacularly high yields were recorded on some reclaimed land, there is no evidence that these were representative.

<sup>8</sup> According to Crotty the number of cows remained static in the three pre-Famine decades (p. 46); sheep increased five-fold, from 400,000 to 2.1 million (p. 48), or, taking six sheep as the equivalent of one cattle (p. 90), by 300,000 livestock. Dry cattle numbered about 763,000 in 1841 (p. 48), and, assuming they increased proportionately to beef exports, had rather more than doubled since 1813-18, increasing by about 400,000. (For beef exports, cf. p. 277.)

accepts that an increase of 1.5m. livestock between 1845 and 1859 occurred on an almost static pasture acreage.<sup>1</sup> Density of stocking is the crucial question here. Even on our assumption of an increase of 30 per cent in pasture and hay between 1845 and 1859 (from 8.3 to 10.9m. acres), density of stocking—the intensiveness of extensive farming—must have increased to account for the 50 per cent expansion in the number of livestock.<sup>2</sup> If this, as seems possible, was an accentuation of a pre-Famine trend, much of the problem of the concurrent increase in livestock numbers and tillage acreage before 1845 can be resolved in terms of increased density of stocking between 1830 and 1845, on what must have been still exceptionally thinly stocked land.

Mr Crotty's handling of the rates of livestock increase raises some further problems. While pointing out that the rate of increase during the Famine merely maintained that of the previous decade,<sup>3</sup> he emphasizes the startling contrast between the rate of growth from 1841 to 1851 and that in the following fifty years, and above all, that of 1901–21, in the immediate aftermath of peasant proprietorship. The contrast is indeed a striking one, livestock numbers increasing at 5 per cent per annum between 1841 and 1847, 4 per cent between 1847 and 1851, 0.9 per cent between 1851 and 1901, and only 0.4 per cent between 1901 and 1921.<sup>4</sup> However, to select successive periods of six, five, fifty, and twenty years seems excessively arbitrary, particularly, when the choice of almost any other terminal dates would have considerably modified the picture. Even within the above time periods, the growth rate for 1841–7 is exaggerated, giving the impression that the rate from 1847 to 1851—the Famine rate—was actually lower than that of the preceding six years. The 1841–7 rate of 5 per cent

per annum seems to be calculated from the increase in cattle numbers from 1.85 to 2.6 million, adding 0.35 million livestock for sheep (assuming six sheep to equal one cattle) in both years, total livestock numbers therefore increasing from 2.2 to 2.95m. However, calves under six months were excluded in 1841, Mr Crotty elsewhere estimating their number at 400,000,<sup>5</sup> resulting in an 1841 figure of 2.25 rather than 1.8 million cattle, and an increase not from 2.2 but from 2.6 to 2.95m. in the total number of livestock. This still allows an annual growth rate of 2 per cent per annum between 1841 and 1847, impressive in its own right, but only half the rate suggested, and places the 4 per cent growth rate from 1847 to 1851 in more realistic perspective as a doubling rather than a slackening of the pre-Famine rate.

In seeking more relevant turning points than 1851 and 1901 it becomes clear that, if any date is crucial in the history of post-Famine agriculture, it is 1859. It was in that year that the increase in the number of horses came to a halt, the figure for 1859 being subsequently surpassed only in 1895 and 1896. Much more significantly, the number of milch cows, having increased by 12 per cent since 1854, reached its pre-1939 peak in 1859. Cattle numbers increased steadily between 1847 and 1859, then stagnated until 1866, and fluctuated around a slowly rising trend thereafter, the increase in absolute numbers between 1859 and 1914 just equalling that between 1847 and 1859. Sheep numbers doubled between 1850 and 1854 and then fluctuated wildly until 1914, reaching a peak as early as 1868, and being no higher in 1914 than in 1859.<sup>6</sup> Neither periods of expansion or contraction in livestock numbers can be correlated with changes in tenurial systems. Furthermore, it is only from 1859 that

<sup>1</sup> This is an inescapable corollary of the assumption of a 4.5m. tillage acreage in 1845 (Crotty, p. 317). There were 4.4m. acres of tillage in 1859 (Mitchell & Deane, *op. cit.*, p. 80). Total cultivated acreage increased from 14.7 m. in 1841 to 14.8m. in 1851 (Bourke, 'Irish Agricultural Statistics', *Econ. Hist. Rev.*, 2nd ser., XVIII, 1965, p. 391) to 15.3m. in 1859 (Mitchell & Deane, *op. cit.*, p. 80). Total pasture and hay therefore increased from 10.2m. acres in 1841–5 to 10.9m. in 1859, an increase of only 7 per cent, compared with a 50 per cent increase in livestock numbers.

<sup>2</sup> I assume the number of livestock in 1845 to be 2.5 million cattle and 2.4 million sheep, a generous estimate.

<sup>3</sup> Crotty, p. 48.

<sup>4</sup> *Ibid.*, p. 90.

<sup>5</sup> *Ibid.*, p. 48.

<sup>6</sup> For all statistics quoted here, cf. Mitchell & Deane, *op. cit.*, pp. 84–5.

tillage begins its rapid post-Famine decline, acreage decreasing by only 4 per cent between 1851 and 1859 compared with a 14 per cent decrease in the following nine years.<sup>1</sup> Once the momentum of the post-Famine adjustments petered out in the late 1850's, agriculture lacked the internal dynamics to sustain the immediate post-Famine growth rate. The significance of the depression of 1859-63, when both tillage and livestock declined together, has never been adequately analysed. The potato yield in 1861 was lower than in 1846 or 1847.<sup>2</sup> Yet the depression did not turn into Famine. Had 1847 not done its work so effectively, it would be 'black '61' rather than 'black '47' that would have since haunted the Irish mind. Nothing could illustrate more dramatically the traumatic change in the rural class structure than the relative ease with which the country pulled through this depression, and the fact that historians have barely noticed it. Indeed, so intent is Mr Crotty on viewing the whole half-century before 1901 as a unit, whose expansionist tendencies can be favourably contrasted with the stagnation induced by peasant proprietorship, that he ignores not merely the set-back of 1859-63, but even the post-1879 depression. True, because of the predominance of livestock in Ireland, the depression may have been less severely felt here than in England,<sup>3</sup> but Irish farmers derived little consolation from this reflection. Indeed, the struggle for the land after 1879 was particularly violent not only because the small farmers of the west were roused to desperation by the potato failure, but because they found allies in the large farmers of the east and south who were agitated by the fall in cattle prices. Many of the most vehement supporters of the Land League after 1879 belonged to a class that had done well out of the Famine thirty years previously.

## III

Mr Crotty has performed an invaluable service in demonstrating that peasant proprietorship did not lead to greater economic efficiency, thus exposing once and for all the illusion, shared by even such a sensitive observer as Barrington, that "it would probably be difficult to exaggerate the advantages to agriculture in Ireland resulting from the operation of land purchase."<sup>4</sup> But the evidence only proves that owner-occupancy was an economic irrelevance by the time it was achieved, not that it was an economic disaster, or that it was secured only "at great economic cost."<sup>5</sup> Almost all the trends attributed to peasant proprietorship can be shown to have originated earlier.

Mr Crotty believes that the decline in the total acreage under crops and pasture since 1871, after a steady increase in the preceding twenty years, indicates, even when all allowances are made for changes in the classification of waste lands, "a falling off in investment in land improvement and land reclamation *after the institution of owner occupancy*"<sup>6</sup> (my emphasis). However, as only 6 per cent of the land was transferred to owner-occupants before 1891, and only 15 per cent before 1903, evidence from the 1870's is irrelevant.<sup>7</sup> Mr Crotty, it is true, reads a causal relationship into the reversal of the reclamation trend "almost simultaneously with the granting of the first measures of 'tenant right' " in 1870.<sup>8</sup> But reclamation did not grind to a halt in 1871. It proceeded at a rapid rate until 1876, only for total acreage to contract sharply in 1876-8, as a direct result of reclassification. Acreage then slowly recovered to the 1876 level in the following thirty years, only to fall by 600,000 acres between 1906 and 1908, again as a direct result of reclassification,<sup>9</sup> the small but continuous decline between 1908 and 1914 being probably due to increasing rigour in the definition of

<sup>1</sup> Mitchell & Deane, *op. cit.*, p. 80.

<sup>2</sup> *Ibid.*, p. 88; Crotty, p. 310.

<sup>3</sup> On the other hand, as less 'feed' was used in Ireland, Irish farmers did not profit from the fall in grain prices to the same extent as English livestock farmers.

<sup>4</sup> (T. Barrington), 'The Yields of Irish Tillage Food Crops since the Year 1847', *Jnl Dept. of Agriculture*, 1921-2, p. 291.

<sup>5</sup> Crotty, p. 228.

<sup>6</sup> Crotty, p. 90.

<sup>7</sup> J. E. Pomfret, *The Struggle for the Land in Ireland*, Princeton, 1930, p. 307.

<sup>8</sup> Mitchell & Deane, *op. cit.*, p. 80.

<sup>9</sup> *R.C. on Financial Relations between Great Britain and Ireland*, B.P.P. 1895, xxxvi, Q. 2891; *Agricultural*

waste. No links can be traced between tenurial changes and reclamation trends in this period, and as reclamation statistics are in general so unreliable, it is disconcerting to find Mr Crotty relying frequently on them to buttress his case.

Arguing that, by raising consumption standards, peasant proprietorship led to disinvestment, Mr Crotty points to an exception proving his rule—the accelerated rate of growth in poultry numbers after 1891, to provide spending money for the housewife.<sup>1</sup> But the rapidity of this change is largely a statistical illusion. Having increased from 15.3 million in 1891 to 19 million in 1906, poultry numbers bounded up to 24.3 million in 1907—due to a change in the method of collecting the statistics<sup>2</sup>—and then resumed their slower increase to 25.7 million by 1913.<sup>3</sup> When allowance is made for the statistical revision of 1906–7, the rate of increase from 1891 to 1914 was almost identical with that in the preceding twenty-three-year period from 1868 to 1891.

Mr Crotty quotes the 100 per cent increase in bank deposits between 1890 and 1914 as an index of the extraction of capital from agriculture and of the failure to re-invest profits. But deposits had already increased 150 per cent between 1863 and 1876, and then stagnated, in the depression years, until 1890.<sup>4</sup> Expansion did not begin, but merely resumed, in the 'nineties. Mr Crotty in this respect quotes evidence on the improvement in rural living standards in the early twentieth century; similar evidence could be quoted on corresponding improvement before land reform.<sup>5</sup> Finally, if peasant proprietorship led to disinvestment, it is surprising that the productivity of grassland farming has increased since

1901,<sup>6</sup> and while tillage yields were already high by European standards in the nineteenth century, we are assured that "the position is much the same at present."<sup>7</sup>

The legacy of owner-occupancy—as distinct from the general legacy of the nineteenth century—is irrelevant to present problems. Mr Crotty distinguishes between the objective difficulties of Irish farmers—the comparative advantages of meat production—and the subjective difficulties—inefficiency, which he attributes exclusively to the maldistribution of land, and hence, directly, to peasant proprietorship.<sup>8</sup> The stress on the objective factor is a salutary corrective to the excessive emphasis on subjective factors in previous writing. But to attribute all subjective difficulties to owner-occupancy is itself a gross over-simplification. Mr Crotty has brilliantly shown how over-simplified is the traditional tendency to attribute similar difficulties in the nineteenth century to the tenure system. But he commits a similar error himself. In this context, the illuminating comparison of Irish and Danish agriculture—a comparison which should be prescribed reading for any economic historian venturing a comparison of the agriculture of different countries<sup>9</sup>—explains why total Danish butter output increased more rapidly than Irish, but not why Irish butter fetched consistently lower prices. The defects listed by a firm of London butter importers in 1885 are all attributable to the subjective factor, sheer inefficiency, foreign butters replacing Irish because of "freedom from saltiness, uniformity of selections in quality; colour and texture; uniformity and *exactness* in weights, and tightness and neatness of packages."<sup>10</sup>

The wide range of output on farms today

*Statistics of Ireland for the year 1877*, B.P.P. 1878, C-1938, LXXVII, p. 3; *Agricultural Statistics of Ireland for the year 1906*, B.P.P. 1908, Cd. 3791, CXXI, p. 5.

<sup>1</sup> Crotty, p. 91.

<sup>2</sup> Mitchell & Deane, *op. cit.*, p. 85; *Agricultural Statistics of Ireland for the Year 1907*, B.P.P. 1908, Cd. 4352, CXXI, p. 18.

<sup>3</sup> Mitchell & Deane, *op. cit.*, p. 85.

<sup>4</sup> Thom's Directory, 1913, p. 818.

<sup>5</sup> *Royal Com. on Financial Relations*, *op. cit.*, Q. 4761.

<sup>6</sup> Crotty, p. 358.

<sup>7</sup> *Ibid.*, p. 25; Mitchell & Deane, *op. cit.*, p. 93, show a marked increase in yields of all cereal and root crops between the 1890's and the 1930's.

<sup>8</sup> Crotty, pp. 213, 223.

<sup>9</sup> Contrast, for instance, the naïve comparison of French and British agriculture in C. P. Kindleberger, *Economic Growth in France and Britain, 1851–1950*, Cambridge, Mass., 1964, ch. 10.

<sup>10</sup> *Industrial Inquiry*, 1885, p. 738.

was equally prevalent, in so far as one can judge from the variety of butter qualities, before 1900.<sup>1</sup> If, "in fencing, water supply, drainage, cultivation, liming, fertilizing and regrassing . . . Ireland is still largely virgin country,"<sup>2</sup> she was at least equally so, by definition, in the nineteenth century. Perhaps the traditional emphasis on the chronic inefficiency of agriculture may not, despite the high yields, be wholly unwarranted after all. For efficiency is reflected less in actual yields, than in the gap between actual and potential yields in any given climatic and soil conditions. Yields were high despite, not because of, the methods of farming, and, far from producing evidence to the contrary, Mr Crotty substantiates this view by showing that the "efficiency gap" between the best and worst farmers was exceptionally wide in Ireland.<sup>3</sup>

Even the strongest link in Mr Crotty's chain of reasoning on peasant proprietorship is not quite as secure as it seems. Farmers aged 65 and over comprised 31.8 per cent of the total in Ireland in 1951, and only 12.9 per cent in England, compared with percentages of 21.8 and 18.6 respectively in 1881. Let us, however, compare the Irish figures for 1871, 1881, 1901, 1911, and 1951.<sup>4</sup>

TABLE II  
FARMERS AGED 65 YEARS AND OVER AS  
PERCENTAGES OF TOTAL FARMERS

|      | <i>Male and Female</i> | <i>Female</i> |
|------|------------------------|---------------|
| 1871 | 17.8                   | 1.7           |
| 1881 | 21.8                   | 3.6           |
| 1901 | 23.3                   | 5.3           |
| 1911 | 33.3                   | 7.3           |
| 1951 | 31.8                   | 7.3           |

At first sight most of the ageing process occurred between 1901 and 1911. As this was the decade in which owner-occupancy became widespread, it might seem remarkable confirmation of Mr Crotty's argument. But this

was also the decade of the old-age pension, which forced the elders of rural Ireland to an agonizing re-appraisal of their dates of birth. The results can be interpreted in various ways. At face value they suggest that most ages were under-stated before 1911, that the ageing of Irish farmers is yet another statistical illusion. Alternatively, and more plausibly, ages were over-stated in 1911 in order to qualify for the pension, and the farm population may have in fact aged in so far as the 1951 statistics record real ages compared with the over-stated ages of 1911. Consequently, Mr Crotty is probably right in emphasizing the ageing of the farm population since 1901, but this trend too had begun before owner-occupancy, the proportion over 65 having increased steadily from 1871, the first year for which ages by occupation are available. Again, while Mr Crotty attributes the stagnation of agriculture mainly to the large proportion of these older farmers, it is disconcerting to find him excluding farms under 30 acres from the proposed land tax, on the grounds that "the mis-allocation of land is not so serious there as on the larger farms," despite the fact that 40 per cent of farms under 30 acres are held by the 'over 65's' compared with only 28 per cent of farms over 30 acres.<sup>5</sup>

In short, the structural weakness attributed to peasant proprietorship existed before it. Most of the post-1900 trends were, at worst, merely accentuations of post-1859 trends; it was not the Famine, but land reform that "caused hardly a tremor" in existing trends. Agriculture would be plagued with the self-same problems today were Ireland still a tenancy at will, for these problems were inherited, not created, by peasant proprietors.

#### IV

Mr Crotty's solution to the stagnation afflicting agriculture today is to re-introduce a land market into rural Ireland by imposing a land tax which will act as a substitute for the

<sup>1</sup> *Ibid.*, p. 739.

<sup>2</sup> Crotty, p. 221.

<sup>3</sup> *Ibid.*, pp. 102, 103.

<sup>4</sup> *Census of Ireland for the year 1871*, B.P.P. 1874, C-1106, vii, LXXIV, pt II, pp. 24, 32; *Census of Ireland for the year 1901*, B.P.P. 1902, 75, CXXIX, pp. 119, 126; *Census of Ireland for the year 1911*, B.P.P. 1912-13, 70, CXXIII, pp. 10, 17; Crotty, p. 104.

<sup>5</sup> Crotty, p. 244; *Census of Ireland, 1951*, II, pt II, pr. 2150, pp. 202-11.

competitive rents that largely achieved "the efficient utilization of Irish land up to the end of the nineteenth century."<sup>1</sup> The case for a land tax is persuasively argued, but it is not a case that can be based, or that requires to be based, on the alleged consequences of peasant proprietorship in stifling the invigorating effect of competitive rents before 1900. Both the diagnosis of, and the prescription for, the present ailments are sound, but the patient contracted the disease much earlier than Mr Crotty allows. However desirable a land market may be today, it must be created, it cannot be restored in any meaningful sense, for it existed only in the unique decade after 1845, and not in normal pre-peasant proprietorship circumstances.

Mr Crotty, I think, holds an idealized view of the impact of competitive rents on efficiency before 1900. The discussion of the effect of rents on mobility contains much interesting theory on what should happen under competitive rents,<sup>2</sup> indisputable evidence that there is today little mobility, but no data on actual mobility between 1850 and 1900. We are given only one side of the equation. In fact, once the number of holdings over 30 acres was stabilized, and family emigration declined to a trickle after the mid-1850's,<sup>3</sup> the mobility characteristic of the post-Famine decade disappeared. One observer actually credited peasant proprietorship with having created a local land market.<sup>4</sup> However dubious this sounds, it hardly points to an active market prior to reform. Nor, in so far as a market did exist, is there conclusive evidence that it redistributed land from inefficient to efficient.

The belief that it was the best who left was as widespread in 1860 as in 1960.<sup>5</sup> And was land acquired—grabbed is the emotive term—on rational marginalist calculations? At least one commentator argued that those "who are ever ready to take up farms that other men have been ruined in" relied on their brides' fortunes to give them a start, and were rarely capable of farming properly.<sup>6</sup> Were the talents necessary to 'grab' land those required to farm it productively? Mr Crotty has confirmed that the Irish farmer behaved rationally in his reaction to price movements.<sup>7</sup> But though his reaction was rational while he remained on the land, the final decision, between staying on the land or getting off it, has never been economically rational.

The model requires rents to have been competitive before owner-occupancy. In a valuable pioneering calculation, Mr Crotty estimates total rental in 1845 at £16 million. Sharing the general assumption that rents rose between 1850 and 1880, he suggests that an economic rent in 1880 should have been nearly £30 million.<sup>8</sup> But did rents double in these three decades? It is widely held that the encumbered estates Act of 1849 replaced benevolent masters with grasping native landlords.<sup>9</sup> To Prof. Connell, "after the Famine as before, the central force in the Irish economy was the drive for rent, and so insistently was it applied that profit as a spur to the tenant farmer was still rubbed away, almost to unreality,"<sup>10</sup> and until the land legislation "the social and economic life of the countryside was geared to an elastic rent."<sup>11</sup> Pomfret saw these decades dominated, outside of Ulster, by "the cease-

<sup>1</sup> Crotty, p. 228.      <sup>2</sup> *Ibid.*, pp. 92 ff.

<sup>3</sup> D. A. Harkness, 'Irish Emigration', in W. F. Willcox (ed.), *International Migrations*, ii, New York, 1931, p. 276.

<sup>4</sup> *Report by Mr W. F. Bailey . . . of an Inquiry into the Present Condition of Tenant Purchasers under the Land Purchase Acts*, B.P.P. 1903, 92, LVIII, p. 16.

<sup>5</sup> Mr Crotty's description (p. 102), of the survival of the unfittest through the inheritance system in 1964 could be equally applied to the situation in 1864.

<sup>6</sup> 'Some Economic Objections against the Custom of "Fortuning" Daughters', *Jnl Stats. & Soc. Inquiry Soc. of Ireland*, VII, 1879, p. 428.

<sup>7</sup> Crotty, p. 212.      <sup>8</sup> *Ibid.*, pp. 305, 83.

<sup>9</sup> Cf. J. E. Pomfret, *The Struggle for the Land in Ireland*, Princeton, 1930, pp. 45-6. Research at present in progress should clarify the confusion surrounding the encumbered estates question.

<sup>10</sup> K. H. Connell, 'Peasant Marriage in Ireland after the Great Famine', *Past & Present*, no. 12, 1957, p. 79.

<sup>11</sup> *Idem*, 'The Potato in Ireland', *Past & Present*, no. 23, 1962, p. 69.

less demand for higher rents," though quoting an estimate of a mere £11·8 million for the total rental in 1869.<sup>1</sup> To Palmer, "in the sad, gaunt years after the Famine . . . the agricultural situation, very bad before, became worse and worse."<sup>2</sup> Even Barrington was prepared to believe that "the condition of the Irish farmer reached its nadir during the period when that of the English farmer appears to have attained its zenith."<sup>3</sup> But this viewpoint is based overwhelmingly on assertion rather than evidence. In 1880 the rent of 11 million acres—55 per cent of total surface area—was a mere £7·5 million.<sup>4</sup> If, as the Head of the Valuation Office believed, the remaining rents were proportionate, total rental would have been about £15 million, and certainly nowhere near £30 million.<sup>5</sup> This would justify the widespread opinion that the pre-1881 rental was 30 per cent higher than the valuation.<sup>6</sup> General agricultural trends between 1850 and 1880 point strongly to the relative prosperity, not the relative poverty, of these decades. Even nationalist spokesmen in the depression of the 1880's made no retrospective bones about christening these the 'crescendo' years. The alacrity with which farmers followed price movements in this period does not indicate a conviction on their part that extra income would be siphoned off by increased rents. The logical consistency of the Crotty model could be preserved only by assuming that rents were not in fact as competitive after 1850 as before—but how competitive is competitive?—and that the stagnation in Irish agriculture can be attributed

to the disappearance of the immediate post-Famine land market.<sup>7</sup>

## v

Among the many other reflections prompted by this constantly stimulating work, only one more can be noted here. Mr Crotty emphasizes the paradox that well-intentioned measures have frequently harmed agriculture, and malicious measures frequently benefited it, because of the policy makers' failure to appreciate the factors influencing farmers' reactions. Apart from exposing the extent to which protagonists of peasant proprietorship substituted wishful thinking for straight thinking, Mr Crotty's critique of official policy in the 1920's and 1930's makes a major contribution to the sadly neglected field of Irish intellectual and administrative history. Equally intriguing is that some of the criticisms were anticipated at the time by officials whose advice was apparently rejected by the governments concerned. Mr Crotty points out that the tillage policy pursued after 1932 did not increase rural employment, one of its main professed aims.<sup>8</sup> An official publication of the Department of Industry and Commerce had noted four years before the adoption of this policy that only the slightest connection could be traced between employment and tillage since 1881.<sup>9</sup> Similarly, some of the fallacies in the official view that agriculture's contribution to the country's prosperity should be calculated solely from net rather than gross returns to agriculture—the view advanced most cogently

<sup>1</sup> Pomfret, *op. cit.*, pp. 56, 58.

<sup>2</sup> N. D. Palmer, *The Irish Land League Crisis*, New Haven, 1940, p. 35.

<sup>3</sup> Barrington, *op. cit.*, p. 289.

<sup>4</sup> Pomfret, *op. cit.*, p. 199, Crotty, p. 83, and Connell ('Peasant Marriage', *op. cit.*, p. 80), argue that rents in 1881 were lower than before the land agitation began in 1879. But while rents actually paid in 1881 may have been lower than in 1879, there is no evidence of a widespread reduction in nominal rents since 1879, which was what the £7·5m. referred to.

<sup>5</sup> R.C. on the *Financial Relations between Great Britain and Ireland*, B.P.P. 1895, xxxvi, Q. 5687.

<sup>6</sup> Palmer, *op. cit.*, p. 29. The rural valuation was a shade over £10 million.

<sup>7</sup> Among other informed commentators who believed that rents had risen more or less steeply between 1850 and 1880 were C. F. Bastable, 'Some Features of the Economic Movement in Ireland, 1880-1900', *Econ. Jnl.*, xi, 1901, p. 34, and M. Bonn, *Modern Ireland and her Agrarian Problem*, Dublin, 1906, p. 68. These authorities cannot be lightly dismissed, and while I feel they exaggerate the increase in rents over this period, it may be that Mr Crotty's estimate of £16 million for 1845 is too high, even for nominal rents, and that rents actually paid in 1845 fell further below the nominal figure than rents in the 1870's. A 25 per cent increase could have raised rents from, possibly, £12-£13 million in 1845 to £15-£16 million in 1875.

<sup>8</sup> Crotty, pp. 145-6.

<sup>9</sup> *Agricultural Statistics, 1847-1926*, Dublin, 1928, p. lx.

by Prof. George O'Brien—were exposed by Barrington as early as 1922 in the *Journal of the Department of Agriculture*.<sup>1</sup> Ironically, we know far less about the process of decision-making and policy formulation in the first two decades of independence than between 1800 and 1921, but it was not, apparently, only British ministers who took the wrong advice on Irish affairs.

## VI

When it is recalled that the historical chapters form only the introductory part of the work, it will be realized that the above discussion,

limited to merely two of the many themes illuminated by the analysis, fails to do justice to the range and scope of a genuine *tour de force*. The author expresses the hope that his interpretation "will stimulate new thought about Irish agriculture—its past, its present, and above all, its future."<sup>2</sup> The historian, if not the agricultural economist, might reverse these priorities, and if the present reflections encourage—or even provoke!—Mr Crotty into developing at greater length his interpretation of its past, they could have done no greater service to the study of Irish agricultural history.

<sup>1</sup> Barrington, *op. cit.*, p. 223.

<sup>2</sup> Crotty, Preface.

## Notes and Comments

### THE 1969 ANNUAL CONFERENCE

As reported in the last issue it had been hoped to hold the conference at Wageningen in the Netherlands, but difficulties over arrangements have made it necessary to postpone plans for a Dutch conference. It is hoped, however, that it may be possible to arrange a joint conference with the Dutch agricultural historians in 1971, and further information about this will be circulated in due course. Meanwhile the 1969 conference and annual general meeting will be held at the University of Lancaster from Monday, 14 April, to Wednesday, 16 April. Again the conference offers members a chance to visit one of the new universities in a region in which the society has never met before, and it is hoped that as many members as possible will attend.

### THE BRITISH NATIONAL COMMITTEE OF THE INTERNATIONAL HISTORICAL CONGRESS

The Society has renewed its membership of this committee, and Professor W. E. Minchinton, who was elected Chairman of the B.A.H.S. executive committee last April, will be the Society's new representative on the British National Committee.

### A GLOSSARY OF MEDIEVAL FARMING TERMS

The Standing Conference for Local History has just published *A Medieval Farming Glos-*

*sary of Latin and English Words taken mainly from Essex Records*. This enterprising publication will be of the greatest value to members of this Society. It contains forty-one pages of Latin and English agrarian terms with their meanings, taken from manorial records of Essex between 1200 and 1600. The price is 7s. 6d. and it may be obtained direct from The Standing Conference for Local History, The National Council of Social Service, 26 Bedford Square, London, W.C.1.

### THE OFFICIAL HISTORY OF THE BATH AND WEST OF ENGLAND SOCIETY

One hundred and ninety years have passed since the founding of the Bath and West of England Society for the encouragement of Agriculture, Arts, Manufactures, and Commerce. With an eye on the bicentenary celebrations which are already under consideration, Mr Kenneth Hudson, M.A., F.S.A., Senior Lecturer in the Centre for Adult Studies at Bath University, has been invited to write an official history of the Bath and West and Southern Counties Society.

The new book will be a substantial work of several hundred pages, liberally illustrated. Mr Hudson would be very grateful if anyone possessing relevant historical material could make

(Continued on page 84)

## Book Reviews

GEOFFREY DIMBLEBY, *Plants and Archaeology*.

John Baker, London, 1967. 188 pp. 50s. Professor Dimbleby states as his aim the provision of a book which will serve "as an introduction for both the botanist and the archaeologist into the possibilities and potentialities of joint investigation." To this end he has subdivided the text into three major sections, the first dealing with man's use of plants, the second with the nature of the evidence, and the third with its interpretation. Whilst the order might be open to criticism from some points of view the intention is clearly admirable. The first section attempts brief but comprehensive coverage. In so doing it leans towards the superficial where much is known, and to the speculative and anecdotal where little is known. The author justifies this in his preface as being "in the interest of a more general balance." Balance, that is, as between the many and varied possible uses of plants by man. Despite the variety of both the evidence and its treatment in this section, the text remains fluent, readable, and broadly informative, a serviceable carpet sewn together from oddly assorted remnants.

The second section deals first, with general questions of preservation, then with wood remains, pollen and spores, and finally with other miscellaneous plant materials such as seeds and phytoliths. Here the treatment achieves a pleasant compromise between system and narrative, with a strong bias towards practical hints and cautionary tales. The majority of the photographic plates refer to this part of the text and they are, almost without exception, extremely good.

The chapters in the final section are "The man-made landscape," "The damaged soil," and "Plants and chronology." Here again the order seems questionable and this section as a whole is perhaps the least satisfactory. Our specialisms both breed and feed on our biases and preoccupations. Some of Professor Dimbleby's are here revealed, inevitably shorn of the rigorous discussion and documentation which they require. Under the

same circumstances few if any of us could avoid doing our convictions a comparable disservice. The main aim—to encourage a more ecological frame of mind in the prehistorian—still emerges, despite the doubts and disagreements of a fellow palaeoecologist. Throughout the book Professor Dimbleby's aims are characteristically generous and archaeologists in particular will have further cause to be grateful for his interest and enthusiasm.

FRANK OLDFIELD

H. C. DARBY and R. WELLDON FINN, *The Domesday Geography of South-West England*. Cambridge University Press, 1967. xiv+470 pp., illus. £6 6s.

In this fifth volume, covering Wiltshire, Dorset, Somerset, Devon, and Cornwall, Professor Darby and his team complete their circuit of the Domesday shires. From the outset of their great undertaking it has been understood that a sixth and final volume will round off the work, but we now learn that two more will be forthcoming. It is much to be hoped that one of them will fulfil the promise implicit in the quotation from Maitland which has appeared after the title-page of every volume so far without noticeably influencing the contents: namely, that "A century hence . . . the substance of Domesday Book will have been rearranged. Those villages and hundreds which the Norman clerks tore into shreds will have been reconstituted and pictured in maps." The substance has indeed been pictured in maps, but for some reason which has not yet been explained it has been rearranged so as to conform with the boundaries of the 1960's, which may be out of date by 1970, and we are still without good maps of the hundreds and shires as the Conqueror's agents saw them. Lacking these, we have no means of checking the identifications of the place-names. (In this connection it may be noted that the lost *Evestia*, p. 144, was in Combe Hay, not Dunkerton.)

A fundamental weakness is that the authors,

wearing self-imposed blinkers, hardly ever look at earlier or later evidence. Thus on p. 8 we read: "There is no indication in the Domesday text that the East Overton and West Overton of today existed as separate villages; the Domesday information about them is entered under only one name (*Ovretone*) . . . In the same way it is impossible to distinguish between the three units of Manningford Abbots, Bohun, and Bruce." Yet the Domesday *Maneforde* belonged to the New Minster at Winchester, and if the name of that monastery were not enough to identify it with Manningford Abbots, it needs no deep research to find that the monastery acquired it under the will of a certain Æthelwold to whom it had been granted by Ethelred II in 987 with a charter giving its bounds.

Again, a Devonshire charter of 958 contains an unmistakable reference to outfield cultivation, and there is plenty of post-Domesday evidence for the practice in south-west England. All of this is ignored in the volume under review, and only on p. 350 do we find a glancing reference to the infield-outfield system.

Professor Hoskins, in his *Provincial England*, worked out a method of locating the unnamed farmsteads on some Domesday manors. He admitted that it was not universally applicable, and the authors, fastening on this admission (pp. 235, 356), make no attempt to apply the method, but content themselves with a monotonous repetition of the fact that "the constituent members of some large manors are not named."

In the Cornish chapter the reference to Oliver's *Monasticon* for the Bodmin manumissions is given as "*passim*" (p. 320 n.); it should be "pp. 431-6." On the next page the writer wonders how the 50 "serfs" at Trematon were employed, seeing that there were only three ploughteams on the demesne—as if there were nothing to do on the land but plough it! There are good grounds for equating the Cornish "acre" with 64 English acres, but this is nowhere stated.

Wrong extensions of contracted Latin are fewer than in some of the earlier volumes, but

there are some obvious cases. The authors habitually refer to their source as "the Domesday Book," though we have it on the authority of Richard fitz Nigel, treasurer of the Exchequer in 1177, that "the English call it Domesday Book."

These criticisms are offered, not in a captious spirit, but as a contribution to a possible list of corrigenda, and a plea for a fuller treatment of some topics, in the concluding volumes of this important work.

H. P. R. FINBERG

M. M. POSTAN (ed.), *The Cambridge Economic History of Europe. Vol. 1: The Agrarian Life of the Middle Ages*. Cambridge University Press, 1966. xvi+872 pp., illus. 75s.

This important volume, first published in 1941, now reappears in a wholly new edition, except that the chapters by R. Koebner (on The Settlement and Colonization of Europe), A. Dopsch (The Agrarian Institutions of the Germanic Kingdoms), Marc Bloch (The Rise of Dependent Cultivation and Seigneurial Institutions), J. Rutkowski (Poland, Lithuania, and Hungary), and S. Bolin (Scandinavia) are reprinted without modification, since the authors are no longer alive and the value of their contributions is recognized as exceptional. Mr C. E. Stevens, who has revised his chapter on Agriculture and Rural Life in the Later Roman Empire, is apparently prepared to entertain, in passing, the idea of an agrarian revolution effected in England by Anglo-Saxon invaders (p. 111), but the idea receives no support elsewhere in the volume. For us perhaps the most important new chapter is that into which Professor Postan has distilled many years of research by himself and others into the agrarian history of England from the eleventh to the fourteenth centuries.

The plan of the series unfortunately precludes the giving of detailed references, but there is a comprehensive bibliography—in which, by the way, it is a little startling to come upon a book by Frances Davenport dated 1824 (p. 823).

H. P. R. FINBERG

HELEN E. BOULTON (ed.), *The Sherwood Forest Book*. Thoroton Society Record Series, XXIII, 1965. viii+214 pp. No price stated.

The Thoroton Society Record Series publication for 1964 is the earliest of a series of surviving Forest Books of Sherwood compiled between the late fourteenth or early fifteenth and the late eighteenth centuries. Like the others, all of which contain much of the same material and are briefly described by the editor in her introduction, it is a compilation of documents drawn up in the course of the administration of this royal forest from the twelfth century onwards and designed to act as a record of forest rights and privileges, a reference book for forest officers and justices or local interested persons. Several documents not specifically concerned with Sherwood and printed elsewhere, such as copies of statutes, have sensibly been omitted; those that remain provide a good, though incomplete, selection of the wide range of forest documents, including, for example, copies of assizes and ordinances of the forest, perambulations of forest bounds, inquisitions into the administration and custody of the forest, and several forest writs. The largest group deal with the two chief instruments of Forest Law in this period, the eyre and the more frequent regard. There are writs for the election of regarders and the holding of the regard; articles of both the regard and the eyre, which provide a very useful summary of the subjects of interest to the royal officials, especially the very full ones which Miss Boulton thinks date from 1263; and partial records of some eyres. The longest single item, even though it is not printed in full, is the record of the Forest Eyre of 1287. Together the documents comprising the Forest Book describe the administration of Sherwood, show Forest Law being put into practice, and reveal some of the problems of enforcement, made more difficult by corrupt officers.

The Book also shows that Sherwood, in spite of its inclusion in the Royal Forest, was of considerable importance in the economy of the region, its resources being exploited by the King and his officers, the local land-

owners, and peasants. The forest provided, first, essential timber, fuel, and pasture. The Abbot of Rufford alone was said to have cut down 383 oaks for building in the three years 1263-6, and the forest pastures fed the horses, cattle, sheep, and pigs of the local residents, as well as the fiercely protected deer. The latter, of course, were useful for meat as well as sport, and were frequently hunted both legally and illegally for both purposes. For example, regular distribution of deer from Sherwood, hunted on the king's orders, is recorded for the reigns of Henry III and Edward I. There is no mention of Robin Hood, but plenty of excitement nevertheless in the presentments for venison offences at the Eyre of 1287, where we read, for example, of the midnight rescue by an armed gang twenty strong of two men imprisoned by the Steward after being found in the forest in possession of bows and arrows, and of how the rectors of Epperstone and Boudon led a gang into the forest in 1277 on a hunting expedition which lasted over a week.

Sherwood was also valuable in a period of growing land hunger as potential arable and the Forest Book refers to assarting for this purpose in the twelfth, thirteenth, and early fourteenth centuries. Assarts, legal and illegal, were presented at regards and eyres, recognized, and rented out, and the Forest Book contains a series of rentals of such assarts. The renting out of assarts in royal forests was increasingly organized in the late thirteenth and early fourteenth centuries, and there is a good example of this in the record of how, in 1301, as part of a general arrentation of land in the forests north of the Trent, nearly 500 acres in Sherwood were leased for annual cash rents of between 2d. and 8d. per acre. The assarters ranged from the peasants who took an acre or less to the Abbot of Newstead who took 180 acres. Strangely, there is no reference here to the high entry fines found on the occasion of similar arrentations of this period in other royal forests.

So there is plenty here to interest the economic historian, though better maps would have increased the usefulness of this volume. However, it should serve not only as material

for the study of Sherwood Forest, but as a demonstration of the value of the plentiful, but relatively little used, royal forest records to the study of the medieval English economy.

JEAN BIRRELL

K. J. ALLISON, M. W. BERESFORD, J. G. HURST, ET AL, *The Deserted Villages of Oxfordshire; The Deserted Villages of Northamptonshire*. Leicester University Press, Department of English Local History, Occasional Papers, nos 17 and 18, 1965, 1966. 48 pp. maps; 48 pp. maps; 10s. 6d. each.

The Deserted Medieval Village Research Group has subjected these two counties to what it calls a 'reconnaissance', and here are the results in companion studies planned on closely similar lines. Each 'Introductory Essay' sets out the methods of searching for lost villages, the discoveries of where they stood, when and why they ceased to exist. For each county there is an excellent site-by-site Gazetteer, in which all the collected information is summarized in a standard fashion for each place, including, for instance, a set of categories giving the quality of the visible remains. As to sources, most use is made of the chief classes of 'central' documentary evidence; local, county, and manorial material, on the other hand, is not explored to the same extent. It is hoped by the authors that besides making known the findings and conclusions as they stand, these publications will provide a general framework for fresh research by students of the subject who may have access to local sources and particular sites.

After Domesday Book, the most informative sources used here are the Hundred Rolls, the half-dozen taxation returns compiled by the Exchequer between 1316 and 1524, the Hearth Tax returns of 1665, and the 1841 Census. In Northamptonshire, however, the village surveys from the Hundred Rolls of 1279 are not extant, and instead of using these to trace the progress of settlement to a point in time near the peak of medieval population, there has to be a sequence from Domesday to the lay subsidy of 1301, and then to the taxation returns. On the other

hand, two major excavations give Northamptonshire a better archaeological record. Both the long-house at Wythemail and the farm-complex at Muscott were dated to the thirteenth and early fourteenth centuries, and it is suggested (p. 29) that the medieval peasant house had three basic forms: (1) small single- or two-roomed cottages; (2) long-houses "which may have belonged to villeins"; (3) farms where the different buildings formed separate structures, "which may have belonged to the more prosperous peasants and to the emerging yeoman farmers."

Are these differences in source material and archaeological evidence, which we find even in adjoining counties, carried through to the record of deserted village sites in each of them? How similar are they in their respective shares of this phenomenon? Northamptonshire has fewer sites, both in absolute terms (82 : 101) and in terms of intensity (1.3 per 10,000 acres : 2.1). For Oxfordshire this means that nearly one-fifth of the settlements mentioned in the Domesday folios no longer exist; of these, the depopulations which can be firmly dated show a fairly even spread between Periods III (c. 1350-c. 1450) and IV (c. 1450-1700), with 30 and 45 per cent of the total respectively. In Northamptonshire, however, they were more typical of the later Period IV (60 per cent, as opposed to 17 per cent in Period III), the years after c. 1450 being referred to as "the classic period of the enclosing depopulator in Warwickshire, Leicestershire, and Northamptonshire" (this in the Oxfordshire survey, p. 27). In fact, if we include Leicestershire as a third county whose deserted villages have been carefully studied, we have a Midland bloc (Oxon., Northants., Leics.) that includes 250 of the rough total of 2,000 sites in the whole of England.

Northamptonshire also had more depopulations of the strictly 'emparked' type, caused by the making of parkland around great country houses after c. 1700 (11 as opposed to 3 in Oxfordshire). With regard to the chronological subdivisions followed in each county, however, one is tempted to ask if it would

not be more realistic to subdivide Period IV (c. 1450–c. 1700) into two parts, with c. 1520 as the point of division? After all, it is stated (p. 14) that depopulating enclosure in Northamptonshire, as in neighbouring counties, did not continue to any great extent after 1518.

In both studies there are distribution maps prepared by Dr R. E. Glasscock, one showing the location of sites in relation to relief and the drainage pattern, and the other including data on the 'Period of Desertion', whether definite or uncertain. It is irritating in the Oxfordshire survey to find the distribution of different densities of depopulation considered (pp. 22–4) in terms of the county's hundreds, which are not marked on the maps. In both counties there is a very uneven, localized pattern of sites.

Northamptonshire has concentrations of sites in relatively few clusters, separated by noticeable gaps in the fenland, in the Forests, and even over much of the Northamptonshire Heights. These puzzling features are outlined very briefly (pp. 20–2), and one would welcome a more complete discussion than that given on p. 5 of what may be termed the various 'natural land types' found within the county. John Morton did just that in his *Natural History of Northamptonshire*, published in 1712. He delineated and described in turn the rural economy of the Fen, Heath, Woodland, and Fielden tracts as he knew them c. 1700, paying particular attention to their soil characteristics. For example, "the Heathy part has indeed a soil very different from the rest," he wrote, "and therefore I make it one distinct branch of the natural division of the county." Morton also discussed enclosures and depopulation, at a point in time between the early and the Georgian phases: "of our Fielden a considerable part is now enclosed, and converted into pasture." He went so far as to list those lordships in "one of the largest, and I think the richest knot of pastures", which began "in that angle where the three counties of Leicester, Warwick, and Northampton meet." His remarks might be linked with any study of the distribution patterns.

In Oxfordshire, too, the maps show highly localized densities of desertions. The most noticeable cluster is on the expanse of Gault and Kimmeridge Clays between the lower Thames and the Chilterns, of which ten definite and seven uncertain datings point to Period IV. By contrast, in another large group packed into the angle of country between the lower Windrush and the Thames, all the sites fall into the uncertain chronological class. Some of them are touched on by J. A. Giles in his *History of the parish and town of Bampton*, published in 1848. He adds something to the bald figures of the 1841 Census when he described Chimney, which "consists of two farms only" (as at present); it formerly had a manor-house and chapel, "but it is now some years since they have been pulled down" (p. 87). The place was unapproachable in winter "owing to the inundation from the river", i.e. the Thames; visitors had to rely on a large horse kept by one of the Chimney farmers. Giles was in no doubt that Shifford "was once a more important place than it is now, and perhaps contained several houses and streets" (p. 86). It had its farmhouse and four or five cottages; a "very ancient" church had fallen down in 1772. Here too the river "for many weeks in every year overflows its banks and deluges a large quantity of land", much of it still in common field in 1848.

So small were some of the villages and hamlets described by Giles that he preferred to regard them as "localities rather than places where several families reside" (p. 18). Haddon, again, consisted of only one farmhouse and a few cottages; Rushey (not listed in the Oxfordshire survey), was a hamlet of Bampton but had just one house by the Thames, where a single lock-keeping family lived. What are the possible causes for the incidence of such high densities as this? In contradiction of one hypothesis advanced (*Oxfordshire*, p. 24), it is clear from Giles's account of the common fields as they survived in what he called "the primaeval villages of Aston and Cote" that there was no shortage of common meadow for hay or common pasture for feeding horses, cows, and sheep.

Each farmer with a thirty-acre yardland would have four or five acres of meadow, but it is true that the common meadow (with its thirteen "layings-out", each of them divided into four "sets"), gave rise in its management to what Giles called "a more perplexing system" than those of the arable and pasture. Clearly it is only too easy to fulfil one of the authors' purposes, viz. the prompting of study of the deserted village question in specific localities within the counties.

F. V. EMERY

PETER and MARGARET SPUFFORD, *Eccleshall. The Story of a Staffordshire Market Town and its Dependant Villages*. Department of Extra Mural Studies, Keele University, 1964. 68 pp. 4s. 6d.

This is a valuable study of a characteristic Staffordshire parish of very large acreage, which before Domesday already supported a central village and a considerable number of hamlets. In 1086 some of these possessed a larger population than in the early sixteenth century. Although Eccleshall was nominally one manor, new manors were subinfeudated in the Middle Ages in the surrounding hamlets, and each developed its own town field or fields. Two surveys of 1298 and 1320 suggest that assarting had reached a peak by the first date and virtually ceased by the second. One of a generous number of maps enables the reader to see how the inhabitants of different hamlets attacked the woodland from different sides and gradually cleared it. How, one wonders, did they settle the problem of boundaries? Some assarts were incorporated in the common fields, some were kept in severalty. But by the eighteenth century all common fields had silently disappeared.

Dairying, and particularly cheese-making, occupied many farmers in the seventeenth century, and although there is meagre evidence of changes in emphasis over the centuries, it is noticeable that some leases of the seventeenth and eighteenth centuries permitted tenants to plough no more than one-third and at most one-half of their land in any year. It is possible, therefore, that the apparently large area of land under the plough

around 1801 in some hamlets represented only a passing phase in the agricultural economy of the parish which came to an end around 1870 when most land was put back to grass. Mr and Mrs Spufford have summarized the labours of their extra-mural class in a most useful contribution to the literature of local history, which illuminates some important phases in the development of a pasture-farming parish.

JOAN THIRSK

PATRICIA JAMES (ed.), *The Travel Diaries of Thomas Robert Malthus*. Cambridge University Press for the Royal Economic Society, 1966. xvi+316 pp. 45s.

Deprived on account of war of the opportunity of making the Grand Tour, a year after the publication of the *Essay on the Principle of Population*, Thomas Malthus set out, together with three companions, on a visit to Scandinavia. The two manuscript volumes of the Scandinavian journal, together with the contents of a smaller notebook containing some odd jottings on economic matters, a brief account of a continental tour in 1825, and the diary of a Scottish holiday in 1826, have now been splendidly edited by Mrs James. The major interest of this volume is in the light it casts on the development of Malthus's thoughts on population, for the section in the second edition of the *Essay* on the check to population in Norway, provided by the deferment of marriage, derives directly from the Scandinavian tour. But, as an assiduous chronicler, Malthus also made notes of other matters, including some of agricultural interest, particularly enclosures and the state of the pasture as well as inheritance customs, tenurial arrangements, and the fertility of soils. His account relies partly on his own observation and partly on what he was told by the people he met or with whom he stayed. Not himself a practising farmer or a skilled agriculturalist, his account is impressionistic rather than precise. For the agricultural historian, therefore, these travel diaries are a useful source for local detail rather than an indispensable record.

W. E. MINCHINTON

## Shorter Notices

F. G. DAVENPORT, *The Economic Development of a Norfolk Manor*, 1086-1565. Frank Cass and Co. Ltd, 1967. x+106+cii pp. 50s.

First published in 1906, Frances Davenport's book on the manor of Fornsett was a pioneer work, the first really detailed study of an English manor, and as such precursor of what is now an extensive literature.

Fornsett, unlike the subjects of some more recent studies, was a lay manor; it belonged to the earls of Norfolk. After the execution of Lord Thomas Howard in 1572 it escheated to Queen Elizabeth I, who three years later granted to Sir Henry Lee all the fines he could get for the manumission of her bondmen. Thereupon Sir Henry compelled the last remaining serfs at Fornsett to purchase their freedom.

The book is austere factuality, thick with footnotes, tables, and documentary appendices. It has long been out of print, but it retains all its value for students of the older English rural economy; so this photographic reprint is very welcome.

H. P. R. F.

C. S. and C. S. ORWIN, *The Open Fields*. Third edition, Clarendon Press, 1967. xxvi+196 pp. Maps and plates. 35s.

A new edition of the Orwins' classic work on English agricultural history, first published in 1938, makes a timely contribution to the currently active debate on the nature and origins of English field systems. This third edition is a copy of its predecessor, the second edition published in 1954, but it also includes an enlarged bibliography of almost one-hundred additional entries covering the period 1954-65. In a preface especially written for this edition, Dr Joan Thirsk provides

a thoughtful evaluation of the present standing of the Orwins' study and, although one of the principals in the current debate, she has also written a balanced and extremely useful assessment of the present position in the study of the distribution and origins of the common-field systems in England.

A. R. H. B.

G. H. TUPLING, *The Economic History of Rossendale*. Reprint by the Johnson Reprint Corporation for the Chetham Society. 1965. xxii+274 pp. £4 5s.

Dr Tupling's book is a model of what a regional study should be. Because of the range of its subject matter and the detail of its findings, it has preserved its youthful look, despite the fact that it was first published forty years ago. Readers will find in it valuable evidence on the development of rural communities which combined pasture farming with industry. The reprint of this work by the Johnson Reprint Corporation is most welcome.

G. E. FUSSELL, *A Bibliography of His Writings on Agricultural History*. University of Reading, 1967. viii+34 pp. 7s. 6d.

Mr Fussell has an impressive list of books and articles on agricultural history to his credit, and, as Nigel Harvey points out in his introduction to this work, he "made agricultural history available to the general and academic public at a time when few were prepared to acknowledge its importance or fascination." This bibliography brings together all Mr Fussell's writings, the articles being arranged under an alphabetical list of journals, with a name and subject index at the end.

## Letter to the Editor

MADAM,—The problem of tracing population migration and movement of all types prior to the nineteenth-century censuses presents many difficulties, and especially in the context of rural migration. However, evidence does exist for such migration from the sixteenth century onwards, sometimes over comparatively great distances; for example, between North Yorkshire and Norfolk.

Apprentice indentures enrolled at Norwich and Yarmouth often give the occupation and place of origin of the apprentice's father. This information indicates a considerable migration from rural areas to these two centres and although most of the apprentices were of local origin, some travelled long distances in search of employment and training in particular skills. Between 1520 and 1650 quite a large-scale movement of apprentices took place from rural areas in North Yorkshire, notably Dent, Sedbergh, and Garsdale, to Norwich and to a much lesser extent to Yarmouth. Migrant apprentices, sometimes including several members of the same family, entered a whole range of occupations particularly worsted weaving and the clothing trades. Those of their fathers were, in general, very varied. Some were engaged in agricultural occupations, others in various rural crafts, especially the textile and allied trades. It may be that this migration is simply an example of a general movement from a poor, overpopulated area of under-employment to a relatively rich and expanding area of urban growth and wider opportunities.

It may also be a special movement to an area where the same skills and manufactures were practised, creating long-range links between craftsmen with similar interests. Or it may be that the movement to Norwich, which was at the forefront in cloth manufacturing techniques at the time, could be an expression of a search by Yorkshire families engaged in the textile industry for further training in skills which were not available locally. If so there could have been a return movement of skilled apprentices back to Yorkshire. Of this there is no direct evidence, and it remains no more than a possibility. But it is certainly true that very few took up their freedom in Norwich and Yarmouth. Many may have settled in other urban centres or rural manufacturing areas in prosperous East Anglia, or may have moved outside the region, perhaps to London, or, indeed, returned to Yorkshire.

A great deal of movement both from the immediate East Anglian area, and from as far away as Devon, Wales, and Scotland is also illustrated by the indentures at Norwich and Yarmouth. They provide a valuable if limited source for the study of rural migration at the time. Perhaps other readers of this REVIEW may be able to shed further light on these and similar movements, and on other sources, particularly similar registers of apprentices which are unpublished.

J. H. C. PATTEN

SIDNEY SUSSEX COLLEGE,  
CAMBRIDGE

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### NOTES AND COMMENTS *continued from page 76.*

it available for his perusal. Original letters are, of course, invaluable, but also of particular interest would be such items as family photographs taken at the Bath and West Shows at any time during the past one hundred years, and especially at the turn of the century. Persons in possession of items which might be of interest in this undertaking are asked to con-

tact the Secretary, Bath and West Society, 3 Pierrepont Street, Bath (telephone Bath 3010). Any material requested for perusal will be carefully photocopied, and returned as soon as possible, except where (as it is hoped) the donor gives permission for it to be retained in the Society's Library.

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SEPTEMBER, 1968

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VOLUME 17 1969

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the Epirus Region of Greece

SIR JOSEPH HUTCHINSON

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Peasant Craftsmen in the Medieval Forest

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David & Charles plan to reprint the majority, if not all, of the county volumes over the next few years, beginning with the three volumes listed on page 2. First, however, they are republishing William Marshall's Review and Abstract, which summarised the County Reports, in a uniform style in five volumes published in 1818.

The works are being reprinted in their entirety, though where economy can be achieved without any loss of material or clarity a very limited amount of rearrangement is being made in certain contents. For instance, some folding tables are rearranged to appear on double-page spreads within the volumes proper.

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# Erosion and Land Use: The Influence of Agriculture on the Epirus Region of Greece<sup>1</sup>

By SIR JOSEPH HUTCHINSON

FOR half a century, students of agriculture have been concerned at the depletion of the world's agricultural resources caused by accelerated erosion on agricultural land. The evidence of soil loss is all too clear, and large areas of formerly productive farmland have been abandoned. Recently, evidence of the possibility of reclaiming eroded land has been obtained, and the picture is no longer one of unrelieved gloom. Nevertheless, in the ancient centres of agriculture, such as the Mediterranean basin, it is accepted as established that there has been a heavy decline in agricultural potential as a consequence of millennia of exploitive agriculture.

The current view of the matter has been stated by Hammond (1967) for the Epirus region of Greece.<sup>2</sup> After discussing records which point to a very large population in the past, he writes: "These figures indicate that the population of Epirus in Hellenistic times was considerably greater than it is today; for the whole population of Greek Epirus is now only some 300,000 persons. This is what we should expect. The damage to the country through devastation, deforestation, and erosion is incalculable. The small plain of Dodoni and the eastern slopes of Mount Olytsika afford a typical example. The famous forests have disappeared. The soil which has been washed down from the hillsides accumulated to a depth of 11 ft in the orchestra of the theatre. The slopes of the mountain carry only a few remnants of the great forest which once conserved the rainfall and made the roots of the mountain famous for its hundred springs. Much greater destruction has been caused on the western slopes of the mountains. The plain of Acheron is widely strewn with the boulders and shingle which have been carried down for centuries on to the level ground; the extensive swamps have been drained only partly in recent years, and the famous groves of poplar and other trees have disappeared."

The evidence is convincing, and the interpretation has been generally accepted. However, doubts were raised in my mind by Higgs's and Vita-Finzi's paper on the record of human activity in Epirus which they discovered in recent

<sup>1</sup> This paper was delivered at the annual conference of the B.A.H.S. at Norwich on 8 April 1968.

<sup>2</sup> N. G. L. Hammond, *Epirus*, 1967.

geological deposits.<sup>1</sup> They studied a series of deposits ranging from scree to silty clay, and mostly red in colour, which they called the Red Beds. In these deposits they found Palaeolithic artifacts that could be related to datable levels in cave dwellings which Higgs had excavated. They concluded that the Red Beds must have been laid down at the time when the artifacts were made, which was during the period 40000–10000 B.C. They also studied more recent deposits of brown alluvial soil, and found therein “classical” sherds, and they concluded that this alluvium was laid down between 0 and A.D. 1000. Finally, they showed that both Red Beds and alluvial soils are being cut into by rivers at the present time, so that the two deposition series are now both suffering renewed down-cutting.

The interest of these findings to me was twofold. First, they taught me—what I ought to have known—that the agriculturist, preoccupied with the fate of land from which soil has been removed, has concerned himself with only half of the erosion problem. The archaeologist, looking for relics of the past preserved by an overlay of recent deposits, is concerned with the other half. Denudation and deposition ought to be considered together and this is rarely done. The second, and more important, interest lay in the demonstration of a series of erosion sequences, going back in time to the Palaeolithic age. This is not consistent with the accepted view of erosion in the Mediterranean basin. Agriculture only began 8,000–10,000 years ago. If Higgs and Vita-Finzi are right, and erosion sequences can be dated as far back as thirty millennia before the beginning of agriculture, the causes of degradation are not the agricultural activities of man.

If current views are to be revised in the light of the archaeological findings, the mixture of evidence and deduction in accounts such as Hammond's must first be sorted out. The evidence is beyond doubt. The accumulation in the orchestra of the Dodoni theatre was demonstrated when the theatre was excavated. The mountain slopes are indeed now bare, but the springs at their base depend on geology rather than ecology. The distribution of boulder and shingle can be observed. But Higgs and Vita-Finzi have shown that the sequence of deposits derived from the erosion of these mountains goes back far beyond the origins of agriculture, and the indictment of man as the cause of these processes, which is implied in Hammond's account, is at best not proven and may be wholly unjustified.

In an attempt to determine how far man's agricultural activities have contributed to erosion in Epirus, a small agricultural party joined Higgs's archaeologists' camp at Agios Georgios on the Louros river in August 1967. The agricultural party planned to study the effect of agriculture on local soils by detailed study of a limited area that could be traversed almost entirely on foot.

<sup>1</sup> E. S. Higgs and C. Vita-Finzi, *Proc. Prehistoric Soc.*, 32, 1966, pp. 1–29.

Apart from what could be seen from the road during journeys between Igoumenitza on the west coast, Ioannina in the central basin, and Agios Georgios where the Louros camp was pitched, the whole of the study was carried on within the watershed of the Louros river.

The evidence of extensive erosion is clear. The valley in which Dodoni lies is small. The consequences can be seen on a vastly greater scale where the Louros and Arakthos rivers run into the gulf of Amvrakia. The town of Arta is situated on the Arakthos river where it emerges from the mountains. South of Arta lies a great fertile alluvial plain, some 15 km. in extent from Arta to the gulf. Arta was a port in the early centuries of the present era. It had disappeared from the shipping records by about A.D. 600, presumably by the silting of the harbour. The growth of the alluvium to make the present fertile plain appears to have occurred within the last two millennia. The Arakthos carries a heavy silt load, and the greater part of this extension is due to the deposit of Arakthos silt. The Louros river, which runs into the gulf of Amvrakia a few kilometres west of Arta, runs throughout its length through a limestone valley, and does not carry a substantial silt load.

One might estimate the extension of the plain of Arta by the deposits from the Arakthos river at about half a mile a century, whereas extensions due to deposits from the Louros river have been but a fraction of this amount. Evidently the major determinant of the extent of deposition is not the agriculture of the region but the nature of the terrain over which the river flows, and hence the magnitude of the silt load it carries.

Epirus is a region of 'young' mountains. It consists essentially of a series of more or less parallel limestone ridges, often with flysch deposits on their flanks. On the limestone, rainfall percolates through fissures rather than runs off, and the region is characterized by innumerable springs, and by dry torrent beds in the smaller valleys, where water only runs after heavy rain. The flysch deposits consist of shales, sandstones, and marls, and these give rise more readily to runoff. They are also less massive, and far more erodible than the limestones. The limestones are often bare, but where there is soil, it is red (*terra rosa*). On the flysch the soils are brown. The whole region is manifestly undergoing intense erosion. Slopes are steep, even precipitous. The limestone is deeply cut by ravines, and the flysch is scarred with small landslips. Erosion is inevitable, and inevitably rapid.

Agriculture is practised in the face of powerful natural erosive forces. The questions of interest are, first, whether or not the agricultural activities of man have significantly increased the rate of erosion, and, secondly, the extent to which erosion, either natural or man-accelerated, has affected the agricultural potential of the region. In terms of land use, three categories may be made, the limestone mountain slopes, the brown upland soils on flysch, and the brown

alluvial soils of the valleys and the coastal plain. Small areas of alluvial red soil in upland valleys were also studied, but they are not large enough to be significant. On the limestone, which is exceedingly pure, soil development from weathering must be very slow indeed, and there can never have been any great depth of soil. The only agricultural use of the limestones is the browse they provide for goats, sheep, and a few cattle, and the fuel that is cut for household use. There can be no doubt that man has had a devastating effect on the vegetation. Agricultural exploitation consists of browsing, chiefly by goats, and cutting for fuel. Oak trees have given place to oak scrub. This is kept down partly by the goats, and partly by the regular cutting for fuel of any stems that escape the depredations of the goats and grow out above the browsing level. Nevertheless, careful assessment of the ground cover led to the conclusion that the effect of this form of exploitation was not as serious as at first appeared. In many parts of Africa where stock are kept, the village perimeter is completely denuded of vegetation, and there is a steady improvement in the ground cover as the distance from the night kraals increases and the limit of the daily browsing range of the goat is approached. In the village areas in Epirus there is indeed little vegetation except the olive trees, but the maquis comes close to the village, and may indeed provide quite a good cover. Woods are common on the steeper and less accessible slopes, but the higher ridges do not carry as good a vegetative cover as the lower, even though the latter are within grazing range. Thus, the vegetative cover is not, as it is in overgrazed African areas, closely related to the grazing pressure, and it appears that geological and soil factors largely determine the type or the density of the plant population.

On gentle slopes and flat plateaux on the limestone, a mantle of red soil is to be found. On steep slopes the surface consists of outcrops of the massive limestone, interspersed with large areas covered with limestone rubble and occasional small patches with a thin soil mantle. In heavy rain, considerable slides of rubble can occur. There appears to be no soil, but under the surface is to be found a mixture of rubble and red earth. Road cuttings and quarry faces show that there are weathered pockets filled with rubble and red earth which are often of very considerable depth. It is in these that the trees and shrubs are rooted. At first sight, one might conclude that there had been very considerable soil losses from these slopes. However, very similar situations are to be found in flat honeycomb limestone country on islands such as Zanzibar and the Bahamas. There also, the surface is covered with rubble. There is there also a mixture of red soil and rubble below. Indeed, shifting cultivation is practised, the crops being planted in the red earth among the stones. It seems probable that in Greece, also, a completely stone-covered surface is the normal situation on the limestone slopes.

Some direct evidence of the extent of soil loss during the period of agri-

cultural exploitation can be obtained from an examination of olive trees. On all well-preserved olive trees the base of the trunk, below which the root system has developed, is readily identified. This point provides a record of the ground level at the time the tree was a seedling. The trees in Agios Georgios village are, according to local opinion, several hundred years old. The present ground level around them varies from the same as when the trees were seedlings down to 60 cm., or in some cases 1 m. lower. Even in the village therefore, where pressure on the land has been greatest, the rate of soil loss has been of the order of perhaps 20 cm. per century. On limestone slopes away from the village, occasional olives and scattered oaks provide a similar index, and a drop of 25 cm. in ground level during the life of a tree was only rarely exceeded. On flat hilltops and gentle slopes, the trees are almost always growing at the same ground level as when they were seedlings. Considering the enormous ravines that have been cut by natural forces into these limestone mountains, the rate of erosion around the olive trees cannot have been markedly increased by agriculture.

The brown upland soils on flysch deposits might be expected to show much more serious erosion losses. The flat tops and gentle upper slopes on the flysch are commonly cultivated. The lower slopes often run precipitously down to a ravine in which a torrent flows after rain. There is thus a sequence of a reasonably flat top, a rather steeper slope, and an uncultivable steep lower slope. The steeper, but still cultivable, slopes are often terraced. The cultivated lands on the brown soils do not appear to have suffered erosion to the extent of breaking the land surface and initiating gullies in cultivated fields. Agricultural use has not made them unstable. Indeed, terracing is a stabilizing practice, and erosion risks are thereby reduced. The main erosion losses from the flysch deposits arise from the cutting back of gullies and ravines undermining the beds from below. Some of the resulting slides leave substantial and conspicuous scars on the hillsides. These are natural events, rather than the consequences of agricultural use.

The most important agricultural lands are the brown alluvial deposits on the valley floors, and on the margins of the coastal lagoons. Such down-cutting as is occurring on the banks of the Louros is slight, and the cultivated valley lands, double cropped under irrigation and well cared for, are in good condition, and show no signs of erosive losses. On the lower reaches of a river, erosion products from upland areas may be destructive of agricultural land through flooding, and the choking of drainage channels. There is no evidence of this in the plain of Arta, and the grading of the alluvial fan to the sea is such that both drainage and irrigation are readily provided. Here the products of erosion have built up an extensive and highly productive plain.

It thus appears that the naturally high rate of erosion in this region has not

been significantly increased by man's agricultural activities, and that the effect of erosion on the agricultural potential of the region has been substantially favourable. Little good land has been lost and a large and productive area of new land of high natural fertility has been gained by the silting of the gulf of Amvrakia. This conclusion, quite contrary to long-accepted opinion, arises from a reappraisal of well-established evidence as much as from the collection of hitherto unknown facts. The evidence for rapid and long-continued erosion is clear and undisputed. But the assessment of the causes of erosion is another matter. From Higgs's and Vita-Finzi's discovery of Palaeolithic artifacts it is apparent that rapid erosion long preceded the beginning of agriculture. From the observation that the cultivated soils are stable and productive to this day, it is clear that erosion rates have not been markedly affected by the advent and development of agricultural practice.

The archaeologist's approach to erosion is a most fruitful tool to the agriculturist interested in the history of his art. History is recorded in deposits in a way that it can never be where denudation has taken place. Where deposition has gone on during agricultural times, there must be records to be exposed that will give a time scale to much of agricultural history that is now vague and uncertain. Consider, for example, the fortress of Kastro Orovon, standing on what must once have been an island in the gulf of Amvrakia. It is now surrounded by the alluvium of the plain of Arta. Vita-Finzi has noted the remains of a Turkish midden on the alluvium below one of the bastions. The fortress was originally Greek, and the masonry of the bastion and related structures shows a succession of Greek, Roman, Byzantine, and Turkish workmanship. The fortress has therefore had a long history of occupation. It seems likely that the disposal of rubbish would be the same regardless of the occupying power, and there is therefore a good prospect that a pit dug through the Turkish midden might reveal a datable sequence of refuse, intercalated with successive layers of the silt deposit. Thus a time scale for the deposit of the plain of Arta might be established.

My interests in the history of agriculture lie in the biological field rather than the social and economic. I am concerned with the history of soil fertility rather than land tenure, the evolution of crop plants rather than the price of grain. And the range of our knowledge and our appreciation of the changes that have gone on has been increased by contact between these interests and those of archaeology, and of Quaternary research. This is but a beginning, and there is much to be learned by a search for evidence of past events in present-day agricultural circumstances.<sup>1</sup>

<sup>1</sup> I am indebted to the members of the agricultural party, D. A. MacLeod, W. A. Herbert, and D. C. E. Wurr for their collaboration in this study, to E. S. Higgs and his archaeological party for the generous hospitality of their camp, and to D. A. MacLeod, E. S. Higgs, and C. Vita-Finzi for information, advice, and criticism.

# Peasant Craftsmen in the Medieval Forest

By JEAN BIRRELL

IN spite of centuries of clearance by generations of settlers England was still a wooded country in the thirteenth century. There were, it is true, large areas where settlement was so dense that only a limited amount of land remained outside the arable fields. Indeed, increasing local shortages of land for farming were one of the characteristics of the century. But there remained numerous extensive tracts of woodland covering many thousands of acres. Many of the largest, like Sherwood, Feckenham, Rockingham, and the Forest of Dean, were royal forest, whose use and clearance were regulated. Others, like the New Forest and Brewood in Staffordshire, once royal forest, had been partially or wholly disafforested. Some, like Needwood in Staffordshire and the Weald had never been fully afforested. And even outside these big forests there were many extensive though isolated woods. The assarting taking place in these forests in the thirteenth, and well on into the fourteenth, century reduced the acreage of woodland but left large areas intact.<sup>1</sup>

In the thirteenth century the forests still played an important role in the economy of their regions and of the country as a whole. Even the royal forests were far more than royal pleasure grounds. They provided, besides land to be assarted and added to the cultivated area, extensive pastures for cattle and other animals. In many forests hundreds of local farmers, landlords, and peasants, paid agistment fees to put horses, cattle, and pigs in the forest pastures. But the forests were not only important for agriculture. A wide range of industries developed in them as a result of the presence there of basic raw materials or of ample supplies of fuel. The trees and undergrowth provided the vitally important medieval raw material, wood, and, equally important, wood fuel. In many forests there were easily accessible mineral deposits, especially coal and iron. At a time when transport was slow, difficult, and expensive, the proximity of ores and fuel naturally led to the development in many forests of what is perhaps the best known medieval forest industry, the iron industry. A number of other industries, such as glassmaking, potting, and lime-burning, were attracted to the forests by the fuel supplies, even if their raw materials were not specifically forest ones. Another forest product used in industries in and outside the forests was tree bark.

This paper seeks in the first place to give some indication of the range of these industries in a few forests in the thirteenth and early fourteenth centuries, and

<sup>1</sup> For the extent of the royal forest in the thirteenth century see M. Bazley in *Trans. Roy. Hist. Soc.*, iv, 1921, and J. C. Cox, *The Royal Forests of England*, 1905.

then to describe their organization. As regards this last, it must be admitted that there is much that is still obscure. However, it is abundantly clear that the local peasantry were deeply involved in forest industries. Many peasants living in or near forests were employed, usually part time, in one or more of them. Some worked at home, some in the forest; some were wage-earners, working for landlords or entrepreneurs, some seem to have been independent producers; for some this work was clearly subsidiary to agriculture, for others it perhaps took first place. This diversification of peasant economic activity is of considerable interest to the student of peasant economy, particularly in a century when many peasants were increasingly affected by land shortage. Non-agricultural economic activities were not, of course, confined to forest peasants at this period, as the history of the rural cloth manufacturing industry shows. But, for a variety of reasons, some of them mentioned above and some to be discussed, forest peasants were particularly well placed to engage in them. A second aim of this paper is to try to give some idea of the nature and extent of peasant participation in forest industries, and of how important off-farm incomes were to individual peasants and to forest peasants as a whole.

Two main groups of sources have been used. There is a large amount of material dealing with the royal forests at this period in the Public Record Office, which it has only been possible to sample. Further study of these documents would undoubtedly produce more information. Records of the various forest courts and annual forest accounts have proved particularly useful. Secondly, manorial documents from some private estates in or near forests have been used. Indications of the presence of various industries are usually not hard to find. However, it will hardly be necessary to point out that some of the questions of most interest to the historian, being of no interest to the compiler of the documents, are hardly illuminated at all.

The first and most obvious use of forests was as the source of wood for its many medieval uses, and in the thirteenth century forest timber resources were increasingly exploited. Large quantities of wood left the forests in various forms, simply as tree trunks, rough dressed or semi-manufactured, or made up into one or other of a range of widely used wooden goods. Local peasants were consequently employed in a variety of jobs ranging from felling trees to the manufacture of particular wooden objects. Complete records of the numbers of trees felled do not, of course, exist for any thirteenth-century forest. However, some indication of the scale of exploitation in one forest can be gained from the Forest of Dean records used by Dr C. E. Hart. The king used the timber of this forest for various purposes, particularly in royal building works, to raise money by cash sales, and as the content of frequent gifts. Consequently, large numbers of trees were felled every year. For example, in the two years 1275-7, 935 oaks were cut and sold; in 1252 90 oaks and 60,000 shingles were sent from Dean

to Gloucester Castle; and the 1282 regards found the stumps of 7,497 oaks, 34 chestnuts, and 4,585 beeches. In view of these figures it is not surprising that Dean woodcutters were so numerous that in 1282 the king could demand the services of one hundred at a time to clear passes for the army in Wales.<sup>1</sup> The same sort of exploitation developed in many thirteenth-century forests as private wood owners or the king cut timber for their own use and for sale.

There were specialist woodworkers in all forests. Surname evidence is one indication of this. In the thirteenth century, and often still in the early fourteenth, lower-class surnames were fluid and rarely inherited. An occupational surname can therefore be taken, in the vast majority of cases, to indicate actual practice of the craft concerned. On the other hand, surnames were based on all sorts of other factors besides occupation, so that by no means all specialist craftsmen's occupations were reflected in their names.<sup>2</sup> Surnames indicating the practice of various wood crafts occur in most forest documents, and are often so numerous as to suggest some degree of local specialization. For example, the surnames Carpenter, Cooper, Fletcher, Bowyer, and Turner appear in Wealden villages in the Sussex lay subsidy roll of 1296. Wheelers, Coopers, and Carpenters appear in Feckenham Forest villages in the 1280 Worcestershire lay subsidy roll and the surname Sawyer is added to these by a mid-century list of vert offenders. Carpenters, Coopers, Sawyers, and Wheelers appear in the 1282 forest eyre of Dean.<sup>3</sup> In no case does the distribution of occupational surnames, admittedly only a rough guide, reveal a concentration of woodworkers in any one village or region inside the forests.

A certain degree of specialization on the part of the individual is suggested by an occupational surname. However, it is probably safe to assume that their owners did not normally specialize to the exclusion of agriculture. In the lay subsidy rolls already quoted they appear simply as taxpayers, but other documents show that they were also agricultural producers, in fact, peasant craftsmen. A 1297 rental of the estate of the bishop of Coventry and Lichfield reveals peasant craftsmen among the tenants on several manors in Cannock Forest in Staffordshire. At Rugeley, Alexander the Turner held 3½ acres of new, that is assart, land, and Richard Carpenter held a cottage and a curtilage; at Baswich,

<sup>1</sup> C. E. Hart, *Royal Forest*, 1966, ch. II, *passim*.

<sup>2</sup> G. Fransson, *Middle English Surnames of Occupation, 1100-1350*, 1935, pp. 29-41. See also B. Thuresson, *Middle English Occupational Terms*, 1950, and P. Reaney, *The Origin of English Surnames*, 1967.

<sup>3</sup> *Sussex Subsidies*, ed. W. Hudson, Sussex Record Society, x; *Lay Subsidy for the County of Worcester, c.1280*, ed. J. Willis Bund and J. Amphlett, Worcs. Hist. Soc., 1893; J. West, *The Administration and Economy of the Forest of Feckenham during the Early Middle Ages*, unpublished University of Birmingham M.A. Thesis, 1964, p. 159; P.R.O., E.32/30. On some East Sussex woodland manors the tenants' services included the manufacture of casks, troughs, and other wooden objects—F. R. H. Du Boulay, *The Lordship of Canterbury*, 1966, p. 173. See also the services at the Wealden hamlet of Fure, part of Ferring.—*Sussex Customals*, ed. W. D. Peckham, Sussex Rec. Soc., xxxi, 1925, p. 76.

Bate the Cartwright held a messuage and 10 acres of land, and John Carpenter shared a 3-acre holding. At Eccleshall, a well-wooded village outside the boundary of Cannock Forest, Stephen Wheeler held 3 roods in Great Wood, Adam Fletcher a cottage in the same place, and Henry Wheeler held  $4\frac{1}{2}$  acres of new land. In Feckenham Forest in the middle of the thirteenth century Robert Carpenter illegally built a shed and pastured his two cows.<sup>1</sup> Crafts of the sort indicated by these surnames, whether followed at home or in the forest, could probably be practised largely in the winter months, when less time was needed on the peasant holding. They would, therefore, combine relatively easily with agriculture. In any case, it is noticeable how often peasant craftsmen in any trade, like most of those mentioned above, had smallholdings, not full sized peasant tenements.

Unfortunately, it is rarely possible to discover either how this work was organized or to what extent forest peasants were working for more than purely local demand. The felling and rough dressing of trees on a large scale was, of course, work which had to be done in the forests. It was probably the most important of the wood crafts discussed. Woodcutting was normally done for wages for the king or landlord who held the wood concerned, the latter using their woodland in very much the same way as the king at this period. The numerous Dean woodcutters employed by the king at the end of the thirteenth century were paid by the day, the rate being 3d.<sup>2</sup>

Wooden goods, such as bows and arrows, agricultural tools, building timbers, and vessels, were made and used in the thirteenth century in large quantities, but it is difficult to ascertain to what extent forest villages specialized in their manufacture. Most thirteenth-century peasants were probably capable themselves of making many of the wooden goods they used. Wooden goods were also made wherever they were in demand, in towns or villages outside the forest, or on building sites, using small local supplies or wood exported from the forests. Nevertheless, there is evidence of some specialization of wood crafts in the forests, for example, those occupational surnames characteristic of forest villages and mentioned earlier. Other surnames of this type which appear in forest documents of this period include Wainwright, Tonwright, and Arkwright.<sup>3</sup> A mid-thirteenth-century source refers to sieve-makers (*criblarii*) in the Forest of Dean.<sup>4</sup> It is noticeable that the range of specialities in the forest manufacture of wood objects indicated in the thirteenth- and early fourteenth-

<sup>1</sup> Stafford Record Office (S.R.O.), D1734. J2268, ff. 21v, 25d, 26v, 19v, 19d; P.R.O., E.146/3/3.

<sup>2</sup> Hart, *op. cit.*, p. 28.

<sup>3</sup> A Tonwright at Tottington (1324).—*Lancashire Court Rolls, A.D. 1323-4*, ed. W. Farrer, Lancs. and Cheshire Rec. Soc., 41, 1901, p. 9; Wainwrights in several places (1304 and 1323).—*Ibid.*, pp. 3, 30 and *De Lacy Comptoti, 1296, 1305*, ed. P. A. Lyons, Chetham Soc., cxii, p. 185; Arkwright in Inglewood (1324).—P.R.O., E.101/130/9 m2.

<sup>4</sup> *Cal. Pat. Rolls, 1247-58*, p. 450.

century documents so far used is smaller than that noticed by Professor Everitt for the sixteenth century; nor is there any convincing evidence of the sort of regional specializations he suggests.<sup>1</sup>

In the case of manufacture of agricultural tools, vessels, and vehicles, work was probably mostly done on contract or for wages for local customers. Both peasants and landlords hired local specialists for work of this sort. Two cases from Staffordshire forest manors show this. In 1312-13, on the manor of Longden, a Cannock Forest manor of the bishop of Coventry and Lichfield, 6s. 10½d. was paid to William the Cooper for the repair of vessels on the demesne. William had worked for eighteen days, with help for fifteen of them. In 1325 a peasant of Anslow, a Burton Abbey manor in Needwood Forest, brought a case in the manorial court against Henry the Cartwright, concerning a broken contract. Henry had apparently contracted to build a cart with timber supplied to him.<sup>2</sup> But, interesting as they are, cases of this sort showing specialist wood craftsmen at work would, no doubt, be found in manors outside forests as well.

Some wooden goods were widely available and it seems likely that many were manufactured in forests by the local peasantry, including those with the sort of occupational surnames mentioned above. The Bowyers and Fletchers frequently found in forest documents were presumably making bows and arrows to be offered for sale. However, little light is thrown on this process. H. J. Hewitt has shown that bulk orders for bows and arrows for army use in the early years of the Hundred Years War were placed with sheriffs all over the country and not just in wooded areas.<sup>3</sup> There is no indication of where they were made. Building accounts show that goods such as laths and boards, though often made up in a forest or on the site for a particular job, were regularly bought ready made, and tolls were paid on their import into towns.<sup>4</sup> Large numbers of objects such as pitchers could be bought in certain places. For example, in the 1260's the king bought several hundred or a thousand pitchers at a time on several occasions in Kingston for use at Westminster, but there is no indication whether these were made in the town or in one of the nearby forests.<sup>5</sup>

So, though there was clearly much employment in forests for local peasants in felling and rough-dressing trees, and though surname evidence suggests that specialist wood craftsmen were common in forest villages, the evidence for the extent or organization of the manufacture of wooden goods in forests is still regrettably thin.

<sup>1</sup> *The Agrarian History of England and Wales*, IV, 1500-1640, ed. J. Thirsk, 1967, p. 427.

<sup>2</sup> S.R.O., D1734. J2057; D1734/2/1/101 m4.

<sup>3</sup> H. J. Hewitt, *The Organisation of War under Edward III*, 1966, pp. 64-5.

<sup>4</sup> L. F. Salzman, *Building in England to 1540*, 1952, ch. xvi, especially p. 240; *Bristol Charters, 1155-1373*, ed. N. Dermott Harding, Pubs. Bristol Rec. Soc., I, 1930, p. 55; E. Gooder, *Coventry's Town Hall*, Coventry and North Warwickshire History Pamphlet, 4, p. 3.

<sup>5</sup> *Cal. Lib. Rolls, 1260-67*, v, pp. 145, 162, 210, 252.

Another important forest industry was the preparation of wood fuel, especially charcoal. This, too, was work which could be done part time, and concentrated at the time of the year when the peasant was not fully occupied on his holding. It seems normally to have been a subsidiary occupation of peasants and charcoal-burner peasants are indicated in many medieval forest documents. They often appear as smallholders in thirteenth-century rentals. For example, on the Feckenham Forest manor of Himbleton on the estate of the Prior of Worcester, a John the Charcoal-burner (*carbonarius*) held a cotland. His rent was 2s. in cash, a cauk of charcoal, and three days each of haymaking, harvesting, and weeding on the demesne. At Rugeley, a Cannock Forest manor of the bishop of Coventry and Lichfield, two tenants were surnamed Colier in 1297; one held 1 acre, the second 2½ acres. At Longden a third man surnamed Colier held a messuage and a curtilage.<sup>1</sup>

Four surviving early fourteenth-century forest accounts for the Cumberland Forest of Inglewood reveal the presence of a group of charcoal-burner peasants. Each year several men paid for licences to burn charcoal for part or the whole of the year. Altogether about two dozen charcoal-burners are mentioned by name in four accounts. None bought a licence in all of the four years, but one did in three. Several bought licences only once. In 1335-6 eleven, the highest number recorded for one year, paid between 1s. 6d. and 10s. each to work for periods ranging from half the winter to all the year round. Licences for the summer or winter or for only half the summer or half the winter are more common than those for a full year, and indicate that charcoal burning was normally a subsidiary, not a main, occupation. The forest accounts give no information about the holdings which we can assume these men to have had, but show that they often owned animals. One of them, John Cokeson, in 1326-7 paid 2s. for a licence to burn charcoal and 1s. 4d. to agist eight draught animals in the forest. This may well not have been his total stock. In 1335-6 his name does not appear among those buying licences to burn charcoal, but he had forty sheep and six pigs as well as several cattle in the forest.<sup>2</sup>

The surnames of the Inglewood charcoal-burners of this period are worth special mention. Of those with occupational surnames, a couple, as one would expect, are called Colier (or Charcoal-burner). One is called Wheeler. By this date (1326-7) the surname could be inherited, but this could also be an interesting case of a man combining two separate occupations. A couple have the Latin surname *Cinerarius*, and several are surnamed Askebrunner, or Ashburner. This suggests the manufacture of potash, used in the Middle Ages

<sup>1</sup> *Register of Worcester Priory*, ed. W. H. Hale, Camden Soc., 1865, p. 56a; S.R.O., D1734. J2268, ff. 21v, 2v.

<sup>2</sup> P.R.O., E.101/534/10 (1323-4); E.101/130/9 (1324-5); E.101/534/2 (1326-7); E.101/131/27 (1335-6).

in various industrial processes including glass manufacture, the latter also found at this date, as we shall see, in Inglewood. The same man was often ash-burner and charcoal burner. Richard *Cinerarius* paid 1s. for a licence to burn charcoal in 1323-4 and was amerced 3s. 4d. in December for cutting down wood "for ashes" (*ad cineras*). He agisted draught animals in the forest the year after. Richard le Askbrunner, who paid 2s. to burn charcoal in the summer of 1327, had at least six draught animals and ten pigs in the forest in that year, and young cattle in the forest in 1335.

The largest sum recorded in the surviving early fourteenth-century accounts from the sale of licences to charcoal burners in Inglewood was 39s. 6d., the total for 1335-6. One individual paid 10s. for a licence to work both summer and winter for one year. Both the total sum and the sum for individual licences are small compared with those paid by charcoal burners in the Forest of Dean, where the charcoal-burning industry was most developed in the second half of the thirteenth century. Two lists of sales of licences in this forest in the period Michaelmas 1278 to April 1279 survive. Together they record sales to about fifty-three men from the Dean villages of St Briavels, Dean, Staunton, Ruardean, Lidney, and Bicknor for a total of £101 5s. 6d., at rates ranging from 3s. to 10s. a week. The industry was clearly on a much larger scale here. Some individual charcoal burners paid quite considerable sums for licences to work. Roger Spore of St Briavels paid £6 11s. od. for twenty-three weeks' work between October and April, whilst Stephen Edy of Lidney paid £6 9s. od. for twenty-one weeks' work in the same period. Others were working on a smaller scale, buying licences to work for only two, three, or four weeks in the same period.<sup>1</sup>

Charcoal burners were sometimes wage-earners, employed by the king or local lords, but most of them, including many of those in Dean, seem to have been independent operators. Charcoal, like faggots and other fuel, was exported from forests both for the use of local landlords and for sale.<sup>2</sup> But probably the main market was provided by local fuel-consuming industries. Chief amongst these was the iron industry, established, as is well known, in many forests where iron-ore deposits had been found, and particularly important in the thirteenth century in the Forest of Dean. There were forges of very different sizes in thirteenth- and early fourteenth-century forests. One belonging to the king in Dean was estimated to be worth about £50 a year, and many local lords here, as in other forests, were privileged to work large forges in the royal forests and to take fuel for them.<sup>3</sup> Such forges may well have employed local

<sup>1</sup> P.R.O., E.32/333, E.32/334. It is possible that slightly fewer than fifty-three men were involved, as two or three men may have been given different surnames in the two lists and so counted twice.

<sup>2</sup> The export of charcoal from the Sussex and Kent Weald was prohibited in 1290.—*Cal. Close Rolls*, 1288-96, p. 70.

<sup>3</sup> Hart, *op. cit.*, pp. 31-2, 46-7. See also H. R. Schubert, *History of the British Iron and Steel Industry*, 1957, especially pp. 98-109.

peasants. Perhaps more interesting from our point of view are the much more numerous, small, often itinerant, forges, the *plures forgie errantes* of a 1282 Dean document, found in so many forests at this period. They were often temporary structures which could fairly easily be abandoned or moved to sites with easier access to fuel, and often worked sporadically for part of the year only. The Dean forges illustrate many of these points. Forty-three are listed in the 1270 eyre roll, mostly paying 2s. 4d., or half a mark, each. Fifty-eight are mentioned in a fuller list at the eyre of 1282. The forges had been working for periods ranging from seven years to a few months since the 1270 eyre. The amercements, virtually equivalent to licences, varied, presumably as a result of information about their size not revealed to us, ranging down from 10s. and 6s. 8d. per year.<sup>1</sup> Two men had two forges each, but the rest one only. Well over eighty individuals are mentioned in the two lists, three-quarters of them from the four Dean villages of St Briavels, Dean, Staunton, and Ruardean. The fluctuations in the numbers of these small forges in the pre-1282 period are characteristic of Dean all through the century. To some extent they were the result of intermittent royal fears about the destruction of the Dean woodland, but such fluctuations are widely found throughout the thirteenth-century forest iron industry.

The Forest of Dean was exceptional in the degree of development of both the iron and charcoal industries. The two were obviously closely connected, and the smiths and charcoal burners of the 1270's and 1280's were often, in fact, the same people. About twenty-three of the fifty-three charcoal burners named had forges in the forest at about the same time. Two of the most prominent charcoal-burner-smiths were the two men mentioned above, Roger Spore of St Briavels, and Stephen Edy of Lidney. The former paid half a mark for a forge in 1270 and two marks for two forges which had worked for seven years between 1270 and 1282. Stephen Edy similarly paid half a mark for a forge in 1270 and two marks in 1282, this time for one forge which had worked for ten years. Thomas Ian of Staunton, who paid £1 13s. 4d. to burn charcoal for the short period of four weeks between Michaelmas of 1278 and April 1279, operated a forge for five years in the pre-1282 period, for which he was amerced £1. The evidence suggests that the scale of operations of individuals varied considerably. Men such as Roger Spore and Stephen Edy must have been employers of labour. Perhaps their non-agricultural activities were on such a scale that they cannot, or can no longer, be regarded as peasants. It seems likely that most of the charcoal burners listed as paying 10s. a week were employing servants and not working alone.<sup>2</sup>

<sup>1</sup> P.R.O., E.32/29 m2; E.32/30 m23d.

<sup>2</sup> Dr Hart shows that early in the fourteenth century it took a man nine days to convert an acre of woodland to charcoal. Charcoal-burners working for the king were paid 2s. 3d. for this, or 3d. a day.—Hart. *op. cit.*, p. 63.

Unfortunately, no manorial documents survive to throw further light on these charcoal burners and smiths. But an interest in land is shown by the presentation of several of them for illegal assarts at the 1270 and 1282 eyres. Stephen Edy, for example, had taken eight crops from 1 acre in 1270, for which he paid 6s. and seven crops from 5 acres (described this time as "old assart") in 1282 for which he paid the high sum of 25s. Roger Fowel (?) of Ruardean, who paid for a forge in both 1270 and 1282, was presented at the later eyre for the assart of half an acre in partnership with Roger, son of Walter. They paid 2s. together for the seven crops they had taken.<sup>1</sup> A couple of the smiths were also presented at the 1282 eyre for the illegal export of wood from the forest by boat. One of them, the enterprising Stephen Edy, apparently kept a boat for this purpose at Lydney.<sup>2</sup>

The surnames of the Dean smiths named in 1282 deserve some comment. Thomas Lewelin, William of Hereford, and John of Hereford were presumably immigrants, perhaps attracted to Dean by the iron industry. Adam the Colier, who had operated a forge in the forest for six months in the years 1270 to 1282, was perhaps more charcoal-burner than smith, hence his surname. William the Sharsmith and Geoffrey the Nailer of Dean presumably specialized in the production of shares and nails at their forges. The surname Nailer occurs quite often in Dean documents, but the general term Smith (*Faber*) is much more common. Unfortunately, how nails, shares, or other iron objects, or even the charcoal reached their market is not revealed.

Small forges and peasant smiths were found in most thirteenth-century forests. In Knaresborough Forest, for example, in 1304-5, six small forges (called "nailsmiths" in a later account) paid a total rent of 22s. and in 1297 a lorimer paid 4d. for his forge.<sup>3</sup> Men with surnames derived from specialization in the iron industry are found in nearly all forest documents. The surnames Smith and Marshall are common in Wealden villages as shown by the Sussex Lay Subsidy of 1297; Smith, Marshall, and Lorimer appear frequently in the records of the 1285 forest eyre of Inglewood.<sup>4</sup> Often the surnames appear in contexts which show their owners to be peasants. For example, two smallholders on Cannock Manor in 1297 were surnamed Smith, whilst a Marshall at Rugeley held 4 acres. Three men surnamed Smith pannaged pigs in Rockingham Forest in 1295.<sup>5</sup> By far the most common surname of this sort is the general one Smith, but Marshall, Nailer, and Lorimer appear often. Arrowsmith and Cutler appear, but seem, at this period, to be rare.<sup>6</sup>

<sup>1</sup> P.R.O., E.32/29 m7d.; E.32/30 m18, 19.

<sup>2</sup> P.R.O., E.32/30 m24.

<sup>3</sup> P.R.O., SC.6/1085/1; *V.C.H. Yorks.*, II, p. 347.

<sup>4</sup> *Sussex Subsidies*, ed. W. Hudson, *Sussex Rec. Soc.* x; P.R.O., E.32/5.

<sup>5</sup> S.R.O., D1734. J2268, ff. 22v, 21v; P.R.O., SC.6/195/11.

<sup>6</sup> An Arrowsmith at Clitheroe (1294).—*De Lacy Compoti*, 1296, 1305, ed. P. A. Lyons, *Chetham Soc.*, CXII, p. 124; a Cutler at Rugeley (1327).—*Exchequer Subsidy Roll*, 1327, ed. G. Wrottesley, *Staffs. Hist. Coll.*, VII, p. 237.

The evidence, in particular the small sums paid for forges, suggests a fairly small scale of operations on the part of most individuals. But smiths were numerous and total output in several forests must have been considerable. Royal orders for army equipment, a great stimulus to the iron industry, were often for large quantities. For example, in 1254 as many as 30,000 horseshoes and 60,000 nails were purchased in the Weald.<sup>1</sup> Dr Hart estimates that at least half a million quarrels (crossbow bolts), and probably many more, were made in the Forest of Dean in the period 1223-97.<sup>2</sup> In this case, as often with army supplies, specially commissioned royal officers seem to have organized production.

Smiths were not, of course, found only in forest areas. By the thirteenth century most villages had their smith, and both smiths and more specialized iron workers were found in towns. Forest smiths produced roughly worked iron for further processing as well as manufactured iron objects. But there were undoubtedly many smiths in many forests turning out a range of basic iron objects. Indeed, the manufacture of iron objects was perhaps more developed than that of wood objects in thirteenth-century forests. It is revealing that royal orders for bulk supplies of iron objects in the early years of the Hundred Years War were made from four or five forest areas, in contrast to the widely diffused orders for bows and arrows.<sup>3</sup> This specialization is not altogether surprising in view of the particularly favourable circumstances for the development of the iron industry found in forests, that is the presence together of the accessible ores and fuel. Also, iron objects, which it was impossible for most people to make for themselves, would have a wider market than wooden ones.

Unfortunately, it has proved as difficult to find information about how forest smiths' iron or iron objects reached the market, as about the relationships between smiths, iron miners, and charcoal burners. Tolls were paid on the import of iron objects into towns, but it is not clear who brought them in. Records of royal purchases give little information about independent smiths beyond statements such as that which mentions one hundred iron rods purchased "from a certain smith in the Weald." The London ironmongers were apparently important customers of Wealden smiths and complained about their standards of work in 1300. It is known that these ironmongers put out work to nailers and smiths in London, but their dealings with Wealden smiths are obscure.<sup>4</sup>

Iron mining at this period is best documented in the Forest of Dean, where it was in the hands of the Free Miners described by Dr Hart.<sup>5</sup> Briefly, they were

<sup>1</sup> *V.C.H. Sussex*, II, pp. 241, 242.

<sup>2</sup> Hart, *op. cit.*, p. 49 and App. v.

<sup>3</sup> Hewitt, *op. cit.*, p. 70.

<sup>4</sup> G. A. Williams, *Medieval London*, 1963, p. 179; *V.C.H. Sussex*, II, p. 242; E. Straker, *Wealden Iron*, 1931, p. 33.

<sup>5</sup> C. E. Hart, *The Free Miners*, 1953, *passim*.

a body of locally born men, whose customs and privileges were recognized by the king, who taxed their product. They could dig for iron ore and have access to their mines through most of the forest. This, and the simple techniques and equipment used in their shallow pits, meant that small-scale independent mining enterprises of individuals or small groups of men were possible, and perhaps the norm, in the thirteenth and early fourteenth centuries. Elsewhere iron mines on forest manors were leased for small sums of money to the miners. In Cannock Forest, for example, an iron mine at Longden was leased for 12s. in 1284-5. In a 1297 rental a mine at Rugeley was estimated to be worth 1s. a week "when working."<sup>1</sup>

Mining for coal started in several forests in the course of the thirteenth century.<sup>2</sup> The mines, like iron mines, were usually shallow, giving access to surface or near-surface seams. They were abandoned when they became deep enough to be in danger of collapse or flooding. Little equipment was needed by miners and thirteenth-century forest coal mines were typically small-scale, sporadic peasant enterprises, and coalmining another way in which forest peasants diversified their activities. Small annual or weekly rents were paid for mines to the appropriate manorial lord or the king. The Cannock Forest mines revealed in the Longden manorial accounts were probably typical. In 1305-6, five separate pits were worked, each by one or two miners and for part of the year only. A rent of 6d. per week per pick was paid to the bishop. The longest time worked by one miner was twenty-seven weeks between March and Michaelmas, the shortest seventeen weeks between May and Michaelmas. The mines were evidently abandoned in the winter months when the weather deteriorated. The situation had changed somewhat by 1308-9. At that date two pits were working. One, with four picks, worked for forty-four weeks from February till Christmas, the second, with one pick, worked for twenty-eight weeks from February to Michaelmas.<sup>3</sup>

The names of the miners are recorded in the 1305-6 account, and look like peasant names. They include, for example, William, son of Sarre de Halsey (the latter a common local name), and Richard Hirdman. The uncertainties of thirteenth- and early fourteenth-century coal mining are shown by the fluctuations in the numbers and values of the mines and miners working both during the year and from year to year. For these reasons it was typically a part-time enterprise of men with other forms of income. The surname Coleman appears three times in the Longden rental of 1297, and is held by two cottars at nearby Brewood. The rental also records a coal mine at Cannock estimated to be worth 48s. a year.<sup>4</sup> Work in many of the forest industries could be done largely

<sup>1</sup> Dean and Chapter Library, Lichfield, N15; S.R.O., D1734. J2268, f. 20d.

<sup>2</sup> L. F. Salzman, *Medieval English Industries*, 1923, ch. 1.

<sup>3</sup> S.R.O., D1734. J2057.

<sup>4</sup> S.R.O., D1734. J2268, ff. 2d, 3d, 15d, 21d.

in the winter, but coal mining was exceptional. Peasant coalminers like those in Cannock presumably entrusted their holdings and stock to the care of their families for much of the year.

Another group of industries attracted by the easy availability of fuel was frequently, though not exclusively, sited in forests at this period. Amongst these was the glass-making industry, still very small, but established in several widely separate places. There is evidence of it at Bromley Hurst in Needwood Forest by the end of the thirteenth century, and nearby Abbot's Bromley had two taxpayers surnamed Le Glasmon in 1327.<sup>1</sup> Surnames recorded at the 1285 forest eyre (*Verrer*, *Vitrear*, and *Glasenwright*) show it was well established by that date in Inglewood Forest.<sup>2</sup> The only evidence of the industry in the surviving early fourteenth-century forest accounts, however, is the payment by a man called John Vitrear for a glass house (*logium in quo operatur vitrum*) and the right to take dead wood and ferns of 13s. 4d. in the 1320's and of 26s. 8d. in 1335-6. John Vitrear was a farmer as well as a glass worker; the 1335-6 payment included payment to agist his cattle in the forest, and he had paid additional agistment fees for cattle in 1323-4 and for pigs the year after.<sup>3</sup>

The industry is better known, though still inadequately documented at this date in the Weald. The 1297 Sussex tax list records two taxpayers surnamed Vitrear at Southover just outside Lewes,<sup>4</sup> but it was further north round the Sussex-Surrey border that the industry seems to have been most developed. A Laurence *Vitrearius* is mentioned in a pre-1240 Chiddingfold deed. G. H. Kenyon suggests that the furnaces shut down for part of the year, and that the industry provided opportunities for local peasants both in part-time employment at the furnaces and in the preparation of fuel of beech or oak billets, the latter probably a winter occupation.<sup>5</sup> It seems doubtful whether the initiative for the development of the glass industry would come from the local peasantry. Glass-making skills, even those necessary for the manufacture of rough forest glass, would not be widely known and traditional amongst the peasantry as were, for example, iron-making and potting skills. The market for glass at this period was still a small one. The Wealden glassmaker who is known to have been supplying glass from Chiddingfold for Windsor in the 1350's, John of Almaine, was probably a skilled immigrant craftsman.

Potting, though not as specifically a forest craft as glass-making and much more widespread, was practised in many forests in the thirteenth century. Men

<sup>1</sup> D. W. Crossley, 'Glassmaking in Bagot's Park, Staffordshire in the Sixteenth Century', *Post-Medieval Archaeology*, 1, 1967; *Exchequer Subsidy Roll*, 1327, ed. G. Wrottesley, Staffs. Hist. Coll., VII, pp. 208-9.

<sup>2</sup> P.R.O., E.32/5, m16, 17, 19.

<sup>3</sup> P.R.O., E.101/131/22; E.101/534/10; E.101/130/9; E.101/121/27.

<sup>4</sup> *Sussex Subsidies*, ed. W. Hudson, Sussex Rec. Soc., x, p. 51.

<sup>5</sup> G. H. Kenyon, *The Glass Industry of the Weald*, 1967, p. 15 and ch. 1.

surnamed Potter or Crocker appear frequently in documents of forest areas, as, for example, in the 1297 Sussex lay subsidy roll.<sup>1</sup> Potters with peasant tenements appear in the manorial documents of forest manors, for example, the Ordricus *Figulus* (Potter), who held an acre at Barston in Feckenham Forest in 1186, or Richard the Potter, tenant of a messuage and 1½ acres of land at Heywood in Cannock, in 1297. William Potter of Lacock illegally enclosed and cultivated 1½ acres of forest at Ash, Wiltshire, in 1270.<sup>2</sup>

Lime, though often burned for building operations on the site, was also burned in forests where there was plenty of fuel. In 1252, for example, the king had 1,400 quarters of lime burned in the Forest of Dean for works at the castles of St Briavels and Gloucester.<sup>3</sup> Independent lime-burners appear in the early fourteenth-century Inglewood forest accounts. They were fewer in number than the charcoal-burners, but often paid as much or more for licence to carry on their work. Like the charcoal-burners they were often men with animals in the forest and were presumably peasants working part time at a non-agricultural occupation. A good example is John Raull, who in the year 1335–6 both paid 6s. 8d. to burn lime in summer and agisted twelve draught animals and a horse in the forest.<sup>4</sup>

The industries discussed above, using the wood, fuel, and mineral deposits of the forests, though probably the most important, were by no means the only industries found in the thirteenth- and early fourteenth-century forests. The growing rural cloth-manufacturing industry of this period was found in some forest areas, but, as it was not in any sense an exclusively forest industry, it has not been dealt with here. Two more typical forest industries were tanning and rope making, both using tree bark. Corders are mentioned in Dean in 1255 and the surname Roper appears in the late thirteenth-century eyre rolls.<sup>5</sup> In Needwood the inner bark of lime trees was used to make what were called locally 'bastonropes'. Bark was regularly sold for this purpose, and an early fourteenth-century Hoarcross tenant of a half acre of land was called Thomas the Roper.<sup>6</sup> At Barrow-on-Soar in Charnwood Forest one tenant's services consisted of finding cords of bast for the lord's wagons and carts.<sup>7</sup> Tanning was forbidden in royal forests but practised there illegally nevertheless. It is found as a

<sup>1</sup> *Sussex Subsidies*, ed. W. Hudson, Sussex Rec. Soc. x. It seems likely that these scattered rural potters made earthenware, rather than copper or brass, pots.—G. Fransson, *op. cit.*, p. 184; P. Reaney, *op. cit.*, pp. 188–90.

<sup>2</sup> *Records of the Templars in England in the Twelfth Century*, ed. B. A. Lees, p. 35; S.R.O., D1734. J2268, f. 24d; *V.C.H. Wilts.*, iv, p. 411.

<sup>3</sup> C. E. Hart, *Royal Forest*, 1966, pp. 30, 49.

<sup>4</sup> P.R.O., E.101/534/10 (1323–4); E.101/130/9 (1324–5); E.101/534/2 (1326–7); E.101/131/27 (1335–6).

<sup>5</sup> *Cal. Pat. Rolls*, 1247–58, p. 450; P.R.O., E.32–30.

<sup>6</sup> J. R. Birrell, 'The Forest Economy of the Honour of Tutbury', *Univ. of Birm. Hist. Jnl*, viii, 2, 1962, p. 132; P.R.O., DL.29/1/3.

<sup>7</sup> G. F. Farnham, *Charnwood Forest and its Historians*, 1930, p. 50.

legal occupation in other forests, and also, of course, outside forest areas. The surname Tanner appears often in forest documents. There are Tanners in Inglewood in 1285, and another pannaged his pigs in Rockingham Forest in 1295.<sup>1</sup>

A rather different sort of forest industry was the trapping of birds, an occupation sufficiently profitable for some peasants to be prepared to buy annual licences to practise it, and in which some specialized enough for this to be reflected in their surnames. A 1297 rental of Haywood, Cannock Forest, records the payment of a few pence a year for licences to catch birds by several tenants. In Pickering Forest in 1334, four men, two surnamed Fowler, said to catch birds with birdlime, snares, and other contrivances, were fined sums ranging from 3d. to 3s. 4d. In Duffield Frith in 1313-14, 14s. 6d. was collected from fowlers for licences.<sup>2</sup> The size of the sums paid by individuals suggests, however, that this was, with few exceptions, a very subsidiary occupation.

There is evidence, then, of considerable industrial activity in the forests of thirteenth- and early fourteenth-century England. The Forest of Dean, with hundreds of woodcutters and charcoal burners, scores of miners and smiths, and a scattering of corders, potters, and other craftsmen, was perhaps exceptional. Few, if any, forests were without some industries, though there seems to have been little industrial development in some, for example, Sherwood and Rockingham. Inaccessibility and distance from the more advanced Midlands and east of England was no bar to the exploitation of forest resources, as the history of Inglewood demonstrates. The presence together in the forests of fuel and the raw materials mentioned was obviously a vital factor. However, there are other reasons why these resources were exploited at this time and in the manner described.

The attitude of local landowners and of the king, even in royal forest, was not as a general rule unfavourable. The iron industry constitutes a possible exception. In Dean, and in other forests such as Knaresborough, anxiety was felt about the rapid destruction of woodland which was inseparable from the industry. However, this seemed to result in no more than sporadic limitations on the numbers of forges. On the whole, policy in the royal forests in the thirteenth and early fourteenth centuries was designed rather to draw revenue from the controlled exploitation of certain forest resources than to enforce forest law so strictly as to prevent their use. The growing demand for forest products at this time made such a policy both advisable and profitable.

The numerous and increasing peasantry of forest areas were well placed to take advantage of these circumstances for a number of reasons. Amongst them

<sup>1</sup> P.R.O., E.32/5, mm. 14, 16, 21, 27; SC.6/195/11.

<sup>2</sup> S.R.O., D1734. J2268, f. 23d; *The Honor and Forest of Pickering*, ed. R. Bell Turton, North Riding Rec. Soc., N.S., IV, pp. 60, 69; P.R.O., DL.29/1/3.

are several of those suggested by Dr Thirsk as promoting the development of rural and not just forest industries.<sup>1</sup> The degree of agricultural specialization amongst the medieval peasantry can easily be exaggerated, but pastoral farming was probably sufficiently important in many forests, on peasant holdings and on the demesne, to leave many peasants time for off-farm occupations. In these areas labour services tended to be light, and the peasantry to be relatively free. The former, at least, is true even on the forest manors of a large episcopal estate such as that of the bishop of Coventry and Lichfield. Many of the peasants whose off-farm occupations are documented had only smallholdings, which would leave them with both inadequate income and time to spare. Smallholders were numerous on many forest manors but the land shortage of the late thirteenth century was not, on the whole, acutely felt in these areas. Conditions varied from one forest to the next, but there was usually land available for assarting, at a price. However, though again there are exceptions, it tended to be of mediocre quality for arable farming, making pastoral or non-agricultural activities more attractive.<sup>2</sup>

So forest peasant families must often have been less than fully occupied on their holdings. Work in several of the industries discussed was seasonal and irregular, and combined well with agriculture because of the different and often complementary work patterns. The combination of occupations brought dual advantages of security for the individual and cheapness of production.

The nature of the evidence seems to rule out any precise estimates of the respective contributions of off-farm and farm occupations in the incomes of individual peasants or of groups. Some slight indication of the scale of individuals' activities can perhaps be gained from the value of the sums paid for rents or licences for mines, forges, charcoal pits, etc. Fowling was presumably very subsidiary to the peasant fowlers who paid a few pence a year for their licences. It seems likely, on the other hand, that charcoal burning was the main occupation of the men who regularly paid several shillings a week for pits in Dean. But the commonly found intermittent work in this occupation here and elsewhere, for example, in Inglewood, suggests it was probably more often subsidiary to agriculture. The rents on peasant land were so variable and determined by so many different factors that a close comparison is impossible, but it is perhaps worth comparing these sums and the others noted above with the annual rents of from 4d. to 1s. per acre widely found for assart and demesne land at this period. Peasant woodcutters may have taken on work as they needed it, the number of days worked varying with the demand for their labour

<sup>1</sup> J. Thirsk, 'Industries in the Countryside', in *Essays in the Economic and Social History of Tudor and Stuart England*, ed. F. J. Fisher, 1961, pp. 86-7.

<sup>2</sup> At Longden in Cannock Forest, land was still being assarted in the early fourteenth century, but entry fines were high, often 10s. per acre. Assarting in thirteenth-century Dean was mentioned earlier.

and the situation of the individual peasant. The considerable opportunities for wage-earning in forests in felling trees or in jobs such as fencing forest pastures could be demonstrated from many forests. Two examples will be given. At Longden in Cannock in 1308-9 William the Knave, who according to a rental of 1297 was a neif holding 8 acres of arable and a rood of meadow, earned about 8s. on various jobs on the manor, including fencing, and felling alders. Part of the work was paid at the rate of 2d. per day, so altogether it probably represents about forty-eight days' work during the year. In the Earl of Lancaster's Derbyshire forest of Duffield Frith extensive pastures were leased, and regular repairs and renewal of fencing were consequently necessary. In 1313-14 fencing and the construction of a shed cost £14 15s. od. A penny per day was the rate for much of this work, which therefore represents about 3,500 days' work in all.<sup>1</sup> Some jobs, such as woodcutting, could much more easily be taken up and abandoned than others such as those involving furnaces. The latter would demand more complicated equipment, as well as less widely possessed skills. However, for the most part the equipment needed for the occupations discussed was not so complicated or expensive as to rule out independent peasant participation, and most of the necessary skills were traditional.

It is worth making the point that peasant craftsmen in forest villages were often reasonably prosperous by peasant standards. This is indicated by their frequent appearance in tax lists, where they were often by no means the poorest taxed. At the date of the 1332 Fifteenth, two of the Inglewood charcoal burners mentioned in the accounts had taxable goods valued at £2 5s. od. and £3 os. od. Not all were so prosperous, however, and Robert and Richard Askebrenner's goods at the same date were assessed at 13s. and 15s. respectively.<sup>2</sup> Tax lists do not, of course, include those whose goods were valued at less than a certain level. Nor were all peasant craftsmen smallholders. Two men surnamed Coleman had standard customary arable holdings of 13 and 15 acres each at Longden in Cannock Forest in 1297. A Turner at Barston, Feckenham, in 1186 held one virgate.<sup>3</sup>

The evidence is perhaps weakest on the subject of the organization of the forest industries, and it is difficult to add anything to what has been said above. The role, if any, of merchant entrepreneurs in stimulating production for the market, for example, is still obscure and merits further research. But whatever the limitations of the evidence, it is sufficient to suggest that thirteenth-century forest and rural industries should be studied with reference to the peasant

<sup>1</sup> S.R.O., D1734. J2057, J2268, f. 4v; P.R.O., DL.29/1/3.

<sup>2</sup> J. P. Steel, *Cumberland Lay Subsidy*, 1912, pp. 13, 29. It is interesting to note in this context the point made by Miss B. Harvey that in 1332 at Pyrford, on the edge of Windsor Forest, some smallholders were taxed more highly than peasants with standard customary holdings.—'The Population Trend in England, 1300-48', *Trans. Roy. Hist. Soc.*, 16, 1966, p. 29.

<sup>3</sup> S.R.O., D1734. J2268; *Records of the Templars*, ed. B. A. Lees, p. 35.

economies in which they developed, and that peasants at this period should not be regarded as wholly dependent on agricultural incomes. In fact, both the forest economy and the peasant economy of forest regions at this date were more complex than has sometimes been supposed.

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## Letters to the Editor

MADAM,—I was most interested in the letter of Dr Hooper in vol. 16, pt 1, of the REVIEW regarding the age of hedgerows. I have noticed that in this parish the older hedges contain many more species of trees than the more modern, which were planted at the enclosure of Clanfield in 1840. The latter seem to have been all hawthorn. Now, however, even these hedges have odd elms, elder, dog rose, and bramble. Unfortunately, I do not know the date of the older hedges around some earlier enclosures and around the open fields.

One problem which complicates the dating of the oldest hedges is that we do not know whether a hedge just grew wild on an uncut bank, or whether it was planted, and, if so, with how many types. I do not feel that the old idea that the open field was surrounded with a dead latticed fence is very sound. I would think that the Saxons knew the value of a live fence, both to keep large animals out, and to provide fuel when it was cut and laid about every seven years. One thing I believe we do know is that they surrounded their haws with a thorn hedge, for the name hawthorn tells us this.

One point of interest in Clanfield is to see how the fences used in 1850 at the enclosure of Burroway meadow, now part of Clanfield, subsequently filled up with hawthorn. The fence was used across the river valley instead of a hedge so as not to impede the flood water. The hawthorn came from the droppings of birds, for after eating their fruit, they rested on the fence, and the bushes sprouted from their droppings.

E. A. POCOCK

WINDMILL FARM,  
CLANFIELD, OXON.

MADAM,—I wonder whether any of your readers could help me to discover the average size of hens' eggs in England in the middle of the nineteenth century. The information I have so far is still somewhat scanty and further details would help me greatly in my studies of nineteenth-century recipes.

N. KURTI

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## NOTES ON CONTRIBUTORS

Alan R. H. Baker is lecturer in historical geography at the University of Cambridge. He has published articles on Kentish and French rural settlement and field patterns, and an evaluation of H. L. Gray's views on English field systems.

Jean Birrell is lecturer in economic history at the University of Sheffield. She is studying the economy of the medieval English forest.

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*(Continued on page 119)*

# A Dual Economy in South Yorkshire

By DAVID G. HEY

THE Hearth Tax returns for Ladyday, 1672<sup>1</sup> show that the South Yorkshire parish of Ecclesfield had an economy that was doubly based upon agriculture and the working of iron and steel. It was the type of community in which a large number of craftsmen combined their labour in the workshop with the cultivation of a small farm—the type that could be found in many other areas, such as the lead-mining villages of Derbyshire, or the hamlets and villages of the clothing district of the West Riding.

The parishes of South Yorkshire had economies that ranged from the purely agricultural in the east to the semi-industrial in Sheffield and Attercliffe, where even by 1672 there was a smithy to every three households. Ecclesfield lay between the two extremes, for one household in every seven or eight had its smithy. The southern part of the parish was involved in the Sheffield cutlery trade, while the northern part was the recognized centre of a flourishing nail-making craft. The cutlers were dependent upon Sheffield factors, while the nailers were organized by the Spencer Syndicate,<sup>2</sup> which mined, smelted, and slit the iron, supervised the distribution of rods and the collection of the completed nails by its nailchapmen, and finally exported them from the inland port of Bawtry. Both the nailers and cutlers were typical craftsmen of the Domestic System.

It is often assumed that this type of community was somehow inferior to a purely agricultural one. Not so: it was an undoubted advantage to have such a dual economy. In the first place, the number of people who were too poor to pay the Hearth Tax was nowhere near as high as in some other parts of the country which were solely dependent upon agriculture. The Leicestershire returns for 1670,<sup>3</sup> for instance, give a figure of 30·57 per cent exempt for the whole county, while figures from the Devonshire returns for 1674 suggest that the number who were too poor to pay was at least a third of the total households, while in many parishes the percentage was even higher.<sup>4</sup> But in Ecclesfield only 10·4 per cent of the 308 households were granted exemption, and in Sheffield the figure was only 13·1 per cent. Some inflation of the Ecclesfield

<sup>1</sup> West Riding County Library, Wakefield. The smithies were recorded separately as a test-case was before the courts to see whether they should be exempt from payment.

<sup>2</sup> For the organization of the Spencer Syndicate (though not the nail-trade), see A. Raistrick and E. Allen, 'The South Yorkshire Ironmasters, 1690-1750', *Econ. Hist. Rev.* ix (Old Series), 1939, pp. 168-85.

<sup>3</sup> *V.C.H. Leicestershire*, vol. III, pp. 170-2.

<sup>4</sup> Unpublished figures kindly supplied by Professor W. G. Hoskins.

figures may be necessary, as an almshouse had been built in 1638, and there must have been a few paupers living there in 1672, but other parish records show that the poor were not yet a major problem, and the almshouse was not converted into a workhouse until a hundred years after its erection. There can be no doubt that a large number of people who would have been landless poor in other areas were able to keep above the poverty line by working long hours crouched over their anvils in their smithies, hammering the metal into the shape of a nail or a knife.

But this type of economy did not narrowly escape the spectre of poverty. They were not men who desperately turned to their craft in order to make the living that their small farm could not provide. Many cutlers and nailers were more prosperous than the husbandmen, and could occasionally rank with the yeomen. Nor should we look at this economy simply from the point of view of material standards. There was (and still is) a lot to be said for it, for a dual occupation could provide a more varied and attractive way of life, with spells in the open air on the farm providing relief from the heat and sweat of the smithy.

Certainly, such a life was not considered inferior at the time. There was no social barrier between working upon the land and working at a craft. The yeomen thought it no disgrace to apprentice their younger sons as cutlers or nailers; while the gentry invested their money in mining and counted the chapmen amongst their friends. Gerard Kirk, the gentleman tenant of Cowley Manor, for instance, appraised the inventory of Nicholas Gills, a neighbouring nailchapman who died in 1736, leaving personal estate worth £1,925.

An analysis of the 1672 Hearth Tax returns shows Ecclesfield as a typical South Yorkshire parish, with a social structure which consisted of a broadly based social pyramid tapering at the top to accommodate a few resident gentry.

TABLE I  
ECCLESFIELD HEARTH TAX RETURNS, 1672\*

| No. of poor | % of total | 1 Hearth |      | 2 Hearths |      | 3-5 Hearths |      | 6-9 Hearths |     | 10+ Hearths |     | Total households |
|-------------|------------|----------|------|-----------|------|-------------|------|-------------|-----|-------------|-----|------------------|
|             |            | No.      | %    | No.       | %    | No.         | %    | No.         | %   | No.         | %   |                  |
| 32          | 10.4       | 126      | 40.9 | 73        | 23.7 | 66          | 21.4 | 9           | 2.9 | 2           | 0.6 | 308              |

\* The table has been constructed in the manner suggested by Professor W. G. Hoskins in *Industry, Trade and People in Exeter, 1688-1800*.

We are working upon the assumption that a man's social and economic status is broadly and generally reflected in the number of hearths in his house. Several yeomen were included in the group that had between two and five hearths, and one in every nine or ten of the same group were men who described themselves

as nailers or cutlers. Nine of these craftsmen had two hearths (exclusive of the smithy), and seven others had three.

This evidence of the prosperity of some craftsmen is amply supported by an analysis of probate inventories.<sup>1</sup> Although insufficient survive for gentry estates to be analysed, there is plenty of material for us to compare the yeomen and husbandmen with the nailers and cutlers. Twenty-one yeomen left inventories that are complete enough to form a good sample from all over this large parish. They are of interest in themselves as well as for comparison with the craftsmen.

In Table II the inventories have been analysed by dividing the personal estate into three classes: (1) personal goods in the rooms for relaxation and sleeping—the house, parlours, and some chambers—and including the “purse and apparel” and the “hustlement,” or odds and ends; (2) goods in the service rooms—the kitchen, buttery, pantry, cellar, and brewhouse; (3) goods associated with the farm—crops, animals, and items in farm buildings and outhouses. This division cannot be entirely accurate as some items are lumped together and others are illegible. There is also the usual problem of occasional under-valuation and obvious omissions. The total for capital in the form of bills, bonds, debts, rents, leases, etc. has been deducted from the grand total when working out the percentages, which may be inaccurate up to 2 per cent. That is enough for our purposes.<sup>2</sup>

An inventory only valued a person's personal estate, and no record was made of real estate. If we eliminate freak results by taking a median average, John Jackson of Butterthwaite (1754) emerges as the typical yeoman, as far as personal estate goes, with goods worth £128 10s. 0d. There are no obvious developments as the century progresses.

In nearly every case the value of the farm goods far outweighs all the possessions in the house. The median average, both in the value of the farm goods compared with other yeomen, and in the percentage of wealth invested in farming stock compared with other possessions, is Hugh Fenton of Wadsley (1697–8) with £67 14s. 2d. worth of farm goods, amounting to 68 per cent, or two-thirds of the whole. This is not the place to analyse furniture and household possessions, but it does not seem as if these yeomen were over concerned with luxurious living conditions. This ties in with the small number of hearths recorded for some of them in 1672. Nor does the picture alter in the later inventories. The general impression is of farm-houses with a working atmosphere about them.

<sup>1</sup> The transcripts of Crown copyright records at the Borthwick Institute of Historical Research, York, appear by permission of the Controller of Her Majesty's Stationery Office.

<sup>2</sup> Where no inventory date is given, the date that the will passed the Surrogate at York is given in brackets.

TABLE II  
YEOMEN'S INVENTORIES FOR ECCLESFIELD PARISH, 1689-1785

| Name             | Date          | Total Estate<br>£ s. d. | Bonds etc.<br>£ s. d. | 1. Personal<br>Goods<br>% | 2. Service<br>Rooms<br>% | 3. Farm<br>Work<br>Goods<br>% |
|------------------|---------------|-------------------------|-----------------------|---------------------------|--------------------------|-------------------------------|
| William Smith    | 24.1.1688/9   | 83 7 2                  | 47 18 0               | 51.4                      | 11.4                     | 37.1                          |
| Edward Creswick  | 8.6.1692      | 90 1 0                  | 44 16 0               | 75.4                      | 8.8                      | 15.4                          |
| Joseph Shaw      | -10.1697      | 115 18 2                | —                     | 34.5                      | 1.0                      | 64.5                          |
| Hugh Fenton      | 3.2.1697/8    | 100 3 4                 | —                     | 32.0                      | 0.5                      | 68.0                          |
| George Booth     | 8.9.1707      | 47 8 0                  | —                     | 44.9                      | —                        | 66.0                          |
| Jon. Hargreaves  | (Sept. 1709)  | 49 6 0                  | —                     | 28.5                      | —                        | 71.4                          |
| John Booth       | 10.5.1726     | 1789 9 1                | 1704 18 7             | 36.5                      | 1.2                      | 62.4                          |
| Samuel Carr      | (Feb. 1726/7) | 275 7 10                | —                     | 15.3                      | 3.3                      | 81.4                          |
| Nat. Wilkinson   | (Sept. 1730)  | 168 15 7                | —                     | 20.1                      | 4.7                      | 75.2                          |
| Robert Carr      | (July 1731)   | 199 6 6                 | —                     | 15.0                      | 6.5                      | 78.9                          |
| Jos. Machon      | -11.1731      | 269 19 8                | —                     | 20.4                      | 5.9                      | 74.9                          |
| Silvanus Roberts | (Sept. 1732)  | 155 4 0                 | —                     | 43.9                      | 3.9                      | 52.9                          |
| Edward Stones    | -11.1732      | 216 13 6                | —                     | 14.7                      | 0.4                      | 84.8                          |
| John Morehouse   | 5.6.1741      | 57 8 6                  | —                     | 29.3                      | 1.7                      | 70.1                          |
| Thos. Cutbert    | 16.2.1743/4   | 77 1 0                  | —                     | 35.1                      | 3.9                      | 59.9                          |
| John Jackson     | 3.4.1754      | 128 10 0                | —                     | 27.3                      | 3.1                      | 69.5                          |
| Wm. Wilkinson    | 15.6.1758     | 166 14 6                | —                     | 29.9                      | 8.4                      | 62.3                          |
| Jos. Dearden     | 16.1.1769     | 55 18 6                 | —                     | 69.6                      | 7.1                      | 24.5                          |
| Barnard Royston  | 29.8.1781     | 93 17 0                 | 80 0 0                | 57.1                      | 6.0                      | 35.7                          |
| Robert Johnson   | 5.12.1781     | 140 0 0                 | 65 0 0                | 16.0                      | —                        | 82.7                          |
| John Wingfield   | (May 1785)    | 197 17 6                | 71 0 0                | 30.7                      | 0.4                      | 69.2                          |

As Hugh Fenton is also only two below the median average for the total personal estate, we may quote his inventory in full as being that of a typical Ecclesfield yeoman.

INVENTORY OF HUGH FENTON OF WADSLEY, YEOMAN, 1697/8

"His purse and Apparrell: £5. 0. 0.

In the Dwelling house: 1 Range, 1 Recking, a pair of tongs, 1 tost Iron, frying pan, 1 Spitt & a pair of Racks 6.8, 3 brasse potts, 3 brass Skelletts £1. 0. 0., 2 brasse panns £1. 4. 0., 1 Iron pot & pot hookes 3.0, 1 Long table & 2 formes 10.0, 3 Seild Chaires 3 buffetts 5.0, 1 Cubbord, £1.0.0.

Certaine pewter & 2 brass Candlesticks 12.0., Certain Quishions & Woollen yarn 8.0.

In the old parlour: 1 Seild bed & furniture £5.0.0., 1 Cupboard & certaine bedding in it £1.10.0., 1 bed hilling, 2 large boulsters & 2 pillowes, 2 pair of Sheets & table linnen £3.12.0, 1 long table & 2 little formes 10.0., 1 ( ) table & 2 Chaires 10.0.

In the new parlor: 2 Chests 1 Wool Wheele & a line wheele 10.0.

In the Middle parlor: 1 Meal Ark & certain Oat meal in it £1.6.8., 1 little table & certaine Wooden Vessels 12.0., Certaine pewter, a lanthorn & a Ring 8.4., a little Ark & a tresle a ( ) credles & trenchers 2.6.

In the Buttery: 2 tables, 4 boards, 1 fleshkitt, certaine Earthen Vessells, 1 pair of weights 10.0.

In the Chamber over the house: 1 Seild bed & furniture £1.5.0., 1 little table & a little Ark 4.0.

In the Chamber over the parlor: 1 Seild bed & furniture to it £2.0.0., 1 Seild bed & a fether bed £1.10.0., 1 Chest & 1 Ark 10.0., Certaine Wool 6.0., 1 Window Cloath, 7 Sacks, 1 Cloath bagg & 2 baggs 10.0., 1 press & 1 great Chest £1.0.0.

In the Chamber over ye new parlor: 1 Chest 4.0., 1 parcell of Bottams £10.0.0.

In the Workhouse: Certain Working tooles & Wood there £2.0.0.

In the Smithy: Certaine Cowper ware there £5.0.0.

In the Stable: 2 Old Mares, Sables, & other gaires £3.0.0.

In the Barne: Certaine Oates thrasht & unthrashed £5.0.0., Certaine hay £2.10.0.

A Stack of hay in the fould £2.10.0., a pease Stack £1.0.0.

In the Whainehouse: 2 Whaines, 2 Carts, 1 plow & Irons, £2.0.0.

In the Fould: 2 Bullocks, 3 Cowes £21.10.0. 4 Calves £4.0.0., 2 Swines £1.10.0. 10 Sheep £2.0.0., Manure in the fould £1.5.0., 12 horse loads of lime 12.0.

Corne Sowne on the ground £1.16.6., 1 Kimmell at Bennetts 10.0., 2 horse harrowes 6.8., Clover Seed Sowne on the ground 16.0., 1 Gavelock 3.0., Certaine Pullen with forkes, Spades, stone troughs, Sives, Scuttles, forkes and all other things & hustlements in and about the house and not before prised 5.0.

TOTAL: £100.3.4."

Just below the yeomen in the social scale came the husbandmen. The distinction between the two was not a hard-and-fast one; a few husbandmen were more wealthy than the average yeoman, but generally they were not as prosperous. If we had figures for real estate the distinction might be clearer. Many husbandmen, like Joseph Machen of Hunter House, leased their land from the Duke of Norfolk, the absentee lord of the manor. Inventories have survived in suitable form for fifteen 'husbandmen' and eight 'farmers'.<sup>1</sup>

The median average for total personal estate is the last one, Jeremiah Downing of Wadsley (1787), with £91 19s. 6d. The farm goods of the husbandmen accounted for an even greater proportion of the total estate than did those of the yeomen. Jeremiah Downing is again the median average with 72.7 per cent invested in farming, so his inventory is given in full.

#### INVENTORY OF JEREMIAH DOWNING OF WADSLEY, HUSBANDMAN, 1787

"House: Clock, 1 Gun, 18.0, Dresser 5.0, Pewter & Case 10.6, a Table 5.0, 2 Cuberts, fender, Grate, 5.0, Squab, 1 Range 5.0, 6 Chairs, Poker & Tongs, 10.6.

Parlour: 1 Bed, 2 Tables, 6 Chairs, 2 Couberts, £2.2.0, 1 Silver Pint, 6 Tea Spoons, Silver £1.10.0, 1 Range & Hand Board 3.0.

Chambers: 4 Beds & Bedings £2.17.0, 1 Close Press, 1 Chist of Drawers, £1.1.0, 2 Chists, 1 Glass 10/6.

Kitchin: 2 Tubs, 1 Kit, 1 Churn 10.0, 2 Pots, set, Blows, Dishes, etc. 12.0.

Laith, Stable & Outhousing: Corn to Thrash £10.10.0, Hay £10.10.0, a Stack of Hay £5.5.0, 6 Horses £9.0.0., 3 Cows £12.12.0.

<sup>1</sup> Marked 'H' or 'F'.

Fold: 1 Waggon 1 pair of Cuts £5.12.0, 1 Cart £1.1.0, 1 Plow Harrow 10.0, Horwe Gears etc. 10.0.

Cloths and Apparel: £8.5.0.

Credit: £17.0.0.

Appraised: Titus Kent."

TABLE III  
HUSBANDMEN'S INVENTORIES FOR ECCLESFIELD PARISH, 1696-1787

| Name             | Date          | Total Estate<br>£ s. d. | Bonds etc.<br>£ s. d. | 1. Personal<br>Goods<br>% | 2. Service<br>Rooms<br>% | 3. Farm<br>Work<br>Goods<br>% |
|------------------|---------------|-------------------------|-----------------------|---------------------------|--------------------------|-------------------------------|
| John Wood        | H 10.12.1696  | 180 12 8                | 8 0 0                 | 23.1                      | 8.7                      | 66.5                          |
| John Nightingale | H 3.6.1697    | 151 12 2                | 58 0 0                | 36.2                      | 4.2                      | 59.6                          |
| Hy. Wilkinson    | H 12.10.1700  | 93 3 4                  | —                     | 19.3                      | —                        | 80.6                          |
| George Smith     | H 7.12.1704   | 40 11 6½                | Debts of 47.19.4½     | 26.1                      | 1.7                      | 73.8                          |
| Jonathan Beet    | H 4.1.1704/5  | 137 5 0                 | Debts of 19.10.0      | 21.7                      | 1.9                      | 76.4                          |
| Mark Booth       | H 1.12.1709   | 88 9 2                  | —                     | 23.8                      | 0.4                      | 75.2                          |
| James Twybill    | H 5.1.1713/4  | 1070 11 4               | 760 0 0               | 16.1                      | 4.1                      | 79.7                          |
| Wm. Cuthbert     | H 25.4.1718   | 271 11 6                | 35 1 10               | 29.4                      | 7.3                      | 62.5                          |
| Jas. Staniforth  | H (July 1719) | 117 16 2                | 19 3 4                | 18.2                      | 2.4                      | 78.8                          |
| Wm. Smith        | H 30.9.1727   | 90 1 6                  | —                     | 23.3                      | 0.7                      | 75.5                          |
| John Carr        | F 30.10.1728  | 358 7 11                | 231 3 5               | 30.7                      | 13.4                     | 55.9                          |
| Jas. Wilkinson   | F 16.5.1730   | 64 15 2                 | —                     | 29.1                      | 16.9                     | 53.8                          |
| John Wood        | H 30.3.1733/4 | 90 17 2                 | —                     | 28.5                      | 4.4                      | 67.0                          |
| John Hives       | H 23.8.1751   | 201 19 6                | —                     | 20.3                      | 6.0                      | 73.7                          |
| Richard Law      | F 14.1.1760   | 19 13 6                 | 7 0 0                 | 23.1                      | —                        | 76.9                          |
| Wm. Goodwin      | F 23.2.1760   | 18 12 0                 | —                     | 36.8                      | 4.7                      | 57.9                          |
| Jos. Machen      | F 19.1.1765   | 156 3 0                 | —                     | 22.4                      | 5.1                      | 72.4                          |
| Wm. Domms        | F 8.3.1765    | 238 14 5                | 100 0 0               | 15.9                      | 0.9                      | 81.2                          |
| John Cutbart     | H 23.10.1769  | 73 17 11½               | Debts of 17.10.10½    | 20.8                      | 0.8                      | 80.2                          |
| Thos. Cocking    | F 14.3.1776   | 38 6 4                  | —                     | 50.0                      | 1.3                      | 47.4                          |
| James Foster     | F 4.4.1776    | 84 17 4                 | —                     | 28.2                      | 2.3                      | 69.4                          |
| Joseph Carr      | H 5.3.1783    | 62 17 6                 | —                     | 34.8                      | 8.4                      | 55.5                          |
| Jeremiah Downing | H -1.1787     | 91 19 6                 | 17 0 0                | 25.3                      | 1.3                      | 72.7                          |

We can now return to the craftsmen to see how they compare with those who relied solely upon farming. Probate inventories have survived for fourteen nailers. (Table IV.)

The analysis clearly shows the importance of the farm. No great capital was needed to set up a workshop, but only three nailers had no farm stock at all. The median average is represented by Robert Cawood with 39.6 per cent of his personal estate involved in farming, or Thomas Parkin with 35.1 per cent. This is not as much as with those who were solely dependent upon farming, but it is still a substantial sum. Parkin's stock consisted merely of one cow; Cawood had "1½ Acres of Wheat, £3 os. od.; 2 Acres 1 Rood of Oats, £1 5s. od.; ½ Acre of Beans, 15s. od.; 4 Acres 1 Rood of Hay, £3 15s. od.; more Hay and Straw in the Laith, 10s. 6d.; Corn in the Chamber, £2 18s. od.; 2 Cows, £8 os. od.; Manure £1 1s. od." and a few tools and sacks worth 14s. 6d. Obviously, with a farm of

TABLE IV  
NAILERS' INVENTORIES FOR ECCLESFIELD PARISH, 1694-1769

| Date           | Name           | Part of Parish     | Total Personal Estate<br>£ s. d. | Bonds, etc.<br>£ s. d. | Personal<br>Goods<br>% | Farm<br>Goods<br>% | Smithy<br>Tools<br>% |
|----------------|----------------|--------------------|----------------------------------|------------------------|------------------------|--------------------|----------------------|
| 12 Oct. 1694   | Edward Beet    | Woodseats          | 53 16 10                         | Owes 14 13 0           | 28.7                   | 71.3               | —                    |
| 31 Jan. 1701/2 | Richard Parkin | Mortomley          | 80 8 3                           | —                      | 18.7                   | 81.8               | —                    |
| 4 Sept. 1721   | John Fawley    | Ecclesfield        | 31 19 6                          | —                      | 28.1                   | 67.2               | 4.3                  |
| 21 Dec. 1729   | Jos. Walker    | Stubbing House     | 67 17 4                          | —                      | 17.6                   | 80.9               | 0.7                  |
| — Mar. 1735/6  | Nicholas Gills | Chapeltown         | 1925 0 0                         | 1740 0 0               | 92.4                   | 6.4                | 1.1                  |
| — Mar. 1737    | Samuel Booth   | White Lane Head    | 312 11 0                         | 235 0 0                | 39.0                   | 58.4               | 3.3                  |
| 25 Feb. 1737/8 | Jos. Smith     | Potter Hill        | 17 17 6                          | —                      | 69.4                   | 27.7               | 2.7                  |
| — Feb. 1737/8  | Geo. Parkin    | Middleton Green    | 14 16 6                          | 5 0 0                  | 100                    | —                  | —                    |
| 12 Sept. 1739  | Wm. Walker     | Hall Wood Head     | 19 10 8                          | —                      | 15.8                   | 84.2               | 0.1                  |
| — Sept. 1743   | Thos. Parkin   | Mortomley Lane End | 18 4 0                           | 11 12 6                | 64.3                   | 35.1               | —                    |
| — May 1744     | Robt. Cawood   | Ecclesfield        | 92 16 11                         | 35 0 0                 | 58.5                   | 39.6               | 1.7                  |
| 3 Sept. 1750   | Thos. Walker   | Hallfield Head     | 17 7 8                           | 5 5 0                  | 68.2                   | 21.5               | 9.5                  |
| 25 Oct. 1750   | John Senior    | Chapeltown         | 27 11 8                          | —                      | 100                    | —                  | —                    |
| 28 Oct. 1769   | John Booth     | Grennowoodhead     | 34 0 4                           | 23 10 0                | 100                    | —                  | —                    |

this size, nailmaking could not be a full-time occupation but was a seasonal industry. According to William Murgatroyd,<sup>1</sup> the clerk at Wortley Forge, which supplied most of the rod iron, the men worked from March to August on making clasp nails for London. During the harvest nailmaking stopped, but then during the autumn flat points were made for Virginia until Martinmas, then sharp points were made for the Leeward Isles and Jamaica until it was time to till the soil again.

An analysis of the personal estate of twenty-nine cutlers reveals much the same pattern. (Table V.)

The median average for the total personal estate was valued at £35 12s. od., which almost matches the £31 19s. 6d. and £34 os. 4d. of the two typical nailers. As with the nailers, most of the cutlers were also farmers, with a median average of 39.2 per cent of personal estate involved in farming, matching the 35.1 per cent or 39.6 per cent of the nailers. The cutlers and nailmakers had very similar occupations and only the geographical position of the village or hamlet determined the branch in which they worked.

The value of the tools and goods in the cutlers' smithies provides the only contrast with the nailers, who often did not bother to record them in their inventories, or who paid scant attention to them. The most valuable only amounted to £2 10s. od. and they belonged to a nailchapman. The median average was less than 1 per cent. But the cutlers often listed their tools in great detail and the median average was 13.3 per cent of the total estate, or £5 os. od. in value.

The median average for cutlers' personal estate was Andrew Revill. His inventory is typical of the ones that survive, though no doubt the poorest nailers and cutlers left no such records.

INVENTORY OF ANDREW REVILL OF ECCLESFIELD PARISH, CUTLER, 4 JULY, 1751

"Purse & Apparel: £1.0.0.

Kitchin: Range Reckonhook toasting fork and other small things 5.0, A Clock, 9 Chairs, a Table, a Dresser 17.0, a pewther Warming pan £1.0.0.

Parlour: 8 Chairs a Table 5.0., Bed and certaine Beding £1.1.0

Buttery: 3 Barrills a Churn 2.6.

Near Chamber: 2 half headed Beds and 2 Ceild Beds £1.5.0., 2 Chests 4.0.

Far Chamber: 2 Beds and Certaine Beding 15.0., an Ark and a Chest 5.0.

Brewhouse: 3 Iron Pots 7.6., a Tub 2 Kitts flasket 4.0.

Lathe: Sertaine Horns £1.10.0., & some Hay £2.0.0.

Smithey: a pair of Bellows 10.0., an anvell and Stock Coultrough £1.10.0. a Vice, 2 pair of presses £1.1.0.

<sup>1</sup> G. G. Hopkinson, 'The Charcoal Iron Industry in the Sheffield Region, 1500-1775', *Hunter Archaeological Society Trans.*, VIII, 1963, p. 150.

TABLE V  
CUTLERS' INVENTORIES FOR ECCLESFIELD PARISH, 1692-1789

| Date          | Name              | Part of Parish | Total Personal Estate<br>£ s. d. | Bonds, etc.<br>£ s. d. | Personal<br>Goods<br>% | Farm<br>Goods<br>% | Smithly<br>Tools<br>% |
|---------------|-------------------|----------------|----------------------------------|------------------------|------------------------|--------------------|-----------------------|
| 30.11.1692    | Richard Milner    | Wincobank      | 103 19 0                         | 26 0 0                 | 40.0                   | 52.6               | 8.1                   |
| 18.11.1693    | John Parkin       | Southey        | 39 5 4                           | —                      | 63.3                   | 28.2               | 8.6                   |
| 3.1.1693/4    | Leonard Coumbe    | Shiregreen     | 170 1 8                          | 47 1 0                 | 24.0                   | 70.8               | 5.1                   |
| 6.8.1697      | Wm. Smith         | Bellhouse      | 82 8 1                           | —                      | 41.4                   | 45.1               | 13.8                  |
| 16.1.1702/3   | Jonathan Shaw     | Wadsley Br.    | 18 5 1                           | 6 18 0                 | 63.5                   | 36.3               | 0.1                   |
| 5.8.1703      | Jos. Hobson       | Wadsley        | 2 2 6                            | —                      | 100.0                  | —                  | —                     |
| 8.5.1713      | Jno. Staniforth   | Owlerton       | 25 14 0                          | —                      | 51.1                   | 39.2               | 8.6                   |
| 24.11.1713    | Jos. Eller        | Wadsley Br.    | 39 2 2                           | 2 0 0                  | 10.1                   | 73.0               | 17.0                  |
| 20.1.1713/4   | Henry Shaw        | Wadsley        | 31 3 0                           | 7 0 0                  | 46.6                   | 42.7               | 10.8                  |
| 12.12.1726    | Thos. Eyre        | Grenoside      | 18 4 6                           | —                      | 40.3                   | 52.8               | 6.4                   |
| 30.1.1728/9   | Nathan Staniforth | Owlerton       | 11 15 6                          | —                      | 38.8                   | 45.8               | 13.3                  |
| Sep. 1730     | James Holmes      | Ecclesfield    | 30 4 2                           | —                      | 66.6                   | 34.5               | —                     |
| April 1733    | Jno. Trickett     | Bellhouse      | 106 9 8                          | 50 15 2                | 38.5                   | 43.0               | 18.2                  |
| Feb. 1734/5   | Rbt Mathewman     | Wadsley        | 9 3 0                            | —                      | 77.7                   | —                  | 22.2                  |
| 14.4.1735     | Wm. Hawkesworth   | Longley        | 130 2 2                          | 48 0 0                 | 43.3                   | 10.3               | 46.4                  |
| 30.5.1740     | Edward Taylor     | Doe Royd       | 278 6 10                         | 200 18 4               | 61.7                   | 18.4               | 20.4                  |
| 13.6.1740     | Jos. Millington   | Wadsley        | 75 9 1½                          | 10 0 0                 | 47.7                   | 34.9               | 18.0                  |
| 16.2.1743/4   | Josh. Hoyal       | Wadsley        | 17 18 0                          | 5 0 0                  | 32.3                   | 18.0               | 48.8                  |
| 13.4.1744     | Jno. Spencer      | Ecclesfield    | 18 18 6                          | 13 10 0                | 37.0                   | 55.5               | 7.0                   |
| 4.5.1745      | Lee Creswell      | Wadsley        | 8 11 0                           | —                      | 61.1                   | —                  | 38.8                  |
| (Jan. 1747/8) | Wm. Bennett       | Wadsley        | 38 17 3                          | —                      | 68.2                   | 20.5               | 10.9                  |
| 19.7.1750     | John Hobson       | Wadsley        | 39 17 6                          | —                      | 35.9                   | 48.8               | 15.0                  |
| 4.7.1751      | Andrew Revill     | Wadsley?       | 35 12 0                          | —                      | 22.2                   | 30.9               | 46.6                  |
| 23.8.1758     | Jno. Parkin       | Southey        | 28 5 0                           | —                      | 36.4                   | 39.3               | 25.0                  |
| 3.4.1761      | Sam Fowler        | Wincobank      | 108 14 6                         | —                      | 56.5                   | 39.5               | 3.7                   |
| (July 1762)   | Joseph Hobson     | Wadsley        | 26 11 1                          | —                      | 56.3                   | —                  | 43.5                  |
| (Dec. 1776)   | Joseph Hobson     | Wadsley        | 153 0 7                          | 100 6 10               | 19.3                   | 71.9               | 9.4                   |
| 26.3.1784     | Wm. Mathewman     | Wadsley        | 21 1 7                           | —                      | 16.9                   | 15.2               | 68.1                  |
| 21.10.1789    | Joseph Hobson     | Owlerton       | 58 19 5                          | —                      | 21.2                   | 69.2               | 7.9                   |

New Smithey: 2 pair of Bellows £3.0.0., 2 Anvills, 2 Stocks, 2 Coultroughs £5.0.0., 4 Vices, 1 Pressing Vice, 6 pair of Presses £2.10.0., 7 Hammers Cole Spade 8.0. 2 Cows and a Horse £8.0.0., 2 pigs £1.0.0.

Certain Huslement 5.0.

Total £35.12.0.

Phillip Tompson, Richard Carr, Isaac Slack."

Ecclesfield parish contained numerous other craftsmen, and inventories have survived for carpenters and joiners, masons, tailors, blacksmiths, cordwainers and shoemakers, turners, coopers, button makers, clothiers, and so on. Occasionally, a wheelwright like Joseph Lister of Creswick Greave (1735-6) or a carpenter such as Thomas Hobson of Burncross stand out, with personal estate totalling £190 6s. 4d. and £107 8s. od., respectively, but the majority were much poorer men who lived at a lower standard than most cutlers and nailers. The median average for nine craftsmen working with wood is only £19 2s. 6d., which compares with the £19 6s. od. median for five tailors and £18 5s. 10d. for five masons. Of these nineteen craftsmen only three had no farm stock, and the total wealth usually depended upon the size of the farm. Joseph Lister heads the list with £81 14s. 4d. of his estate involved in farming: the median average for all nineteen being £6 8s. 6d. worth of farm stock, i.e. about a third of all the goods.

But these craftsmen would also be found in the 'purely agricultural' type of economy. It is the nailers and cutlers who stand out as a distinctive group, and it was they who determined which way the economy was going to develop in the eighteenth century. The parish registers provide some interesting figures about population growth during this period.<sup>1</sup> Other records confirm this pattern of growth. The Hearth Tax returns listed 308 households in 1672, suggesting a population of about 1,244.<sup>2</sup> In 1743 the vicar reported at Archbishop Herring's Visitation<sup>3</sup> that there were about 560 families in the parish, giving a total of about 2,262. By 1801, the year of the first official census, this had risen to 5,114, and fifty years later it had reached 10,005. By this time the population had increased by roughly eight times since 1672.

TABLE VI  
ECCLESFIELD PARISH REGISTERS, 1670-1810

| 10 years<br>ending | 1670 | 1680 | 1690 | 1700 | 1710 | 1720 | 1730 | 1740 | 1750 | 1760 | 1770 | 1780 | 1790 | 1800 | 1810 |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Baptisms           | 676  | 647  | 730  | 684  | 668  | 732  | 852  | 907  | 999  | 1203 | 1347 | 1337 | 1611 | 1632 | 1726 |
| Burials            | 422  | 447  | 626  | 640  | 566  | 535  | 681  | 547  | 681  | 702  | 921  | 890  | 1082 | 1182 | 1273 |

<sup>1</sup> The figures are taken from J. Eastwood, *History of the Parish of Ecclesfield*, 1862, p. 23.

<sup>2</sup> Using the multiplier of 4.04 suggested by D. V. Glass, *Population Studies*, III (4), pp. 338-74.

<sup>3</sup> Yorkshire Archaeological Soc. Rec. Ser., LXXI.

Now, this, of course, was happening all over the country, but it seems to have started rather earlier in Ecclesfield than in most other places. The 'take-off' period seems to have been *c.* 1720 when a spurt in baptisms was not checked by a similar rise in deaths (as had usually happened before) until this new 'bulge generation' began to die off. Why should this have happened?

One can talk in general terms about increased agricultural production and medical improvements prolonging the expectation of life. This happened on a national scale, and no doubt Ecclesfield benefited from this. But apart from the introduction of the Rotherham plough, the area was far from being amongst the pioneers of new farming methods until the Marquis of Rockingham enthusiastically championed progressive ideas later in the century. In 1769 Arthur Young visited Ecclesfield and found little to enthuse over, but much to dismay him. "This is very bad husbandry," was his comment on the traditional crop rotations of wheat, clover, wheat, fallow; and wheat, oats, fallow.<sup>1</sup> It is unlikely that agriculture produced the conditions whereby earlier marriages became possible: it is to the other part of the dual economy that we must turn.

The nail trade was certainly expanding during the early years of the eighteenth century. The geographical location of the smithies in 1672 suggests that not more than twenty-four of them could have been used for nailmaking.<sup>2</sup> By 1707 there were thirty-seven nailers owning forty-two hearths between them,<sup>3</sup> with several new names recorded. Chances of employment were attracting immigrants and boosting the native population.

But the main stimulus for the population rise came from within the existing community. In the parish chest is a most revealing document that was drawn up in 1733 when the nailers of South Yorkshire gathered at Ecclesfield to try to enforce the old apprenticeship regulations.<sup>4</sup> One hundred and ninety-five signatures were eventually attached to the agreement, which complained of apprentices leaving after only two years' service and setting up as masters themselves. This meant that they "do frequently marry very young and inconsiderately and by that means have often a great charge of children to maintain before they scarce know how to maintain themselves." The nailers were solely concerned with the flooding of the market, for this was "very inconvenient and unprofitable to us," and the agreement seems to have had some sort of official backing from the Spencer Syndicate, for the leading organizer was in charge of the export side of their business at Bawtry. But for our present purposes, it is a most useful piece of evidence on the state of the economy.

<sup>1</sup> A. Young, *A Tour through the North of England*, 1, pp. 136-9.

<sup>2</sup> The Hearth Tax returns are divided into the four quarters of the parish. Nailmaking was concentrated in the Grenofirth and Ecclesfield quarters. Six of the Ecclesfield smithies belonged to cutlers from Shiregreen, leaving a total of twenty-four.

<sup>3</sup> *An Old Ecclesfield Diary*, ed. Winder, Sheffield, 1921, pp. 9-10.

<sup>4</sup> Transcribed by R. Butterworth, *Hunter Archaeological Soc. Trans.*, II, 1924, pp. 114-19.

The seven-year apprenticeship had been an effective check to early marriages in the days when it could be imposed. Now, many apprentices were not staying their full term as there was plenty of opportunity of flourishing on their own, and little capital was needed to start up as a master. Earlier marriages meant more children: the static death rate implies that no disease or food shortage kept numbers down; and so more children grew up to become parents themselves. The cumulative effect was a geometrical increase in the population.

It would be interesting to find out whether other areas which were in the vanguard of the Industrial Revolution also experienced this early population rise through having a sound dual economy. Once the rise had started, the surplus labour it provided could be channelled off into the new industries, which provided the means of sustenance to maintain the growth. Professor W. H. B. Court has long since stressed the fundamental importance of the anonymous masses in getting the Industrial Revolution off the ground, and, writing about the West Midlands nailing industry, he says, "It would be impossible to understand the industrial evolution of the district, without assigning to this apparently trivial and uninteresting occupation a high place as one of the factors making for change."<sup>1</sup> The same is true of Ecclesfield. And just as the pioneers of industrialization in other areas usually came from a craft background, so it was here. The Walkers were typical nailer-farmers, and their new steel works at Masborough was financed by John Booth, the leading nail-chapman for the Spencer Syndicate. The iron and steel side of the dual economy was soon to become the dominant one.

<sup>1</sup> W. H. B. Court, *The Rise of the Midland Industries, 1600-1838*, Oxford, 1953, p. 100.

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NOTES ON CONTRIBUTORS *continued from page 107.*

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# Christopher Brown—an English Farmer in Brandenburg-Prussia in the Eighteenth Century

By HANS-HEINRICH MÜLLER

ENGLAND in the eighteenth century undoubtedly had the most advanced and modern system of agriculture in Europe, despite considerable regional variations. Its leading position was generally acknowledged on the continent of Europe. J. H. G. Justi, the well-known German student of public affairs, expressed it thus in 1761: "England is the only country in Europe that can boast of having improved its agriculture and the cultivation of its soil beyond that of any other European nation. The condition of English agriculture, compared with that of our own, is like light contrasted with shade."<sup>1</sup> Many other farmers and economists in Germany, France, and other countries were of the same opinion as Justi. English agriculture clearly served as the model that enlightened farmers most wished to emulate.

After 1750, as prices rose with the onset of agricultural prosperity, it became increasingly evident that output could not keep pace with growing demand, and so the English improvements began to be adopted in feudal Germany. English influence in Germany was first evident in the translation of English books. In 1750 the first translations of works by Samuel Trowell and Philip Miller appeared. Two years later followed Tull's *Horse-hoeing Husbandry*, published in German as *Essays on Agriculture*. Subsequently, translations rapidly increased in number.<sup>2</sup> The writer most widely read in Germany, as on the whole of the European continent, was Arthur Young, whose descriptions of English and Irish agriculture found their way to Germany in the 'seventies.

Strange to say, few translations were published in Brandenburg-Prussia, although the Prussian government gave considerable support to the introduction of English farming methods. However, some important works were printed in Prussia. In 1777 Young's *Political Arithmetic* appeared in Königsberg. Count von Podewils at Gusow, a farmer who was greatly admired by Albrecht Thaer, and to whom we owe one of the few descriptions of farming on a manor east of the Elbe,<sup>3</sup> produced two important translations of William

<sup>1</sup> Cf. J. H. G. von Justi, *Von denen Hinternissen einer blühenden Landwirtschaft*, 1761.

<sup>2</sup> Cf. Appendix.

<sup>3</sup> Graf von Podewils, *Wirtschafts-Erfahrungen in den Gütern Gusow und Platkow*, 4 parts, Berlin, 1801-4.

Marshall's books on agriculture in the counties of Norfolk (1797), and Yorkshire (1800). His father, Count Otto Christopher von Podewils, was for many years an envoy of Frederick II in Petrograd, The Hague, and Vienna, and a private minister of state and war minister. He had already employed certain English agricultural methods at Gusow and Platkow (Oderbruch) in the 'seventies, especially extending the cultivation of clover.<sup>1</sup> In the early 'sixties Johann Christopher Wöllner translated Francis Home's *The Principles of Agriculture and Vegetation*, which appeared in its third edition in 1782. Wöllner was the son of a Brandenburg country parson, and was himself a private tutor and tenant on Itzenplitz's manor, Great Behnitz, in Havelland, and a progressive farmer. He became a teacher of Frederick William II, and an influential reactionary minister. Thus he was one of those peculiar eighteenth-century figures who represented in an unusually clear manner declining feudalism together with the kaleidoscopic brilliance of its contrary tendencies. He was instrumental in the adoption and spread of many English ideas in Prussia. In the preface to Home's *Principles*, he impressively describes the superiority of England's capitalistic agriculture, refers to the advantages of its consolidated estates and the new intensive crop rotations, and recommends the cultivation of lucerne and turnips. The supposed advantages of Prussian agriculture, resulting from its continued system of feudal legal rights, were subjected to devastating criticism. In his *Guide for a Small but Select Library . . . of the Best Books on Agriculture*, which was an annotated agricultural bibliography, the English were represented as "the masters of agriculture."<sup>2</sup> The bibliography itself opens with a review of two English works: *A Compleat Body of Husbandry* by Thomas Hale (London, 1756) and Mortimer's *The Whole Art of Husbandry or the Way of Managing and Improving of Land* (London, 1721).<sup>3</sup> Both books were also translated into German. The former, especially, was in Wöllner's estimation: "a book of husbandry, which, because of its great qualities, leaves all other celebrated economic texts far behind." Even more significant is Wöllner's work: *The Abolition of Commons in the Electorate of Brandenburg, considered in the Light of its great Agricultural Advantages* (Berlin, 1766), which he dedicated in a French translation to the Prussian king.<sup>4</sup> It is infused with the spirit of English agrarian progress. By countless examples drawn from English agriculture—"the high school of agriculture," as he called it—he convincingly defended the enclosure of commons and showed its importance for

<sup>1</sup> 'Nachricht für die Gusowsche Wirtschaft', in *Annalen des Ackerbaues*, ed. A. Thaer, vol. 1, Vienna-Berlin, 1805, p. 438 ff.

<sup>2</sup> J. C. Wöllner, *Unterricht zu einer kleinen aber auserlesenen Bibliothek bestehend in einer Anzeige der besten ökonomischen Bücher und derer vornehmsten in grösseren Werken zerstreut befindlichen Abhandlungen über alle Teile der Landwirtschaft*, pt 1, Berlin, 1764, p. 5.

<sup>3</sup> The first English edition of Mortimer was published in 1707.

<sup>4</sup> The German title was *Die Aufhebung der Gemeinheiten in der Mark Brandenburg nach ihren grossen ökonomischen Vorteilen betrachtet*, Berlin, 1766.

the cultivation of green fodder and root crops, and for the introduction of new systems of cultivation. The work undoubtedly had a great effect on Frederick II, and a lasting influence on Prussian legislation on enclosures. Having the best examples of improvement in England in mind, Frederick II repeatedly designated "everything that goes by the name of commons" as detrimental to the public good, and urged their abolition. And from about 1769 onwards the pace of enclosure was noticeably accelerated, at least on the estates of the nobility and the crown. Finally, it should be mentioned that Wöllner, in his *Essay on the Manuring of Fields without Manure* (1774), gave an account of Tull's efforts and proclaimed himself a pioneer of manuring with marl.<sup>1</sup>

The English literature on husbandry was also reflected in the numerous journals which appeared; several in Hanover were particularly assiduous in spreading news of agricultural improvements. Indeed, Hanover may be seen as the port of entry for English influence.<sup>2</sup>

Familiarity with English agricultural literature prompted both farmers and the Prussian government to imitate the English example. This, of course, produced sharp differences of opinion about methods of practical application, but it also aroused the desire for some first-hand knowledge of English farming. In 1764 Frederick II expressed the wish that "young people of intelligence and understanding, with agricultural abilities and interests" should go to England to gain an exact knowledge of English farming.<sup>3</sup> He commissioned the appropriate authorities, particularly the Chamber of the Electorate of Brandenburg, to choose suitable people from the ranks of crown tenants, including sons of well-known tenants, who would be prepared to spend an extended period in England. Crown tenants, or rather, prospective crown tenants, were deliberately given preference. The young men chosen for the journey were called "apprentices" and on their return were to introduce on to royal estates the farming methods they had learnt from their own observations; they were, of course, wealthy, enterprising, educated farmers, who in their own interests were much more likely to co-operate with the king's intentions to improve Prussian farming than were the members of the aristocracy, whom Frederick considered "too conservative."<sup>4</sup> Thus in 1765-6, at the king's expense, four

<sup>1</sup> The German title was *Versuch zur Düngung des Ackers ohne Düngung*, 1774.

<sup>2</sup> Cf. G. Schröder-Lembke, 'Englische Einflüsse auf die deutsche Gutswirtschaft im 18. Jahrhundert', in *Zeitschrift für Agrargeschichte und Agrarsoziologie*, I, 1964, p. 30 ff.

<sup>3</sup> The descriptions of English farming in Brandenburg-Prussia are taken from sources in the German Central Archives, Merseburg section: Gen. Dir., Gen. Dep., Tit. LXIII, No. 4, Tit. LXXX, No. 1; Gen. Dir. Kurmark, Tit. XIX, No. 1, Tit. VI, No. 8, Tit. LXI, Nos. 1-3, Tit. LXVII, No. 15, Tit. LXXIII, Nos. 1-2. Also the Potsdam State Archive, Rep 2, D1801, D1819-1823, D1833-1834, D12641-12643, D14680.

<sup>4</sup> Cf. H.-H. Müller, 'Domänen und Domänenpächter in Brandenburg-Preussen im 18. Jahrhundert', *Jahrbuch für Wirtschaftsgeschichte*, 1965, pt 4, p. 171 ff.; W. Mertineit: *Die Fridericianische Verwaltung in Ostpreussen*, Heidelberg, 1958, p. 112.

sons of tenants toured the English counties of Bedfordshire, Cheshire, Derbyshire, Herefordshire, Kent, Lancashire, Lincolnshire, Leicestershire, Northamptonshire, Nottinghamshire, Shropshire, and Yorkshire. They prolonged their stay at three farms, at Weymor Grange near Ludlow in Herefordshire, at Chapel Town near Leeds in Yorkshire, and at Battersea near London, which belonged to the famous gardener, de la Rocque.

In frequent reports to the Feudal Chamber and the Silesian minister, von Schlabrendorf, the four travellers gave detailed information about the impressive condition of English farming<sup>1</sup>: they described systems of cultivation, especially alternate husbandry, infield-outfield, and common-field cultivation, methods of cultivating cereals, green fodder, and root crops; harvesting methods; the use of old and up-to-date implements, cattle-breeding, dairy-farming, and feeding methods; conditions of tenure; the pay and conditions of farm workers; and also some urban industries.

The first consequence of this journey was an increase in the cultivation of green fodder and root crops. One of the travellers, appointed shortly afterwards as councillor in the Chamber, had quite plainly convinced Frederick II, by his detailed report, of the utility of cultivating green fodder crops—clover, sainfoin, and lucerne. In 1766, at the king's instigation, the Chamber received from the gardener, de la Rocque, 100 lb. of burnet seed, 100 lb. of lucerne, 30 bushels of rye-grass, 200 lb. of white clover, 100 lb. of trefoil seed, 400 lb. of red clover, and 40 lb. of turnip seed. The bill for the seeds amounted to £41 6s. Experimental planting of the seed from England was undertaken on crown estates at Biegen, Fürstenwalde, and Rüdersdorf in the Electorate of Brandenburg, the great testing ground of Prussian farming. But these estates were chosen less for their suitability from an agricultural point of view than because, as the Chamber wrote, "The experiment in English agriculture must be made on the route to Frankfurt-on-Oder, at Rüdersdorf, Fürstenwalde, and Pilgram on the estate of Biegen, because we [the king and councillors] frequently pass through this district."

'English farming' was taken first and foremost to mean the use of artificial grasses in pastures, and the cultivation of clover, lucerne, sainfoin, 'hop' clover, and birdsfoot trefoil in the fallow year of the three-course rotation, and in out-fields which had previously borne only a small harvest of rye or oats every six to twelve years. But the cultivation of unmanured outfields, which in Brandenburg-Prussia constituted about one-fifth of the total area of arable land, produced no results.

After 1766, the cultivation of green fodder crops was gradually increased on crown land and noblemen's estates, albeit in the face of great difficulties, and

<sup>1</sup> Dr Müller has sent the Editor a copy of this report and it is hoped that it will be translated and published in due course.—Ed.

hindered above all by prevailing feudal relationships in the system of production. Thus Frederick II gradually became convinced of the need to employ English farmers in person, in order to establish English farming successfully. So in 1767 the Prussian ambassador in London, Malzahn, was commissioned to engage a capable farmer who would be able to farm an estate in Prussia on the English model. Malzahn prevailed upon a certain Joseph Wilson, who was prepared to manage a Prussian estate in return for a yearly salary of £150 with free board and lodging. Wilson took the farmstead of Gütergotz on the crown estate of Potsdam, after the process of enclosing the land had been completed. But he did not live up to the hopes set on him. After a year the councillors responsible for the project stated that Wilson was conducting "a disorderly system of farming," and expressed doubts as to his practical knowledge. His knowledge of agriculture was said to consist of "mere theory," gleaned from English books. At the suggestion of the Chamber the king dismissed Wilson on 5 November 1768.

In the same year the English farmer, Christopher Brown, applied for a crown estate in Brandenburg, in order to introduce 'English farming'. Brown had already farmed successfully on the estates of Count Kameke. Count Frederick Paul von Kameke, governor of a castle, was, according to everything that our few sources disclose about him, a forward-looking and enterprising nobleman. As well as the estate of Gottberg near Ruppín, he owned properties at Harnekop, Prädikow, Prötzel, and Sternebeck, about twenty-five miles north-east of Berlin, which remained famous well into the twentieth century for their lovely English gardens; and he was also the founder of a prosperous pottery factory, employing sixty-nine workers and having a turnover of 24,500 talers in 1800. As a very old man, impelled by the "spirit of reform,"<sup>1</sup> he undertook another journey to England, to gain a proper picture of agricultural progress. Kameke must have brought Brown back from this visit. The count drew up a three-year contract with Brown, in which the latter committed himself, for a yearly income of 1,000 talers, to introduce "his own version of English farming." It should be noted here that Frederick Paul von Kameke died during the term of the contract, but that his son Alexander kept conscientiously to the agreement. He, indeed, was the replica of his father, and if anything, even more progressive and better educated. He stood out from the great mass of his hidebound social peers. In the years 1766-9 Brown radically reformed Kameke's estates. At the completion of the contract a four-course rotation was in being which was virtually identical with the Norfolk rotation: (1) turnips (manured); (2) barley, undersown with clover; (3) clover and legumes; (4) rye and wheat. According to all the reports available, the new sequence of crops worked well. The cereals, especially the barley which

<sup>1</sup> Cf. C. F. von Benekendorf, *Kleine ökonomische Reisen*, vol. II, Züllichau, 1786, p. 328.

followed the turnips, flourished and yielded better than before. Every year a great deal of clover hay and about 400 lb. of clover seed were produced. It was possible to increase the livestock at Prädikow, for instance, from 86 to 146 cows and from 50 to 60 bulls, which also resulted in a significantly larger amount of better quality dung.<sup>1</sup> The seeds, clover, and turnips, were obtained from Yorkshire. Kameke also invited a wheelwright, a saddler, a tanner, and several farm labourers with their families to come from England and make English swing ploughs (Small or Bailey model); harrows with forty-eight or twenty-four iron teeth bent forward, similar to modern harrows; two-wheeled and four-wheeled farm wagons; and leather horse-collars. English farm implements were sold, as well as being used on the count's estates. For example, Kameke sold twenty-one harrows and thirteen swing-ploughs to the crown estates of Biegen, Badingen, Burgstall, Fürstenwalde, and Rüdersdorf. The work was carried out by English labourers with Kameke's own horses, from which we may fairly infer that Kameke had freed the peasants from labour services.

When Brown applied to Frederick II personally for the lease of a crown estate, the Chamber refused in view of the unsuccessful experiment with Wilson. But Frederick was perfectly willing to risk a new attempt when Brown informed him of his experience with Kameke, and also on Swiss estates. The General Directorate was instructed to inspect Kameke's estates, to see "whether the farming system is really any use, or whether this is merely idle talk." The result of the inspection was wholly satisfactory. Councillor Neuhaus assured the king that Brown had indeed organized the estate, as he had often seen it done in England. "Brown deserves a testimonial as a completely practical farmer," he said, and recommended a contract. Frederick Paul von Kameke also supported the plan, and described Brown as a "prudent, industrious, and experienced farmer, especially in the field of English agriculture." With that the matter was settled. Frederick II agreed, and Brown was offered the crown estate of Mühlenbeck, near Berlin. Mühlenbeck embraced two farms and eleven villages, on nine of which the peasants now paid money dues instead of performing labour services. Only at Mühlenbeck and Summt were labour services performed with peasants' horses on the demesnes. However, Summt was leased to the previous chief tenant, so that Brown was concerned only with the demesne at Mühlenbeck. He found the farm suitable for his plans and accepted.

At first Brown demanded only a yearly salary of 1,200 talers, which included 200 talers for the English ploughman, William Mann. But before long, for reasons unknown to us, he decided to farm the whole estate, for which the yearly rent was 5,355 talers, plus caution money of 3,000 talers. It is evident

<sup>1</sup> See the transcript of Graf von Kameke's original report on the introduction of 'English farming' on his estate at Harnekop in *Jahrbuch für Wirtschaftsgeschichte*, 1965, pt 3, p. 122 ff.

from the records that Brown owned only a few properties in England, and did not have a great deal of cash, so he was not in a position to raise the caution money. Count Kameke and his son, who was always a benefactor to Brown, got him out of this difficulty by putting up the necessary sum.

On 9 May 1769, Brown entered upon his tenure of Mühlenbeck. Confident of success, he pledged himself in the lease, which he conditionally signed only in 1771, not only to establish the English four-course rotation and to brew English beer, but also to raise the rent by one-third after six years—an agreement that no Prussian chief tenant had yet risked. The Chamber, in return, granted Brown a salary of 1,000 talers, and also promised 4,532 talers to be used for the erection of new farm buildings and the repair of existing ones.

Brown set to work energetically and reformed the system of agriculture. In the first year he sowed 70 lb. of turnip seed and 400 lb. of clover seed; during the whole of his period of tenure he received about 3,800 lb. of seed from England. After two years the outlines of a Norfolk crop rotation were clearly recognizable. Apart from clover and turnips he also planted tobacco, spurry, and kale. The ploughing was naturally carried out with English equipment—namely, five swing ploughs, ten English harrows, three English wagons, and corn rakes—and his own horses. Peasant labour services, which he demanded with threats of official coercion, were used for the transport of seed, hay, and manure; which proves that even a middle-class farmer from a capitalist state was persuaded of the usefulness of labour services in a feudal, economically underdeveloped country. Brown's farming met with the approbation of the controlling councillors in the early years of his lease, and indeed during the whole period of his tenure. Even the influential minister Derschau, who visited Brown, appeared very impressed by his progress. He judged that "the Englishman is running his farm well, improving the land by his cultivation, and succeeding especially well with the clover crop." Nevertheless, he pointed out that Brown had not yet fulfilled all his obligations. Frederick II, constantly concerned with the progress of the farming at Mühlenbeck, appeared highly satisfied with the information. Brown himself was well aware of this, and managed to gain several concessions from the king, in opposition to the Chamber.

"Since the agricultural improvements on this estate are so successful," Frederick II ordered a group of crown tenants to come to Mühlenbeck, in order to convince them of the utility of English farming methods and to persuade them to introduce them on their own holdings. Most of the tenants involved acknowledged Brown's farming as exemplary. The tenant of the estate at Goldbeck boasted that rye, barley, and clover were "doing very well." The tenant Hagemann from Oranienburg passing judgement on 20 March 1771, declared that Brown was "a great credit." His cultivation, and especially the clover harvests, were "remarkable." He found the English implements very

beneficial. Later Hagemann himself had English iron harrows made, and did a lively trade with them in Mecklenburg and Pomerania. Although not all the tenants were prepared to introduce 'English farming' on their land, because it still lay intermingled in common fields, or because they did not have enough suitable labourers and horses, we can still observe on a large number of crown estates the start of the 'English system of farming', which now meant essentially the four-course rotation. And it is certain that Frederick II's famous decision to set apart 100,000 talers for the nobility with smaller incomes and the agricultural towns, and 22,000 talers for the crown lands, to help them in the task of introducing 'English agriculture' more wisely, was taken as a result of the favourable impression made on him by Brown's farming at Mühlenbeck. As he himself declared, "improvements of this kind cannot be made without expense."

Delighted by the king's favour, Brown applied on 5 January 1771, for the crown estate of Schönhausen, which bordered his at Mühlenbeck, claiming that Mühlenbeck was too small "to adopt English farming successfully." Brown proposed from the beginning of his new period of tenure to take over Schönhausen, at a rent almost twice that of Mühlenbeck. The king and Chamber were quite prepared to grant this wish. After a preliminary agreement, Brown came to various arrangements with the tenant at Schönhausen, to facilitate the transition from the three-course rotation to the English four-course. For this purpose he also summoned two English farmers to farm Mühlenbeck under his supervision. His benefactor, Alexander von Kameke, again guaranteed the necessary 4,000 talers needed in caution money. But when the time approached for him to take over the estate, the king and Chamber firmly refused. The reasons for this lay chiefly with Brown's financial circumstances. In 1772 Brown, like all Prussian and German farmers, suffered a catastrophically bad harvest. A large proportion of the cereal crop was ruined. Brown lost a hundred cows, and used up a large amount of money in replacing them. But his dealings were not always open-handed. For instance, he bought hops to the value of £600 in Saxony and Dessau, and resold them in England. He ran an extensive trade in English horses. Brown himself claimed to have suffered considerable losses through this. But the Chamber maintained that he had given his daughter substantial gifts out of these deals: without Brown's support his daughter and son-in-law, Metcalf, would not have been able to rent the imposing estate of Kerstenbruch (owned by von Wolff, proprietor of the biggest textile factory in Berlin). At all events, at the end of the Mühlenbeck lease in 1775, the exchequer presented Brown with a demand for 5,534 talers, consisting of rent arrears and demands unsettled by the previous chief tenant, etc. It was also alleged that he had not fulfilled all his contractual obligations, such as the introduction of English beer-brewing and the building up of the

livestock to the agreed number. Other complaints arose from the perpetual petty warfare that a progressive farmer had to fight with the feudal bureaucracy. Brown was a troublesome person for the Chamber to deal with: he was too liberal in his opinions; he was an Englishman—not subservient. The councillors accused him several times of “insubordination.” Brown, on the other hand, had often complained of being “more hindered than assisted” in the introduction of English agriculture. Even the lord of the manor, Alexander von Kameke, wrote to the minister von Derschau that it was “always dangerous for a foreigner to bring in innovations, however useful,” and that Brown should be advised, “as an honourable man,” to return home.

The financial demands of the exchequer, partially justified though they were, his disagreeable brushes with the Prussian feudal bureaucracy, and the king’s refusal to support him financially, induced Brown, rather too hastily perhaps, to turn his back on Prussia. He fled in secret to the Electorate of Saxony, to rent a crown estate in Reichenberg. But the Prussian king, once respected by Brown, set the Prussian judicial machinery ruthlessly in motion. Warrants of arrest were issued against Brown. By order of the Prussian government, the Saxony police took the English farmer into custody. This time Brown was again successful in fleeing to Bohemia. But after the intervention of the royal and imperial government in Prague, and of the Prussian embassy in Vienna, Brown was finally arrested in Mulda, in the Bohemian district of Leitmeritz. He was then taken to Berlin and thrown into the city gaol, the ill-famed debtors’ prison. Brown stayed in the prison for more than three years “like a murderer,” as he wrote in a letter to Frederick II, and waited for a case to be brought against him. Imprisonment reduced him to beggary. After his release he lived on the estate of Count Kameke, where he died in 1790 as an old man of seventy-three.

It should be stated in conclusion that the catastrophically bad harvest of 1771–2 brought the development of the English four-course rotation to a temporary standstill. But already by the end of the ’seventies or the beginning of the ’eighties there is evidence of a reintroduction of ‘English farming’ on the crown estates of Brandenburg. The system used was mainly a five-course, including a fallow year, and giving preference to potato growing. But various crown estates and private manors also went over to alternate husbandry, sometimes known as ‘improved English farming’, which resulted in a widely different selection of crops according to the soil conditions in Brandenburg. At the end of the eighteenth century isolated estates, such as Gramzow in Uckermark, or Markee in Havelland, had already developed a system of crop rotations that is an essential element of modern agriculture today.<sup>1</sup>

<sup>1</sup> Cf. the interesting work by A. Karbe: *Die in der Mark Brandenburg und andern deutschen Provinzen mögliche Einführung der englischen Wechselwirtschaft*, Prenzlau, 1802; also Friedrich, Herzog von Holstein-Beck, *Über die Wechselwirtschaft*, Leipzig, 1803.

English influence on the agriculture of Brandenburg-Prussia in the second half of the eighteenth century was unmistakable. Its principal effects were seen in the cultivation of clover, sainfoin, and lucerne; in the speeding up of enclosure on large estates; and in the introduction of the four-course rotation, later modified to suit local circumstances. The adoption of a crop rotation was decisively advanced by Albrecht Thaer, who thoroughly clarified the concept of English agricultural methods in his written works, especially in his *Introduction to a Knowledge of English Agriculture*,<sup>1</sup> and who from 1804 set an example on his estate at Möglin in Brandenburg, making crop rotations a reality, under capitalistic conditions.

<sup>1</sup> The German title was *Einleitung zur Kenntnis der englischen Landwirtschaft*, Hanover, 1798-1804.

## APPENDIX

### ENGLISH BOOKS ON AGRICULTURE TRANSLATED INTO GERMAN<sup>1</sup>

| YEAR OF<br>PUBLICATION<br>IN GERMAN | AUTHOR AND TITLE            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1737                                | J. H. and<br>Matthew Hodson | <i>Der englische Stallmeister und bewährte Rossarzt; aus dem Engl. übersetzt</i> , Leipzig.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1750                                | Samuel Trowell              | <i>Anleitung für einen Landmann oder neue Abhandlung von dem Ackerbau, der Gärtnerei, und anderen merkwürdigen Dingen, welche die Landwirtschaft betreffen; ans Licht gestellt von Sam. Trowell; nebst einem Anhang und vermehrt von Wilh. Ellis. Aus dem Engl. übersetzt</i> , Leipzig.<br><br><i>The Farmer's Instructor; or the Husbandman and Gardener's Useful and Necessary Companion. First begun by Samuel Trowell and now completed with a supplement to every chapter on husbandry; by William Ellis, farmer</i> , London 1747. |
| 1750                                | Philip Miller               | <i>Gärtner-Kalender; aus dem Engl. übersetzt von L. W. Büttner</i> , Göttingen.<br><br><i>The Gardener's Kalendar, directing what works are necessary to be done every Month in the Gardens and in the Conservatory</i> , London, 1732.                                                                                                                                                                                                                                                                                                   |

<sup>1</sup> The English titles and the dates of publication of the first editions have been added to the list supplied by Dr Müller, though it is not certain that the translations were made from the first English edition. The editor would like to thank Mr E. J. Collins, Mr A. Fenton, and Mr G. E. Fussell for help in identifying the English originals, though it has not been possible to find them all. The editor would welcome any information that readers are able to supply relating to the missing items.

YEAR OF  
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## AUTHOR AND TITLE

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|---------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1750-66 | Philip Miller | <i>Gärtner-Lexikon; aus dem Engl. übersetzt von G. L. Huth, Nürnberg.</i><br><i>The Gardener's Dictionary</i> , 2 vols., London, 1731-9.                                                                                                                                                                                                                |
| 1752    | Jethro Tull   | <i>Abhandlungen von dem Ackerbau; aus dem Engl. übersetzt, Dresden.</i><br><i>The New Horse-Houghing Husbandry</i> , London, 1731.                                                                                                                                                                                                                      |
| 1753    | John Mortimer | <i>Ganze Wissenschaft des Feld- und Ackerbaues; aus dem Engl. übersetzt von Theod. Arnold, Braunschweig.</i><br><i>The Whole Art of Husbandry</i> , London, 1707.                                                                                                                                                                                       |
| 1758    | Henry Bracken | <i>Verbesserte Rossarzneikunst, worinnen die Natur und Beschaffenheit eines Pferdes, seine Krankheiten und Heilmittel derselben abgehandelt werden; nach der 7. Aufl. aus dem Engl. übersetzt, Altenburg.</i><br><i>Farriery Improved</i> , London, 1737.                                                                                               |
| 1763    | Francis Home  | <i>Grundsätze des Ackerbaues und Wachstums der Pflanzen; aus dem Engl. übersetzt von J. C. Wöllner, Berlin.</i><br><i>The Principles of Agriculture and Vegetation</i> , Edinburgh, 1756.                                                                                                                                                               |
| 1763    | W. Ellis      | <i>Vollständige Abhandlung versuchter Verbesserungen, die an Schafen, Weide- und Hauslämmern gemacht worden; aus dem Engl. übersetzt, Halle.</i><br><i>A Complete System of experienced Improvements made on Sheep, Grass-Lambs, and House-Lambs, etc.</i> , London, 1749.                                                                              |
| 1763-8  | Thomas Hale   | <i>Allgemeine Haushaltungs- und Landwirtschaftswissenschaft. Aus den sichersten und neuesten Erfahrungen und Entdeckungen geprüft und in Ausübung gebracht, von einer ökonomischen Gesellschaft in England, 5 Teile; aus dem Engl. übersetzt von Freih. Peter von Hohental, Hamburg-Leipzig.</i><br><i>A Compleat Body of Husbandry</i> , London, 1756. |
| 1764-7  | John Mills    | <i>Vollständiger Lehrbegriff von der praktischen Feldwirtschaft, 5 Teile; aus dem Engl. übersetzt von Dusch und C. F. Jünger, Leipzig.</i><br><i>A New and Complete System of Practical Husbandry</i> , 5 vols., London, 1763-5.                                                                                                                        |
| 1764-9  |               | <i>Museum Rusticum; aus dem Engl. übersetzt, 10 Bände, Leipzig.</i>                                                                                                                                                                                                                                                                                     |

| YEAR OF<br>PUBLICATION<br>IN GERMAN |                         | AUTHOR AND TITLE                                                                                                                                                                                                                                                                                                                      |
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| 1764-9                              | John Mills              | <i>Museum Rusticum et Commerciale; or, Select Papers on Agriculture, Commerce, Arts, and Manufactures . . . communicated by Gentlemen engaged in these Pursuits. Revised and digested by several members of the Society for the Encouragement of Arts, Manufactures, and Commerce</i> , London, 1764-6.                               |
| 1768                                | Philip Miller           | <i>Abbildungen der nützlichsten und seltensten Pflanzen welche in seinem Gärtner-Lexicon vorkommen</i> , Nürnberg.<br><br><i>Figures of the most beautiful, useful, and uncommon Plants described in the Gardener's Dictionary. . .</i> , 2 vols., London, 1760.                                                                      |
| 1768                                | Henry, Earl of Pembroke | <i>Anweisung Pferde abzurichten; nach der 2. Aufl. aus dem Engl. übersetzt</i> , Frankfurt-Leipzig-Halle.<br><br><i>A Method of breaking Horses and teaching Soldiers to ride, designed for the use of the Army</i> , London, 1761.                                                                                                   |
| 1769                                |                         | <i>Briefe über den schlechten Zustand des Landmanns und über die Mittel ihn abzuändern; aus dem Engl. übersetzt</i> , <sup>1</sup> Soroë.                                                                                                                                                                                             |
| 1772-5                              | Arthur Young            | <i>Sechsmönatige Reisen durch die nördlichen Provinzen Englands, vorzüglich in Hinsicht auf den gegenwärtigen Zustand des Ackerbaues, der Manufakturen und Bevölkerung; nach der 2. Aufl. aus dem Engl. übersetzt</i> , 4 Teile, Leipzig.<br><br><i>A Six Months' Tour through the North of England. . .</i> , 4 vols., London, 1770. |
| 1774                                | W. Ellis                | <i>Landwirtschaft; aus dem Engl. übersetzt</i> , 2 Teile, Leipzig.<br><br><i>Ellis's Husbandry abridg'd and methodized</i> , 2 vols., London, 1772.                                                                                                                                                                                   |
| 1775                                | Arthur Young            | <i>Ökonomische Reisen durch die östlichen Provinzen von England; nach der 2. Aufl. aus dem Engl. übersetzt</i> , 3 Bände, Leipzig.<br><br><i>The Farmer's Tour through the East of England</i> , London, 1771.                                                                                                                        |
| 1776                                | William Bailey          | <i>Die Beförderung der Künste, der Manufakturen und über die Handelsschaft; aus dem Engl. übersetzt von J. Kennedy</i> , München.<br><br><i>The Advancement of Arts, Manufactures, and Commerce</i> , London, 1772.                                                                                                                   |

<sup>1</sup> The English original of this book has not been traced. No author is given in the German translation but many of the letters are signed by Jacob Barhoppe and Richardson. The names Harpax and Lord Simples also appear.

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## AUTHOR AND TITLE

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|------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1777 | James Clark      | <i>Anmerkungen von dem Hufschlage der Pferde und von den Krankheiten an den Füßen der Pferde</i> , Leipzig.<br><br><i>Observations upon the Shoeing of Horses. . . , together with a New Inquiry into the Causes of Diseases in the Feet of Horses</i> , Edinburgh, 1775. |
| 1777 | Arthur Young     | <i>Politische Arithmetik; aus dem Engl. übersetzt von Chr. Jacob Kraus</i> , Königsberg.<br><br><i>Political Arithmetic</i> , London, 1774.                                                                                                                               |
| 1777 |                  | <i>Versuche, die Landwirtschaft betreffend, von einem Landwirt; aus dem Engl. übersetzt,</i> <sup>1</sup> Leipzig.                                                                                                                                                        |
| 1778 | George Fordyce   | <i>Anfangsgründe des Ackerbaues und des Wachstums der Pflanzen; aus dem Engl. übersetzt von F. X. Schwedianer</i> , Wien.<br><br><i>Elements of Agriculture</i> , Edinburgh, 1765.                                                                                        |
| 1780 | Arthur Young     | <i>Ökonomische Reisen durch Irland, nebst allgemeinen Betrachtungen über den gegenwärtigen Zustand dieses Reichs; aus dem Engl. übersetzt von J. J. Volkmann</i> , 2 Teile, Leipzig.<br><br><i>A Tour in Ireland. . .</i> , London, 1780.                                 |
| 1780 | William Gibson   | <i>Abhandlungen von den Krankheiten der Pferde und ihrer Heilung; nach der 2. Aufl. aus dem Engl. übersetzt von J. G. C. Koch</i> , 2 Teile, Göttingen.<br><br><i>A new Treatise on the Diseases of Horses</i> , London, 1751.                                            |
| 1780 | Philip Miller    | <i>Vollständige Anleitung zur Wartung aller in Europa bekannten Küchengewächse, aus dem Engl. übersetzt von F. H. H. Lueder</i> , Lübeck.<br><br>This was a combination of <i>The Gardener's Dictionary</i> , and <i>The Gardener's Kalendar</i> . See under 1750.        |
| 1781 | Alexander Wilson | <i>Über den Einfluss des Klimas und Pflanzen und Tiere; aus dem Engl. übersetzt</i> , Leipzig.<br><br><i>Some Observations relative to the Influence of Climate on Vegetable and Animal Bodies</i> , London, 1780.                                                        |
| 1787 | Samuel Ferris    | <i>Über die Milch. Eine Preisschrift der Ärzte zu Edinburg; aus dem Engl. übersetzt von C. F. Michaelis</i> , Leipzig.<br><br><i>A Dissertation on Milk</i> , London, 1785.                                                                                               |

<sup>1</sup> The English original is not definitely established but it may be *Rural Improvements, or Essays in the most Rational Methods of improving Estates, by a landowner* [i.e. Joseph Wimpey], London, 1775.

| YEAR OF<br>PUBLICATION<br>IN GERMAN |                               | AUTHOR AND TITLE                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1787                                | J. Twamley                    | <i>Anweisung, englische Käse zu machen und den Obstgarten recht zu bestellen; aus dem Engl. übersetzt von D. C. F. Michaelis, Frankfurt.</i><br><br><i>Dairying exemplified or the Business of Cheesemaking, Warwick, 1784.</i>                                                                                                                                                                |
| 1790 and<br>1802                    | Arthur Young                  | <i>Annalen des englischen Ackerbaues und anderer nützlichen Künste; aus dem Engl. übersetzt von S. Hahnemann und Joh. Riem, 3 Bände, Leipzig.</i><br><br><i>Annals of Agriculture, London, 1784-1815.</i>                                                                                                                                                                                      |
| 1790                                | James Clark                   | <i>Abhandlungen von Verhütung der Pferdekrankheiten, welche ihren Grund in fehlerhafter Beschaffenheit der Ställe, des Futters, des Wassers, der Luft und der Bewegung haben; aus dem Engl. übersetzt, Wien.</i><br><br><i>A Treatise on the Prevention of Diseases incidental to Horses, from bad Management in regard to Stables, Food, Water, Air, and Exercise. . . , Edinburgh, 1788.</i> |
| 1795-9                              | Erasmus Darwin                | <i>Zoonomie oder Gesetze des organischen Lebens; aus dem Engl. übersetzt von J. D. Brandis, 4 Teile, Hannover.</i><br><br><i>Zoonomia; or the Laws of organic Life, 2 vols., London, 1794.</i>                                                                                                                                                                                                 |
| 1796                                | Joseph<br>Hodskinson          | <i>Einfacher und nützlicher Unterricht für Landleute oder verbesserter Methode der Behandlung des Ackerlandes; aus dem Engl. übersetzt, Halle.</i><br><br><i>Plain and useful Instructions to Farmers; or an improved Method of Management of Arable Land . . . , London, 1794.</i>                                                                                                            |
| 1796                                |                               | <i>Abbildung und Beschreibung einer neuen englischen Maschine zur schnellen Abführung des Heues von den Wiesen etc., erfunden von Joh. Middleton; aus dem Engl. übersetzt und herausgegeben von Leonhardi, Leipzig.</i>                                                                                                                                                                        |
| 1796                                | Brymstohn                     | <i>Rezepttaschenbuch oder allgemein fassliche Anweisung, die Krankheiten der Pferde zu heilen; nach der 8. Aufl. aus dem Engl. übersetzt,<sup>1</sup> Leipzig.</i>                                                                                                                                                                                                                             |
| 1797                                | William Marshall <sup>2</sup> | <i>Beschreibung der Landwirtschaft in der Grafschaft Norfolk; aus dem Engl. übersetzt vom Grafen von Podewils, 2 Teile, Berlin.</i><br><br><i>The Rural Economy of Norfolk. . . , 2 vols., London, 1787.</i>                                                                                                                                                                                   |

<sup>1</sup> Another edition or another book by Brymstohn was published in the same year (1796) entitled *Rezepttaschenbuch für Pferdeliebhaber, aus dem Engl. übersetzt von L. E. W. Romwei, Thal-Ehrenbreitstein.*

<sup>2</sup> The German translation, strangely, gives the author as 'Humphrey Marshall'.

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## AUTHOR AND TITLE

- 1797      Finstohn      *Der aufrichtige Taschenschmidt oder praktische Anweisung zum zweckmässigen Beschlag der Pferde; aus dem Engl. übersetzt von F. J. Fricklar, Neuwied.*
- 1797      H. Kirkpatrick      *Über den Kartoffelbau in Grossbritannien; aus dem Engl. übersetzt von F. G. Leonhardt, Leipzig.*  
*An Account of the Manner in which Potatoes are cultivated and preserved, and the uses to which they are applied in the Counties of Lancaster and Chester. . . , London, 1796.*
- 1799      George Pearson      *Über die Kuhpocken; aus dem Engl. übersetzt von J. Fr. Küttlinger, Nürnberg.*  
*An Inquiry concerning the History of the Cowpox; principally with a View to supersede and extinguish the Smallpox, London, 1798.*
- 1799      Alexander Hunter      *Grundzüge eines vernünftigen Feldbaues; aus dem Engl. übersetzt von B. v. Salis, Altona.*  
*Outlines of Agriculture, addressed to Sir John Sinclair, bart, York, 1795.*
- 1800      Robert Somerville      *Vollständige Übersicht der gewöhnlichen und mehrerer bisher minder bekannten Düngemittel und deren Wirksamkeit; aus dem Engl. übersetzt von C. A. Wichmann, Leipzig.*  
*Outlines of the Fifteenth Chapter of the Proposed General Report from the Board of Agriculture. On the subject of Manures [with Addenda] drawn up for . . . the Board of Agriculture, London, 1795.*
- 1800      J. Anderson      *Abbildung und Beschreibung eines englischen Milchhauses und seiner äusseren und inneren Bauart, begleitet mit einer Abhandlung über Kuhmelkerei, besonders in der Absicht, Milch von der schönsten Qualität zu bekommen und Butter von der vorzüglichsten Art daraus zu machen; aus dem Engl. übersetzt von Chr. A. Wichmann, Leipzig.*
- 1800-I      William Marshall<sup>1</sup>      *Beschreibung der Landwirtschaft von Yorkshire; aus dem Engl. übersetzt vom Grafen von Podewils, 2 Teile, Berlin.*  
*The Rural Economy of Yorkshire . . . , 2 vols., London, 1788.*
- 1800-I      John Middleton      *Beschreibung der Landwirtschaft in der Grafschaft Middlesex; aus dem Engl. übersetzt von K. A. Nöldechen, 2 Teile, Berlin.*  
*View of the Agriculture of Middlesex . . . , London, 1798.*

<sup>1</sup> See note 2, page 133 above.

| YEAR OF<br>PUBLICATION<br>IN GERMAN | AUTHOR AND TITLE                      |                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1800                                | James, Earl of Findlater <sup>1</sup> | <i>Landwirtschaftliche Mannigfaltigkeiten und Ackerbauerfahrungen, nach den neuesten Versuchen englischer Ökonomen, herausgegeben von einem englischen Landwirt, der Theorie und Praxis vereinigt, Prag.</i>                                                                                             |
| 1801                                | James, Earl of Findlater              | <i>Beschreibung der Königlichen Wirtschaftshöfe zu Windsor; aus dem Engl. übersetzt, Chemnitz.</i>                                                                                                                                                                                                       |
| 1801                                |                                       | <i>Neue Erfindungen, wie man mitten im Wintermonat Spargel, Melonen, Gurken, Erdbeeren, Radisen, Rosen, und andere Vegetabilien ohne Mistbeet erziehen könne; aus dem Engl. übersetzt, Berlin.</i>                                                                                                       |
| 1802                                | John Hunter                           | <i>Bemerkungen über die tierische Ökonomie; aus dem Engl. übersetzt von K. F. A. Scheller, Braunschweig.</i><br><i>Observations on certain parts of the Animal Economy, London, 1786.</i>                                                                                                                |
| 1802                                | W. Moorcroft                          | <i>Beschreibung aller bisher gebräuchlichen Methoden des Hufschlags der Pferde; aus dem Engl. übersetzt von F. Beck, Hannover.</i><br><i>Cursory Account of the various Methods of shoeing Horses hitherto practised; with incidental Observations, London, 1800.</i>                                    |
| 1807                                | R. W. Dickson                         | <i>Der praktische Ackerbau oder vollständiges System der verbesserten Landwirtschaft, herausgegeben von A. Thaer, 2 Bände, Berlin.</i><br><i>Practical Agriculture; or, A Complete System of Modern Husbandry: with the Methods of Planting, and the Management of Livestock, 2 vols., London, 1805.</i> |

<sup>1</sup> This was James, the seventh earl, who was born in 1750 and died in Dresden in 1811. No publication by this author in English has been found, but this work first appeared in French under the title *Mélanges agronomiques rédigés d'après la pratique et les expériences des meilleurs fermiers anglais*, Leipzig, 1799. It is possible that Findlater in this and the following publication was the translator and not the author.

# Some Terminological Problems in Studies of British Field Systems<sup>1</sup>

By ALAN R. H. BAKER

STUDIES of British field systems are at present in a somewhat paradoxical position. On the one hand, the debate about the origins of field systems has reached a critical phase. It seems that British agrarian studies follow approximately a twenty-five-years' cycle, with the generalizations, propounded in 1915 by H. L. Gray, in 1938 by C. S. and C. S. Orwin, and in 1964 by J. Thirsk, each marking a peak in the cycle.<sup>2</sup> If so, then we are set once again for a further series of local studies intensively pursued.<sup>3</sup> An exciting time lies ahead in the testing and refining of the ideas recently put forward by Dr Thirsk. On the other hand, there exists a serious danger that the good ship 'The Great Debate about the Origins of English Field Systems', so recently put to sea again after a refit, may all too soon flounder on the rocks of terminological ambiguity. Does an 'open field' of, say, Finberg 1961 vintage share the characteristics of an 'open field' of, say Postan '66? It is obviously the case that a Thirsk '64 is very different from a Titow '65.<sup>4</sup>

We are dangerously near to repeating the errors made by M. W. Beresford and E. Kerridge in their unnecessary debate over the origins of ridge-and-furrow—unnecessary because the sound of argument only died down when it was realized that they were discussing

different forms of ridge-and-furrow.<sup>5</sup> This particular controversy, in addition to illustrating the absolute necessity for a precise definition of one's terms, highlights two of the pitfalls facing all studies of agrarian history: first, the myopic nature of the search for mono-causal explanations; secondly, the fallacious nature of the assumption that from a similarity of form may be inferred a similarity of function and even of genesis. This is one pitfall in agrarian history which the late Professor Lennard might well have added to the list which he compiled in 1963.<sup>6</sup> It is in one sense annoying that, more than fifty years after H. L. Gray's classic work was published, we still have no agreed terminology for studies of English field systems. In another sense it is inevitable, for numerous subsequent studies have demonstrated the diversity of British field systems, both in space and in time. Only the construction and adoption of a uniform terminology can rescue us from this paradoxical situation. If we are to attempt to arrive at any general conclusions, then we must carry on the discussion with the sharpened tools of an unambiguous terminology.

Classification—and the construction of an agrarian terminology is a form of classification—is a necessary preliminary in most sciences. It

<sup>1</sup> This paper was read on 26 October 1968 to a conference, organized by the Agrarian Landscape Research Group of the Institute of British Geographers, on the theme 'The Terminology of Commons, Common Fields, and Field Systems'.

<sup>2</sup> H. L. Gray, *English Field Systems*, 1915; C. S. and C. S. Orwin, *The Open Fields*, 1938; J. Thirsk, 'The Common Fields', *Past and Present*, 29, 1964.

<sup>3</sup> A. R. H. Baker, 'Howard Levi Gray and *English Field Systems*: an Evaluation', *Agricultural History*, 39, 1965, pp. 86-91.

<sup>4</sup> H. P. R. Finberg, 'Recent Progress in English Agrarian History', *Geografiska Annaler*, 43, 1961, pp. 75-9; M. M. Postan, 'Medieval Agrarian Society in its Prime. England', being pp. 548-62 of M. M. Postan (ed.), *The Cambridge Economic History of Europe. Vol. 1, The Agrarian Life of the Middle Ages*, 2nd edn, 1966; J. Thirsk, *op. cit.*; J. Z. Titow, 'Medieval England and the Open-Field System', *Past and Present*, 32, 1965, pp. 86-102.

<sup>5</sup> For a summary of the debate, see: J. C. Jackson, 'The Ridge-and-Furrow Controversy', *Amateur Historian*, 5, 1961, pp. 41-53.

<sup>6</sup> R. Lennard, 'Agrarian history: some Vistas and Pitfalls', *A.H.R.*, 12, 1964, pp. 83-98.

is often said that the state of classification is a measure of the maturity of a science. According to L. S. Stebbing, "the earliest stage of a science is the classificatory stage: it is not long since botany passed beyond this stage and sociology has hardly done so yet."<sup>1</sup> During the last twenty-five years the established classifications in botany, zoology, pedology, and other sciences have been subject to increasing criticism, as advances in knowledge have undermined the basis of classifications established in the nineteenth century. A brief examination of the procedures of scientific classification shows that the grouping of objects into classes on the basis of properties or relationships which they have in common can be reached by two distinct methods: classification and division. In classification, objects are grouped on the basis of properties they have in common. Nineteenth-century taxonomists were concerned primarily with properties which were inherent in the objects classified. Modern biologists, however, have found it necessary to classify plants and animals on the basis of relationships. Thus grouping into classes can be made either on the basis of similarity between connected and different objects, or on the basis of a relationship between connected and different objects. Whereas in classification individuals are grouped into classes and classes then included within super classes, in logical division an initial class is taken to include all individuals and this class is subdivided into subclasses on the basis of some principle. The initial class to be divided is called the genus, which is then divided into its constituent species.<sup>2</sup>

The relevance of these scientific procedures for agrarian studies may be seen at two points. In his study of field systems in Devon, H. P. R. Finberg suggested that the infield-outfield system and the Midland system were two species of the same genus, *open-field system*, and that they probably evolved side by side, "moulded by the contrasting qualities of the highland and

lowland landscapes."<sup>3</sup> This provides an echo of Charles Orwin's belief that "wherever you find evidence of open-field farming and at whatever date, it is sufficient to assume that you have got the three-field system at one stage or another."<sup>4</sup> Although this view might be held when considering the ultimate origins of field systems—who knows? the ultimate origins we shall never know—it is hardly tenable when looking at the period for which we have adequate documentation. The diversity of the open fields both in appearance and in organization has been demonstrated in countless local studies. To quote M. M. Postan's recent review of the present state of knowledge: "So great were the [physical, demographic, and social] variations that no student of medieval agriculture would nowadays dare to assemble all the medieval agrarian institutions into a portmanteau model capable of accommodating the whole of England during the whole of the Middle Ages."<sup>5</sup> This being so, we must turn to the procedures of classification rather than of division: to build up a picture of reality rather than to break down some notional system.

Furthermore, it would seem desirable to classify and define agrarian terms on the basis of relationships rather than of similarity. Definitions of agrarian terms could be formulated in terms of three sets of criteria: formal definitions, based on morphology, would be descriptive; functional definitions, based on organizational relationships, would be analytically descriptive; genetic definitions, based on the origins of agrarian forms and structures, would be explanatory. Formal definitions are too narrowly based to be of much use. In a map which formed the frontispiece to his book, H. L. Gray delimited the area within which the Midland open field system was practised.<sup>6</sup> Further studies have gradually extended these limits but some, possibly many, of these studies have been based on the false assumption that all open fields were operated along the lines of the Mid-

<sup>1</sup> L. S. Stebbing, *A Modern Elementary Logic*, 1963, p. 108.

<sup>2</sup> A clear summary of the procedures of scientific classification is D. Grigg, 'The Logic of Regional Systems', *Annals of the Association of American Geographers*, 55, 1965, pp. 465-91.

<sup>3</sup> H. P. R. Finberg, 'The Open Field in Devon', being pp. 265-88 of W. G. Hoskins and H. P. R. Finberg, *Devonshire Studies*, 1952.

<sup>4</sup> C. S. Orwin, 'Observations on the Open Fields', *Econ. Hist. Rev.* 8, 1938, pp. 125-35.

<sup>5</sup> M. M. Postan, *op. cit.*, p. 571.

<sup>6</sup> H. L. Gray, *op. cit.*, frontispiece.

land system. From a field pattern which includes unenclosed parcels of arable land has been inferred an agrarian organization which includes communal regulation of cultivation, particularly dictation of the fallow period and throwing open of both arable and meadow for common pasturing by the stock of all commoners after harvest and in the fallow season. Open-field patterns have been assumed to reflect Midland field husbandry. The form of fields has been confused with their functioning. A similarity of form cannot safely be taken as an indication of a similarity of function or of genesis. The terminological framework to studies of field patterns now presented to us by German scholars is in fact formally based: "In view of the fact that many field patterns are composed of very different parts, it seemed desirable to base their analysis and basic definition on *one* criterion which could be used in every case. The other aspects of a given field pattern could then be referred to in the description of the individual cases. It was thus decided to classify field patterns according to their forms rather than to their functions or their origin."<sup>1</sup> It is certainly necessary to avoid confusing formal characteristics with functional relationships. If formal definitions have to be constructed in order to avoid this confusion, then they are clearly necessary. But it would be unwise to regard them as anything more than a preliminary classification. Little agreement would yet be possible over genetic definitions. Attempts to formulate such definitions beg too many questions. On the other hand, functional definitions of the organization and structure of agrarian forms would seem to be more feasible than genetic definitions and more analytical than formal definitions.

The provisional glossary of agrarian terms propounded by R. A. Butlin some years ago contained few, if any, genetically defined terms.<sup>2</sup> About half of the terms considered were defined formally, about half functionally. There has as yet been no systematic examina-

tion of the definitions formulated by Mr Butlin and on re-reading his glossary one encounters again some controversial suggestions. He suggested, for example, that the term 'furlong' be retained as defining a measure of length but rejected as meaning a block of selions in the common arable field, for which the term 'shott' was preferred.<sup>3</sup> Mr Butlin thought that 'shott' could serve as a standard term, in preference to the various local terms which have been used in the same sense, such as 'furlong', 'flatt', and 'wong'. This suggestion was certainly based on a desirable principle: the need to establish an accepted terminology which will allow local historians to exchange their parochial terminologies for a more general one. But how many agrarian historians have discussed, let alone accepted, Mr Butlin's suggestion? Mr Butlin also thought that the term 'field system' should be replaced with the term 'common-field husbandry'.<sup>4</sup> This would seem to be unacceptable, in that it implies that all field systems were variants of common-field husbandry. H. L. Gray's more neutral definition of a field system, as "the manner in which the inhabitants of a township subdivided and tilled their arable, meadow and pasture," remains unobjectionable.<sup>5</sup> Mr Butlin further suggested that the term 'open field' could well be discarded. He called it "a confusing term," an "over simplification."<sup>6</sup> Again, how many agrarian historians are continuing to employ this term?

This paper has so far considered the types of terminological definitions available. Before going on to deal with the specific terms 'open field' and 'common field' two further general problems must be mentioned. First, the spatial variations in agrarian terminology: I have already touched upon the need to construct not only a basic and widely accepted terminology but also to formulate regional terminologies compatible with it. Secondly, there are the temporal variations in agrarian terminology, the problem here being the changes in the meanings of terms through time. G. Whitting-

<sup>1</sup> H. Uhlig and C. Lienau, 'Types of field patterns', *Basic Material for the Terminology of the Agricultural Landscape*, 1, Giessen 1967, pp. E4-5.

<sup>2</sup> R. A. Butlin, 'Some Terms used in Agrarian History', *A.H.R.*, 9, 1961, pp. 98-104.

<sup>3</sup> *Ibid.*, p. 101.

<sup>4</sup> *Ibid.*, pp. 100-1.

<sup>5</sup> H. L. Gray, *op. cit.*, p. 3.

<sup>6</sup> R. A. Butlin, *op. cit.*, p. 102.

ton's recent study of the terminology of strip lynchets demonstrated that the original meaning of the word lynchet was very different from the one it conveys today.<sup>1</sup> What, then, are we attempting to define? The meanings of terms as they were used by their contemporaries, or the meanings of terms as they could most usefully be employed today? In France, two parallel studies are being undertaken: one by P. Fenélon of the vocabulary of agrarian terms as they were originally devised and subsequently changed, the other by a group of geographers of a glossary of agrarian terms to be employed in current research.<sup>2</sup> The terms which we are attempting to define are not necessarily those used either locally or historically. Dr Whittington has pointed out, for example, that 'strip lynchet' is not a term used by the inhabitants of the areas in which the terraces are found.<sup>3</sup> Definition of the term is thus an academic exercise. This dichotomous usage needs to be kept in mind. If, for example, we are able today to adopt a definition of 'common field' in terms of specific functional characteristics, then simply to encounter the term 'common field' in, say, seventeenth-century records does not allow us to identify an agrarian form with those defined functional characteristics. The term 'common field' as it appears in historical records may mean something very different from the standard definition we adopt today, and indeed the term may change its meaning both spatially and temporally, being used in historical records to refer to different types of agrarian structures at different places and at different historical periods.

Finally, it is necessary to consider in more detail the terms 'open field' and 'common field'. Should 'open field' and its associated

term 'open-field husbandry' be discarded? *The Shorter Oxford English Dictionary* definition of 'open' is "The part of country not enclosed. Ground without buildings, trees, etc. Unenclosed, unwalled, unconfined."<sup>4</sup> In reality, most so-called 'open fields' were enclosed, their peripheries being marked by an enclosure of some kind, be it bank, ditch, hedge, or fence. Mark Pierce's map of Laxton in 1635 shows that even the 'open fields' of that supposedly classic parish were surrounded by hedges.<sup>5</sup> The fields themselves were enclosed. But their internal subdivisions, the parcels and strips, were open and unenclosed. Even as a formal definition the term 'open field' is confusing. In a letter written to the Editor of the *AGRICULTURAL HISTORY REVIEW* in 1962, I suggested that a pattern of unenclosed strips and parcels within enclosed fields might better be termed 'subdivided fields' rather than 'open fields' and I used this term in my study of Kentish field patterns of the seventeenth century and earlier.<sup>6</sup> This practice has not been more widely adopted but there has since 1962 developed a growing awareness that not all 'open fields' (i.e. subdivided fields) functioned or originated in the same way.<sup>7</sup> Dr Thirsk has suggested that a distinction be made between two kinds of 'strip fields' (i.e. subdivided fields).<sup>8</sup> She has argued that fields comprised of unenclosed parcels not definitely known to have been cultivated or grazed in common are best described as 'open fields', the term 'common fields' being best reserved for fields over which common rules of cultivation and grazing are known to have operated. While agreeing with Dr Thirsk that Dr Titow's persistence in regarding the terms 'open field' and 'common field' as freely interchangeable will confuse rather than clarify the

<sup>1</sup> G. Whittington, 'Towards a Terminology for Strip Lynchets', *A.H.R.*, 15, 1967, pp. 103-7.

<sup>2</sup> E. Juillard, 'Géographie Rurale Française: Travaux Récents, 1957-63', *Études Rurales*, 13, 1964, pp. 46-70.

<sup>3</sup> G. Whittington, *op. cit.*, p. 106.

<sup>4</sup> *The Shorter Oxford English Dictionary*, vol. 1, 3rd edn, 1966, p. 695.

<sup>5</sup> C. S. and C. S. Orwin, *op. cit.*, endpieces.

<sup>6</sup> Letter to the Editor, *A.H.R.*, 10, 1962, p. 28; A. R. H. Baker, 'Field patterns in seventeenth-century Kent', *Geography*, 50, 1965, pp. 18-30.

<sup>7</sup> J. Thirsk, 'Preface to the Third Edition', being pp. v-xv of C. S. and C. S. Orwin, *The Open Fields*, 3rd edn, 1967.

<sup>8</sup> *Ibid.*, p. ix. Incidentally, 'strip' is not an appropriate description of the shape of all the parcels of subdivided field. Shapes of parcels could vary considerably.

interpretation of the evidence, I can see some serious disadvantages in continuing to employ the term 'open field' at all.<sup>1</sup> We cannot go back through the field systems' literature of the last fifty years and correct the errors of our predecessors—or indeed our own errors. For this reason and in this particular context, an entirely new term is better than the redefinition of an old one. Otherwise a single term will be encountered in the literature with a dual meaning. Three years ago saw the reprinting by the Standing Conference for Local History of the booklet by F. G. Emmison, *Types of Open-Field Parishes in the Midlands*, first published in 1937. The reprinted version emerged, at Dr Thirsk's suggestion, with a new title, *Some Types of Common-Field Parish*.<sup>2</sup> The term 'common-field' had been substituted for 'open-field' in the title, although regrettably the latter term was retained in the text. In this instance, the duality of meaning exists within a single publication. It is, of course, also unfortunate that many French agrarian historians have in the past adopted the English terminology and so referred to *l'openfield*. This ambiguity will be eliminated in the newly devised French glossary of agrarian terms, by the substitution of *paysage ouvert*.

The term 'common field' presents fewer problems. Mr Butlin's definition of 'common arable land', as "arable land contained in common fields and becoming commonable after harvest," has been widely adopted. So too has his definition of 'common-field husbandry' as "a system of husbandry based on the cultivation of common arable and meadow."<sup>3</sup> This apparent pool of unanimity has recently been disturbed by a stone cast into it by Dr Titow who continues to believe that a single explicit

reference to a piece of land lying 'in the common field' or *in communi campo* is "sufficient to indicate the presence of the open-field system" (meaning common-field system, because for Dr Titow these two terms are freely interchangeable).<sup>4</sup> To Dr Titow the word *common* in historical records describes land worked under the common-field system. This was certainly not the case in Kent where references in documents to 'common fields' simply described a field of unenclosed parcels in intermingled ownership and/or occupation.<sup>5</sup> We must refrain from imposing functional interpretations on what were only formal descriptions. There is even evidence that on one Kent manor a former demesne field was leased out in unenclosed parcels to different tenants and came to be known as the 'Common Field' for the first time during the sixteenth century.<sup>6</sup> This 'common field' of the sixteenth century was no part of a 'common field system' as we employ this term today. We need to inspect the medieval evidence again, to see whether references to 'common fields' were in fact describing subdivided fields and not necessarily common fields. It may well be, of course, that in some parts of the country at various times fields described in historical records as 'open' were 'common' too.

There are two obvious conclusions to be drawn from this brief survey of some of the terminological problems associated with studies of British field systems. First, the problems must be solved and a terminological framework formulated and adopted. Secondly, terminological problems are soluble—unlike some of the other sets of problems facing agrarian historians.

<sup>1</sup> J. Thirsk, 'The Origin of the Common Fields', *Past and Present*, 33, 1966, pp. 142-7; J. Z. Titow, *op. cit.*, p. 86.

<sup>2</sup> F. G. Emmison, *Types of Open-Field Parishes in the Midlands*, 1937; F. G. Emmison, *Some Types of Common-Field Parish*, 1965.

<sup>3</sup> R. A. Butlin, *op. cit.*, pp. 99 and 101.

<sup>4</sup> J. Z. Titow, *op. cit.*, p. 96.

<sup>5</sup> A. R. H. Baker, 'Field patterns in seventeenth-century Kent', *Geography*, 50, 1965, pp. 18-30.

<sup>6</sup> A. R. H. Baker, 'Field Systems in the Vale of Holmesdale', *A.H.R.*, 14, 1966, pp. 1-24.

# Recent Developments in Studies of the Terminology of Agrarian Landscapes

By R. A. BUTLIN

IN 1961, H. P. R. Finberg, in an editorial introduction to a glossary published in this journal, wrote that "Agrarian history, like other branches of learning, not infrequently finds itself bedevilled in discussion and exposition by ambiguity in the terms employed."<sup>1</sup> The glossary itself was intended to reduce such ambiguity, stimulate further discussion of this problem, and continue the work begun at the international colloquium in Nancy in 1957. At a time when the quantity of published work on the evolution and development of rural societies and landscapes was rapidly increasing, it appeared obvious to some geographers, historians, economists, and others that a more carefully defined terminology was an essential prerequisite for profitable discussion and comparison of features of agrarian landscapes. Comparisons and contrasts could not be made unless the connotation of many ambiguous terms could be more exactly expressed. While many scholars agreed that the value of such a project was potentially high (though there remained, and still remain, those who, in the words of one eminent agrarian historian "appear to prefer *not* to know what they are talking about"), the problem remained of determining the most profitable and expedient way of arriving at such a goal. The most obvious solution was to adopt the decimal system of classification of terms drawn up by Professor Harald Uhlig, of the University of Giessen, and to effect discussion, debate, and ultimately definition, by means of the circulation of carefully designed working papers, each relating to a specific term.

The problems of making comparative studies of agrarian structures within a European context, because of confused terminology, became

increasingly obvious as a result of further international colloquia at Vadstena in 1960 and Leicester in 1964, and determined efforts were made within the British Isles to enlist the help of scholars working in a wide variety of disciplines. The co-ordination of this work was attempted by a small *ad hoc* group of geographers, operating within the Institute of British Geographers. The results of their work, however, were meagre, as there appeared to be few people who were willing to complete the working papers which formed the basis of the whole system. At a meeting in Würzburg in July 1966, further deliberations on this problem took place between geographers from European countries. The French geographers reported the establishment of a *Commission du Lexique Agraire*, which was actively involved in the production of a lexicon of agreed definitions of terms which would be used in France. The German geographers were working on an outline draft of binding definitions of German terms which could be used as a basis for comparison for discussion on an international basis. In order to redress the obvious imbalance between terminological definition in France and Germany on the one hand and the British Isles on the other, it was decided to constitute a formal Study Group for the Terminology of the Agrarian Landscape (subsequently designated The Agrarian Landscape Research Group) within the Institute of British Geographers, whose constitution makes provision for such groups. This group was established in January 1968 with Professor J. T. Coppock (University of Edinburgh) as chairman. The basic aims of this study group are: to compile lists of definitive terms used to describe agrarian landscapes; to initiate and stimulate re-

<sup>1</sup> H. P. R. Finberg, Editorial Introduction to 'Some Terms Used in Agrarian History', by R. A. Butlin, A.H.R. ix, 1961, p. 98.

search into the characteristics, origins, and development of the features so described; to further co-operation in this field with cognate disciplines and organizations, particularly in the British Isles and in Europe; and to publish papers, discussions, and definitions.

One method of generating discussion of agrarian features and terms which has been adopted by the group is the sponsoring of conferences dealing with specific themes and features. To this end, a one-day conference was held in the Geography Department, University College, London, on Saturday, 26 October 1968, its theme being 'The Terminology of Commons, Common Fields, and Field Systems'. This conference was attended by thirty-five participants, of whom the greater proportion were geographers.

The first paper of the first session (chaired by Professor J. T. Coppock) was read by Dr A. R. H. Baker (University of Cambridge), and dealt with 'Some Terminological Problems in Studies of British Field Systems'. The text of this paper is published in this number of the REVIEW, and need not, therefore, be presented in précis. The discussion which followed this paper related to two main points: the apparent need to have formal and functional sets of definitions, which should not be confused; and the possible alternative terms for 'open' or 'common-field'. On the latter point, several suggestions were made, including 'subdivided field', 'parcellated field', 'quilletted field', and 'divided field', though there was no general agreement to the use of any one of these as a suitable alternative.

In a second paper, entitled 'Terminology of the Open Fields of Devon and Cornwall', Mr H. S. A. Fox (University of Cambridge) paid particular attention to the terms 'stitch' and 'stitchmeal', and 'landscore'. The term 'stitch' may be of Anglo-Saxon derivation, meaning 'anything small', and suggests to some that these dispersed and fragmented holdings were of Anglo-Saxon introduction. This latter argument was not very convincing, for early field names in Cornwall were, in fact, in Cornish, and throughout the Middle Ages Celtic-Cornish names remained in the vernacular while Latin was dominant. With the change to

English, however, 'stitch' and 'stitchmeal' became common terms, and thus constitute an interesting example of the relatively late introduction of terms which became dialect terms. In Devon, the term 'landscore' only became deeply rooted in local terminology after the sixteenth century, and was used in three different ways: to denote a boundary of an open-field strip, a strip itself, and to describe open-field land in general. Mr Fox concluded by stressing the importance of dialect terminology, and this theme was continued in the ensuing discussion. It was agreed that the study of dialect terminology was significant both in relation to the genesis of field systems in an area, and also in relation to non-indigenous description of these systems whereby 'alien' terms might be applied by extra-regional commentators to features which they did not fully understand.

In the final paper of the morning session Mr J. C. Harvey (University of Sheffield) discussed the 'Terminology of the field-systems of Yorkshire', with particular reference to the West Riding terminology of the seventeenth and eighteenth centuries, a period when the old system was in decay and enclosure made rapid progress. Features such as strips and furlongs were described by a great variety of terms. The Parliamentary enclosure awards describe a variety of situations showing degrees of prior enclosure, but the terms 'open' and 'common' (fields) were used synonymously, while the term 'town-field' was frequently applied to the sole open field of a settlement of the hamlet type. Interpretation of the terminology of field systems used in the eighteenth and nineteenth centuries was difficult because the described features were changing in form and function, but because the evidence for this period is most profuse, more attention should be paid to it. Problems and suggestions raised in discussion included: the possibility of a study of the terminology used by various enclosure commissioners, the cumbersome terminology currently used to describe various types of enclosure, and the difficulty of arriving at an exact functional connotation of field-names.

The second (afternoon) session, chaired by R. A. Butlin (University College, Dublin),

comprised one paper and a discussion of an outline terminology proposed by German geographers.

Dr I. H. Adams (University of Edinburgh), in a paper on 'The Terminology of Commons in Scotland', spoke initially of the paucity of documentary evidence for Scotland, and also of the need to distinguish between various levels of terminological usage, i.e. between the spoken but largely unwritten language of the peasant cultivator, the written language of the period studied (which normally had heavy legal bias), and a working terminology for general use. Estate plans and documents should be studied with particular reference to the notional agrarian concepts of the surveyor: inexplicable anomalies and features of agrarian systems often reflect the inability of the surveyor fully to perceive and describe what he saw. A classification of Scottish commons was proposed, including the following categories: run-rig, commonry, borough commons, commons in which the Crown had interest, common greens, common moss, and common grazing (the last-named comprising the bulk of the common lands of Scotland). This paper stimulated a lengthy discussion, with a notable contribution from Mr R. A. Dodgshon (Museum of English Rural Life) on the subject of some apparently fallacious notions of the run-rig system.

Dr C. Lienau (University of Giessen) introduced, in the final working session, a new publication, *Flur und Flurformen*,<sup>1</sup> recently published in Giessen. The object of this work was to establish a basic terminological framework into which various types of field patterns

and their elements could be placed, which would thus constitute a comparable basis for international discussion. A set of standard German terms is offered in the book along with suggestions for French and English equivalents, to be debated in the respective countries. The members of the conference discussed the English terms suggested, and agreed to adopt the recommended definitions and terms, including, *inter alia*, the term *parcel* ('the smallest unit in a parish or township'), *strip* ('an elongated parcel, the longer sides of which are more or less parallel. The width-length ratio of 1:2.5 is taken as the dividing line between regular blocks and strips'), *block* ('a more rectangular shape' as defined above), and *fur-long* (a 'bundle of parcels').

This conference generated considerable interest and discussion and similar conferences will be held in future. Indeed, a week-end conference on the 'run-rig' system has since been held in Edinburgh. It has been agreed that the necessary extension of the debate on terminology is more likely to profit from discussion of specific themes and related terms rather than from protracted discussion, *in vacuo* and in a solely lexicographical context, of separate and unrelated terms. This work has been largely initiated by academic geographers, but there can be no doubt that progress can only be continued on an inter-disciplinary front. Support of, and interest in this venture from historians, economists, agriculturists, archaeologists, and others is vital, if this attempt to refine definitions and descriptions of agrarian landscapes is to succeed.<sup>2</sup>

<sup>1</sup> H. Uhlig (ed.), *Flur und Flurformen* (Types of Field Patterns), Giessen, 1968, being vol. 1 of 'Basic Material for the Terminology of the Agricultural Landscape', compiled under the auspices of the International Working Group for the Geographical Terminology of the Agricultural Landscape. Each section of this work is reproduced in German, English, and French. Copies can be ordered from Frau Völpel, Geographisches Institut der Justus Liebig-Universität, Landgraf Philipp-Platz 2, 63 Giessen, W. Germany, price DM 15.

<sup>2</sup> Provision for membership of the Agrarian Landscape Research Group by non-members of the Institute of British Geographers is being made in the constitution of the group. Those requiring further information about the group and its activities should write to the author at University College, Dublin.

## Book Reviews

W. E. MINCHINTON (ed.), *Essays in Agrarian History*. David and Charles for the British Agricultural History Society, 1968. 2 vols., 264, 316 pp. 63s. each.

It is an interesting phenomenon that while an ever diminishing proportion of the world's population gets its living from agriculture, interest in the history of agriculture has grown remarkably in the past decades. The Second World War was a turning point; since 1945 all over the world, but particularly in the well-developed industrial countries, studies of agricultural history have multiplied, and this increase in research continues undiminished to this day.

Interest in agricultural history is the result of many factors. In Europe, particularly, there were tremendous difficulties in securing food supplies during the Second World War, and in the post-war years, and these difficulties, continuing for long years, turned the attention of the entire population to this basic issue of existence. The war and with it the difficulties of food supply belong to the past, but the interest has continued to grow nevertheless. This is a phenomenon of great importance, for we meet generally similar symptoms in the U.S.A., in the United Kingdom, in Germany, France, Poland, in the U.S.S.R., as well as in Japan and Australia. Research on agricultural history is increasing everywhere; its independent organizations are being established all over the world.

The conditions, in which independent organizations for research in agricultural history developed, ripened in the 'fifties. In the Netherlands a special institute was established in 1950, and in Denmark in 1952 a similar working centre was set up. The British Agricultural History Society was founded in 1953 and started a periodical at the same time. In the same year in Western Germany, the *Gesellschaft für Agrargeschichte* was established with similar aims, and this society also publishes a periodical. Journals or yearbooks on agricultural history were published in the second half of the 'fifties in Hungary, Poland, and the U.S.S.R., and in the early 'sixties in Italy and Belgium.

The framework of systematic research had been built. However, all this had been preceded by the foundation of a Japanese society of agricultural history in 1948. Now an international bibliography of agricultural history is being published in Budapest, signifying that agricultural historiography is not developing in an isolated way in each country, but is emerging on a world-wide scale.

This development reflects the concern of historians with problems concerning the world-wide crisis of food production. The larger part of the world copes today with the menace of such a famine, on a scale unparalleled in the history of mankind so far. And this menace calls attention automatically to agriculture everywhere, and has given a strong impetus to world-wide research in agricultural history during the last decades.

It goes without saying that this fundamental problem is treated everywhere in a different way. Research work in each country has its own characteristic individuality. It also cannot be doubted that the crisis of historiography, which developed especially after the First World War, and which gave rise, in logical consequence, to the study of economic history, has similarly contributed to the flourishing condition of research on agricultural history. However, this is not the whole story as can be seen from the fact that the majority of newly established institutions and periodicals on agricultural history are linked in some way with the agricultural sciences, either as branches of academies of agriculture, or by issuing their periodical publications under the wing of agricultural institutes.

Accordingly, the development of research on agricultural history in Great Britain after 1945 is not a merely local phenomenon, though it is indisputable that Great Britain plays a leading role in the international literature. What distinguishes English research favourably from the others is the fact that it is well balanced. It has already been remarked that, within the overall development, research in each country is determined by specific characteristics, that is

to say interest in each country is centred on different subjects. This is understandable too. In Latin America the main interest is focused first and foremost on the social aspects of the distribution of land, while in the Netherlands it is centred on the evolution of production and changes in yields—to mention the most extreme examples. Of course researchers tend to consider questions of the immediate past and future, and their questions determine the answers. But apart from these extreme examples, the polarization of interest shows up in less pronounced ways. In central and east European countries the basic concern of agrarian historians is to answer questions on agricultural society, while in western Europe and in America they are concerned with questions of production. Though many other factors, such as the nature of the sources and the tradition of historical writing play a part in the selection of subjects for study, the fundamental determining factor is the agrarian evolution of the country itself. This is the most influential factor in shaping research and specifying problems.

Among all international research, the British contribution in a certain sense holds a central place. It attracts the limelight and is in many ways exemplary both in its methods and in its themes. It is not easy to see the reason for this at present, but it is clear that its well-balanced character is its most decisive and active force. This quality is strengthened by the tremendous richness of its historical sources which the Continent cannot match. But the most important reason of all lies in the fact that fundamental questions concerning British agrarian society in the eighteenth and nineteenth centuries were not—thanks to the revolution having been completed earlier—so acutely urgent, and have not received such exclusive attention as they have in almost all other countries of Europe, and particularly in eastern Europe. In these territories radical land reforms, and the necessity for a redistribution of land had provoked battles for decades, in many places for centuries, and in these struggles, research on agricultural history was primarily concentrated on the study of landownership. In Britain there was no necessity for this, so that

when, in the last third of the nineteenth century, in the wake of the agrarian crisis, the first great era of research on agricultural history began, a number of different questions—agricultural production, prices, wages, the situation of the different social classes, and so on—all attracted interest in the same proportion; all claimed to share in the limelight. Thus the research which developed then was, from the very beginning, much more balanced, and has been concerned with more varied aspects of agrarian life than on the Continent, where different tendencies have governed research.

The manifold themes of English research on agricultural history are well displayed in the two volumes which prompt the foregoing short review. These studies, published in two volumes by the British Agricultural History Society, to which already the epithet “classical” may be given, incorporate all those characteristics which distinguish British from continental and American work. What are those characteristics? First of all, a very strong feeling for the main questions of economic life. This feeling is also strengthened by a training in economics, in the agricultural sciences, and, at a relatively early stage in the development of research, in the use of statistical methods. Articles by the great men of the nineteenth century, such as Thorold Rogers, are not included in these volumes, but two studies which appeared at the beginning of this century, by R. J. Thompson and A. Wilson Fox, are admirable examples of the early use of statistical techniques. We should also note a fact, which has a fundamental bearing on the character of research, namely, that the relatively early use of these methods—also demonstrated in the more recent studies of M. K. Bennett and W. G. Hoskins using very early documents—was made possible because interest in such subjects was already very strong in the nineteenth century. The collection of statistical data was attempted at an early stage, and this made precise comparative analysis possible, as well as making statistical methods acceptable in historical research. The statistics of economic life were systematically kept in sight by the government, and this evidence was early used in research.

In these volumes nearly all aspects of British research on agriculture are represented by at least one study. The adjective 'agrarian' summarizes correctly the wide scope of the work, which extends from questions of productivity to the very complex phenomenon of social organization. This is evidently not accidental, for the British Agricultural History Society identifies itself with all manifestations of agrarian history in the same way as other similar European societies and institutions. They do not restrict themselves to the history of production alone, but are interested in agrarian society and the mutual influence of production and society. This correct conception can be inferred from the themes of the published studies.

It is, moreover, praiseworthy that the essays give a picture of nearly the entire history of agrarian evolution over time. True, the historian's work seems to close with the First World War, but economists and statisticians deal with problems of the period that has elapsed since then. And knowing the deep roots of British historical research, and how firmly embedded they are in the realities of life, it is certain that sooner or later professional historians will take up the history of the past fifty years too.

Every volume of essays is liable to be criticized for the principles on which its selection is based. In this case, too, one could grasp such an opportunity since, within the limitations of two volumes all articles of value could not be included. But instead let us turn our attention to a more important problem. As we read in the preface the selection of the essays was decided democratically. They reflect, in fact, as they ought to reflect, the majority views of learned scholars. This entitles us to examine what place the AGRICULTURAL HISTORY REVIEW takes in the organization of research. From the studies published, one is driven to the conclusion that this journal is ever faster forming its own framework and has become in recent years the leading organ of research, establishing its place against its great rival, the *Economic History Review*. This fact is very welcome as every new periodical has to fight against the official resistance which is presented by the existence of already established and well-edited journals.

In this respect, however, the AGRICULTURAL HISTORY REVIEW has made great progress, becoming the principal periodical of the profession, and, if there is anything to criticize in the editing of these volumes, it is the fact that this development of the REVIEW is not reflected in the selection of the essays. However, the Editor should not be blamed for this, as there is hope that these volumes will be followed by others, and these obviously will reflect the development of the AGRICULTURAL HISTORY REVIEW. Until that time comes, we may regard these volumes as the salute of the British Agricultural History Society to the ideas of its forebears and its colleagues, and as the claim of those scholars to relive and cultivate traditions, without which no scholarly society can expect its activity to be judged of permanent value.

PETER GUNST

H. P. R. FINBERG and V. H. T. SKIPP, *Local History—Objective and Pursuit*. David and Charles, Newton Abbot, 1967. 132 pp. 21s. Of the many books on local history now available, few can contain so much as this, so clearly set out, in so small a compass. It contains three already published pieces by Professor Finberg with three new essays, one by the Professor and two by Mr Skipp. Every one of them is packed with information basic to the understanding of, and initial steps in, local history. Especially valuable is the re-issue of Finberg's *Introductory Lecture*—his real inaugural defining a policy for the subject, which has since become 'classical'—given in 1952 when he was made Reader in English Local History at Leicester University, and now in a shape more easily handled. With some astringent humour Finberg describes how he came to give virtually two inaugurals, a humour which is carried into his *How Not to Write Local History*. Whatever may have been intended in this last, it has become an indispensable early warning system to enthusiasts (and others) who will find plenty to amuse and so offset any damping effects.

To anyone uncertain as to what is meant by the 'Leicester School'—and the term is thrown about a good deal in these days—this slim volume will be a godsend. But to most readers of this journal the work of Professor

Finberg will be well known: that of Mr Skipp is less likely to be so familiar. Mr Skipp's two contributions on local history as a co-operative study in adult classes and in schools, though cast in a different mould, are well fitted to stand alongside those of his experienced collaborator. Each essay, sticking strictly to the relevant, deals in streamline fashion with what work can be (and has been) done, how it can be introduced and pursued, and what is involved in co-ordination, leadership, and energy. There is no attempt to minimize the work involved in such programmes for the teacher and those with a little experience will recognize a well-worn teaching pattern—initial hard work often involving considerable sacrifice, followed by growing realization of its enormous value in achieving freshness of approach and in opening up lines where students can make a genuine contribution of their own. As time goes on the teacher's load is lessened and his sense of mastery increased. Streamlining has not allowed the author to dilate on this, and this is unfortunate as the prospects when starting a local history course can appear very daunting indeed. But the work done by the 'Discovering Sheldon' group—self-effacingly related—stands monumentally as a magnificent achievement *which can be and is being done elsewhere*. Professor Finberg compares it with five years' work of a professional researcher but done by the group in three.

The conclusion that the extra-mural class is an ideal medium for group work in local history is clearly borne out today by experience all over the country, and many students and teachers alike will be interested in comparing their classes with those of Mr Skipp, conducted in the Birmingham conurbation. It is good to remember that though the open fields may have become bricks and mortar now, they have left their mark and indeed may revert to their original use again; as happened within the fifth-century walls of Constantinople. In schools local history—attractive as it proves—is a harder matter altogether, and teachers may well recognize some of their own blasted hopes in Mr Skipp's last essay: but there is wise and unspectacular counsel for such. How marvelous it would be if all our children were, in

the early stages, grounded in their history in this meaningful way! Down to earth as this little book is from start to finish, it keeps on stimulating such hopes—and of course fears; it should be a 'set book' for everyone at all interested, not just 'recommended reading'.

P. D. WHITTING

W. G. HOSKINS, *Fieldwork in Local History*.

Faber and Faber, 1967. 192 pp. 25s.

Nine years ago, *Local History in England* included two chapters on fieldwork. The present volume widens and extends this subject close to Professor Hoskins's heart. It contains little that is new to those acquainted with its author's other publications, but the main beneficiaries will be the large number of dedicated amateur local historians throughout the country, especially perhaps, societies and adult education classes where the study of local history flourishes.

The aim of the book is to teach us to become visually literate by asking the right questions about the landscape and buildings around us. But far from there being any opposition between fieldwork and documentary evidence, local history is a dialogue—or 'marriage' (p. 94)—between the two: 'documents—fieldwork—back to the documents—fieldwork again' is a fruitful line of inquiry (p. 125). Throughout, suggestions for fieldwork are combined with advice on the use of documentary sources. There is no bibliography, but useful books and articles are given full reference in the text and indexed under author and title.

Professor Hoskins says he has tried to think of every kind of fieldwork (except industrial archaeology) which the local historian is likely to engage in (p. 11), and indeed he has largely succeeded. Eleven chapters cover a wide range of topics, from Anglo-Saxon landscapes to nineteenth-century urban housing, with an equal variety of documentary sources from Old English charters to Minutes of Street Committees. Practical advice alternates with illustrative examples of the author's methods at work, discovering Domesday villein farms in Devon, solving problems of place-names and topography on part of the Norfolk coast, and in a charming 'Farewell to Fieldwork' eluci-

dating the history of such different villages as Maxey (Northants.) and Heptonstall (Yorks. West Riding). To many these will be the best sections of the book. Most interesting of all, perhaps, is the author's development of his belief in the continuity of Roman Britain and Anglo-Saxon England, certainly in fertile regions. The value of fieldwork in this important subject is beyond doubt.

No serious criticisms are provoked. Maps would have clarified the 'Two Tours' of parts of Norfolk and Somerset (chapter 10)—an odd omission for one so 'map-conscious'. The value of aerial photographs deserves emphasis; and advice on mapping ridge and furrow (where aerial photography combines with work on the ground) would have been welcome. Finally, to many local historians the layout and pattern of the open fields, in the absence of enclosure or earlier maps, frequently remain the most important single problem to be solved by fieldwork methods, and on this subject the book says little.

Professor Hoskins has the rare ability to write professionally yet in a style attractive to the lay reader. Scholarly insight is linked with a vivid presentation which compels attention, and his enthusiasm is infectious. He has produced another book which will be on the shelves of every local historian.

IAN KERSHAW

LESLIE SYMONS, *Agricultural Geography*. Bell, 1967. x+284 pp. 30s.

This is a concise and straightforward introduction to the geography of farming systems. Part I discusses in general terms the respective contributions of climate, relief, soil, and man in shaping agricultural economies. Part II illustrates these general principles with examples of regional types, including mixed crop and livestock farming in Britain and New Zealand, rubber growing on plantations and on subsistence farms in Malaya, and collective and state farming in the Soviet Union. The author deliberately excludes from his purview hunting and collecting economies, and, by somewhat specious reasoning, forest economies. Part III describes methods of analysing and defining agricultural regions.

JOAN THIRSK

ERIC JOHN, *Orbis Britanniae and Other Studies*. Leicester University Press, 1966. xii+304 pp. 42s.

In this collection of essays Mr John develops some of the themes first presented in his *Land Tenure* in 1960. The second half of his new book discusses aspects of the tenth-century monastic reformation in England, and most of this though valuable need not detain us here. The opening chapters however deal with some of the basic problems of landownership in the formative period of English history, and no student of early agrarian development can afford to ignore them. His approach is original and provocative, employing techniques in utilizing charter material which owe nothing to his predecessors, and which are backed up by discriminating use of a wide range of primary and secondary sources, many of them continental. "It is difficult," he says, "in writing this kind of history to avoid the minute exegesis of textual points, which makes ungrateful reading," and he proceeds unrelentingly to illustrate this with page after page of concentrated and controversial debate on such topics as the role of the *ceorl* in the *fyrð*, exemption from the king's *feorm*, and the precise meaning of such charter terms as *primicherius*, *ager*, and *facultas*. All this must not be allowed to distract us from the significance of his conclusions.

Much of what Mr John has to teach us is not so much about new ideas as new interpretations of old ones. Rejecting the 'Germanic' folk-migration thesis on the nature of folkland, advanced by Vinogradoff and modified successively by Maitland and Stenton, Mr John reaches back to the writings of Fustel de Coulanges for the germ of a concept which he nurtures carefully and persuasively (in his chapter on "Folkland Reconsidered") into an original, polished, and entirely convincing alternative. The word "folc" has more than one definition, and Mr John adopts the restricted, military sense of the term; for him 'folc' is a synonym for 'fyrð'. Folkland is now seen as the stock of land out of which the king endowed his warriors—not permanently, but by loans which reverted to the crown on the death of the tenant. Moreover, these war-

riors formed a small aristocratic *élite*; the bulk of the population comprised landless *ceorls* who were little more than slaves, whether Briton or Saxon, in the early stages of the settlement. (By "king" of course Mr John means in this context not the *brytenwealda* but the heads of the royal tribal dynasties, often loosely called the Heptarchy.) Bookland had a later origin; it was introduced some time after the conversion to meet the need of the Church for a stable endowment. Later—a century later—the concept of book-right was utilized for the establishment of hereditary lay tenures.

All this, of course, carries with it wider implications, some of which are discussed in Mr John's following chapter, on "Feudalism." He is not so naïve as to claim that the origins of English feudalism have been pushed back to the time of the Heptarchy; nevertheless, a hierarchical society in which land was held by military service could adjust itself to the concept of knights and castles, fiefs and quotas without that radical upheaval which older writers always maintained was the outcome of these Norman innovations. Here Mr John aligns himself with the best of modern scholarship: Cam and Hurnard on franchises, Aston and Finberg on manorialism, Jolliffe and Lenard on agrarian customs. Dolley on the coinage, Barlow on the Church, and Hollister on military organization, all have shown that the Conqueror found in England a far more integrated and sophisticated system of government than he left behind in Normandy. If English feudalism was a Norman edifice, it rested on the large and stable foundation of Anglo-Saxon law and administration, both centrally and in all the local units from the shire right down to the manor.

Inevitably in a book of this range and penetration, there are issues which call for debate. The chapter on the refoundation of Ely Abbey, for example, abounds in controversial statements. Mr John commences with CS 1266, a charter claiming to be dated 970, which he describes as being "mainly concerned to add certain privileges . . . to the original endowment." These privileges are "the foundation of the great medieval liberty of the church of Ely." Mr John contrives to discuss the validity and

implications of this charter (and *inter alia* the implications for agrarian history are of great importance) without direct reference to the well-known earlier discussions by Miss N. Hurnard (*Eng. Hist. Rev.*, LXIV, pp. 292–317) and Prof. E. Miller (*The Abbey and Bishopric of Ely*, Cambridge, 1951, pp. 25–35); nevertheless after careful comparison one feels that Mr John makes his case; he says "it is not impossible that Ely enjoyed a considerable franchise from the first," a conclusion quite different from that reached by Professor Miller, who doubts if Ely's privileges were more than fiscal before the time of the Confessor. On other points dealt with in this chapter, Mr John's opinions are more vulnerable. He claims that in 970 the five and a half hundreds of Wicklow lay in Essex rather than East Anglia. But it was within the territory of these hundreds that the East Anglian kings had held court (at Rendlesham) and commemorated their ancestors (at Sutton Hoo), and in Domesday they are surveyed under East Anglia; so if we follow Mr John they lay in East Anglia in 870, in Essex in 970, and in East Anglia again in 1070, which is all very confusing. Still more so is Mr John's casual claim that "in Ethelred II's reign Essex included Buckingham and Oxford." This really will not do.

A point of detail may be mentioned here. On p. 49 Mr John lists genuine charters of the "*Flebilia fortiter*" group issued in the year 931 and subsequently. He should have included CS 676, a perfectly reliable Abingdon text which has suffered in transmission. The scribe of the Abingdon cartulary has misread OE "thorn" sign as "B," and "Bulthesworthe," the estate conveyed, is really Tilsworth in Bedfordshire, as can be proved by the OE boundary. In the dating clause, "*idus vii*," nonsensical as it stands, is a misreading of "*idus iul*" and the charter is dated, therefore, Friday, 15 July 931; the corrected date is confirmed by the age of the moon, given as 28 days in the charter. Finally, a similar misreading occurs with the hidage, given as "vi" in the rubric to the cartulary version of the charter; Domesday shows that it should have been read as "iii."

This example serves to illustrate the enormous amount of detailed criticism remaining to

be done on the Anglo-Saxon land charters. Mr John's book is a fundamental contribution to this obscure but vital field of study. It is crammed full of original ideas, and it is perhaps as well that one cannot swallow all of them, for there remains a solid bulk of rich and acceptable fare, sufficient to give us all severe indigestion for many years to come.

CYRIL HART

E. SEARLE and B. ROSS (eds.), *Accounts of the Cellarers of Battle Abbey, 1275-1513*. Sydney University Press, 1967. 199 pp. 40s.

Battle Abbey must be one of the very best documented of medieval English abbeys. Cartularies, obedientiary rolls, rolls of the beadles collecting rents and other dues, of the treasurer who handled the bulk of the funds and distributed them to the cellarer and other officials, rentals, hallmoot rolls, custumals, and court rolls all survive, as well as many charters and the most valuable *Chronicle of Battle*. The decision then to calendar a selection of the cellarer's rolls may arouse some question. They are not perhaps the most useful for any examination of the domestic arrangements of the abbey, nor for the systematic study of the estate management of the abbey's property. It is in fact difficult to do anything systematic from the selection offered here, as the introduction written by Mrs Searle clearly shows; a great deal of her material comes from other Battle Abbey sources. But the book has its uses, if only to throw light on some of the more routine activities of monk and peasant farmer in the later Middle Ages. It is most pleasing to know that two major undertakings are soon to appear—a complete list of Battle Abbey muniments and a larger work on Battle Abbey by Mrs Searle which, if her introduction is anything to go by, will be a study worth waiting for.

The introduction deals first with the office of cellarer in medieval Benedictine monasteries, both in its ideal and practice. At Battle, the cellarer was not separately endowed; most of his funds came from the treasurer. He was, however, responsible for the management of the abbey's demesne and for the provision of "bread and ale" (or wine, which seems to have

been consumed in typical medieval style, by the gallon) to the house. Mrs Searle is most interested in monastic household management. Only two obedientiaries were endowed at Battle, the sacrist and the almoner, both of them late. Nor did the decentralization, apparent in other houses, affect Battle in the fifteenth century; indeed there are signs of growing centralization, for the cellarer, at least, lost some of his powers and responsibilities.

The introduction is followed by selected accounts, calendared with liberal sprinklings of untranslated (and often untranslatable) Latin of dog and other variety. In the middle there are comparative figures from all the annual accounts from 1385 to 1413, but the value of these complicated tables may well be questioned, especially as the artificial nature of many of the entries is not discussed. The calendar is followed by a list of cellarers at Battle, a glossary, bibliography, and indexes of persons and places, and of subjects. There is however no map, which makes it very difficult to trace the estates.

One hopes to find, but rarely does, some light thrown on the controversial aspects of late medieval economic history. What of the pressure of the money economy on the monastic estates at the beginning of the fourteenth century? There is no evidence here. It is very difficult, although possible, to find comparative prices throughout the period. The editors assume the usual recession in the fifteenth century but there are no signs of it here. There are signs of other things, however—the increasing practice of leasing out the demesne, the growing commutation of services with carting as the last to go, and above all the refusal of the tenants to perform services, none of which some historians can reconcile with an era of general poverty. There is a further interesting trend, the replacement of the monastic treasurer by a lay steward, and, in fact, the increasing powers put into his hands in the fifteenth century. Secularization is visible once more in the affairs of Battle Abbey.

Agricultural historians will find the stock accounts which appear from 1408 the most valuable part of these records. The whole of the

year's produce of pigs was apparently consumed in the abbey; the sowing ratios of grain, especially oats, to the acre is given, but yields rarely appear. Apparently rather more than a third of the corn was reserved for seed. Other morsels appear—lime burning, buying and planting out leek plants, some interesting building descriptions, the regular renewal of mill spindles, sometimes twice a year, a harrow with "teeth," or the passing comment in one account for "mending the shocking roads." Here is a quarry of information about medieval social life, but the quarrying may be difficult.

ALAN ROGERS

ERIC KERRIDGE, *The Agricultural Revolution*.

Allen and Unwin, 1967. iv+428 pp. Map. 84s.

Dr Kerridge's book deals in different ways with two distinct but interrelated matters: the nature of farming methods and the development of new techniques between the middle sixteenth century and the early eighteenth century; and secondly, the importance of these new techniques in relation to the broad development of English agriculture since the Middle Ages. The first subject, treated in great and scholarly detail, fills most of the book; the second, treated mainly in summary generalization, takes up part of the introductory chapter and the conclusion. There is an enormous mass of references to documentary sources and contemporary works, and a glossary, a large (but curiously selective) bibliography, and a list of sources which, together with appendices and indices, occupy 80 pages.

Dr Kerridge's study of farming methods begins in earnest with an extended survey of the 41 'farming countries' or regions into which he divides England and Wales. The exposition of the farming of these regions is severely limited to matters of farming practices, techniques, rotations, livestock, and land-use. There is not the rounded examination of the whole rural economy which Joan Thirsk undertook in her comparable section in Volume IV of *The Agrarian History of England and Wales*. Dr Kerridge is more concerned with pointing out the differences of detail between the farming of one region and that of another than with

noting and bringing together broad similarities. He is not concerned with secular or short-term variations in prices and farm profits, and he has little interest in the institutional framework of estates, manors, tenures, statutes, inheritance customs, and local rules within which farming operated. There is no parallel here to Joan Thirsk's illuminating discussion of the effects of the physical environment on the nature and institutions of rural society and the important distinction she draws between the rural society and farming structure of lowland mixed farming areas and those of the upland and wooded regions.

The remaining chapters are largely taken up with a detailed consideration of six main innovations of the period: the system of alternating land between crop cycles of from two to six or seven years and long pasture leys lasting up to 20 years, a system termed by Dr Kerridge "up-and-down husbandry;" the introduction of water-meadows; the use of new fodder crops and grasses; marshland drainage; the application of marl and lime; and improvements in breeds of livestock.

Of these, the most important was evidently up-and-down husbandry, which when substituted for permanent grass or permanent tillage, or for the temporary shifting cultivation of poor soils, offered the advantages of a reduced cost of corn cultivation, heavier stocking of the land, and the creation of an improved soil structure. It had, says Dr Kerridge, a great effect on output of both crops and beasts: on average the ratio of harvest to seed was doubled, and the yield of grass nutrients quadrupled. Referring to the seed-harvest ratio of wheat, Dr Kerridge states: "where up-and-down husbandry was introduced, increases were redoubled. Inferior practices in the seventeenth century gave increases twice as great as the medieval standard of excellence, and the best, increases four times as great as the best medieval ones" (p. 331). It would appear that in addition to his own 'agricultural revolution', therefore, Dr Kerridge has discovered an earlier revolution in corn yields between the Middle Ages and the seventeenth century.

The progress of up-and-down husbandry was also remarkable: "In the early sixteenth

century, up-and-down husbandry was confined to the north-west and to a few farms elsewhere. It expanded and spread rapidly after 1560 and fastest between about 1590 and 1660, by which time it had conquered production and ousted the system of permanency from half the farmland" (p. 194). Here readers may think that Dr Kerridge strains the evidence to prove the widespread adoption of up-and-down husbandry. For example, William Marshall, whom he regards as the eighteenth-century authority on the system, and on whom he leans considerably, states that it was a "singular" practice of the west midlands district, and implies that it was not in fact commonly found in other suitable areas.

Not only permanent grass in closes but also permanent tillage in common fields were converted to up-and-down land, with the effect of doubling the total product of the soil. The existence of 'leys' in common fields before enclosure, Dr Kerridge holds, was evidence of a laying down of parts of the fields to permanent grass, not of convertible husbandry. Such leys were seldom ploughed up, and he maintains that there was no system of convertible husbandry in common fields before about 1690. What you did have in the common fields was a free choice of crops within the limitations of an inflexible field-course. The introduction of clovers in the late seventeenth century was the first sign of the appearance of ley farming or convertible husbandry in common fields, while the growing of turnips in the early eighteenth century led to more flexible management and new field-courses. By 1720, Dr Kerridge contends, the new crops of turnips, rape, potatoes, sainfoin, and clovers "had spread everywhere and percolated far down, but it was only between then and about 1760 that the innovations were virtually completed on the most backward farms" (p. 294).

Displaying a fine, if unwonted, chauvinism, Dr Kerridge holds that the new crops and the other improvements came very largely from domestic sources. The influence of the Dutch and others in the development of convertible husbandry has been exaggerated: it was limited to the provision of some early supplies of seeds of clover, sainfoin, and lucerne. Home-grown

clover seeds "were available in ample quantities . . . , virtually every agriculturally valuable grass . . . was indigenous. Nearly all the cole and root crops were likewise native to England. . . ." Even the employment of Dutch drainers "was due less to their engineering than their financial ability. English engineers had more experience and expertness in fen drainage. . . Floating was an English innovation and the up-and-down husbandries of the plain countries were uninfluenced by Continental ideas. England seems to have borrowed precious little" (p. 327-8).

On the development of the new crops, water-meadows, and livestock improvements, Dr Kerridge is valuably informative. He goes to great pains to date their introduction and their spreading to wider areas, examines their advantages and limitations, and is illuminating on the practical difficulties of converting permanent tillage and grass to convertible husbandry. (These difficulties, it might be thought, appear so formidable as to suggest that there were indeed good reasons for farmers' conservatism.) In all this, Dr Kerridge displays a vast, wide-ranging knowledge of the sources, and a deep and intimate understanding of the complexities of agricultural processes.

When we turn to the question of the general importance of the new techniques, however, he is less convincing. Dr Kerridge is determined to belittle the post-1750 developments, and this draws him into both an exaggeration of the seventeenth-century changes and an absurd discounting of the enclosures, stock-breeding, machinery, drainage, new fertilizers, and feedingstuffs of the late eighteenth and nineteenth centuries.

His argument, in the extreme form in which it is put, involves the creation of two myths: that there still exists a school of thought that places all the important changes in the century after 1750 and ignores earlier developments, and that his own evidence shows that by 1750 there was little or no room for further major improvement "for the simple reason that all opportunities for such had previously been exhausted" (p. 338).

The basic importance of convertible husbandry and the value of the new fodder crops

and grasses introduced in the seventeenth century have of course been recognized and discussed by a number of scholars. Much land, it is well understood, was already enclosed or farmed in severalty before the period of parliamentary enclosure. But if enclosure, and the more efficient farming which enclosures helped to make possible, were of such little consequence after 1750, it is surely difficult to explain why they attracted so much landlords' and farmers' capital and why they proved so profitable? It is true that enclosure often led to little or no change in cultivation and field-courses (but economized in time and labour), that parliamentary enclosures re-allotted some land enclosed earlier, and that waste land was sometimes subject to temporary cultivation before enclosure—but all this does not mean, as Dr Kerridge avers, that because the results of enclosure were various, and are not susceptible to accurate measurement, they are unimportant. It would be equally unsound, and equally easy, to make precisely the same observation about up-and-down husbandry. Pipe-drainage, as Dr Kerridge says, affected only a part of the farmland; the same is of course true of the seventeenth-century water-meadows. He appears, too, to be a little overstating the matter when he says that the improvement of implements after 1750 was "inconsiderable and inconclusive," and the developments in stock-breeding, "over-rated" (p. 39); while it has surely been long and widely recognized that on some soils the continuance of bare fallows was necessary and advantageous.

These brief remarks perhaps serve to indicate the artificial nature of the '1750-1850 case' that Dr Kerridge erects as an Aunt Sally. To his own case that all the main achievements of the agricultural revolution fell before 1720, and most of them before 1673, many objections might be made. As a case, it is not very much helped by the argument about the relative achievements of agricultural change before and after 1750 in feeding the population from home produced supplies: this is not merely because of Dr Kerridge's elementary confusion over the difference between absolute and proportionate population increases, but also because of the

doubtful and complex nature of the problems involved in making comparisons in standards of diet over so long a period, and in assessing the effects of the much-increased urbanization of the population, with its greatly expanded and diversified demand for imported food-stuffs and agricultural raw materials—on all of which Dr Kerridge is not very convincing.

Even in his period, as later, by no means all the food supplies or agricultural raw materials were produced solely in England and Wales, of course; and if most of the technical advances were achieved before 1673, and were so productive, it is difficult to understand the existence of severe dearths, generally high grain prices, and government alarm about food supplies in the 1620's, 1630's, and 1640's, especially as Dr Kerridge confusingly attributes both the short-term fall in corn prices of 1617-20 and "the general and great prosperity reflected in rising prices, profits, wages and rents after the mid-1560's" to "the fruits of agricultural innovation" (p. 344). Indeed, the great secular price rise of the century after 1560 would hardly seem to be the best evidence for the success of Dr Kerridge's agricultural revolution.

Nor is Dr Kerridge's case helped by ignoring the important changes in the legal and institutional framework of agriculture, the decline of old forms of tenure, the development of the mortgage, the growth of larger and more compact farms, and improved estate management—to mention only a few of the relevant advances. There is also a remarkable failure to recognize that, in addition to the innovations he discusses, simple expansion of the cultivated acreage played a large part in the increased food supplies of the 1540-1700 period, although to Dr Kerridge the expansion of the cultivated acreage after 1750 gives away the supposed case for an agricultural revolution then!

These curiosities and aberrations apart, Dr Kerridge has written an important book, indeed an invaluable one for the study of farming techniques and agricultural progress in the sixteenth and seventeenth centuries. From it we can learn a great deal about farming methods, if not much about rural society (here Joan

Thirsk's pages in *The Agrarian History* provide the necessary corrective). Not everyone will agree with Dr Kerridge on every technical point of farming practices, and this is understandable when these are matters of complexity and geographical diversity (and when the matter is confused by the introduction of a novel and eccentric terminology). Very few will agree with him on the overriding importance he ascribes to the innovations that are so ably described, and this again is only to be expected when his argument is couched in such extreme terms. It seems in Dr Kerridge's nature to prefer controversial assertion to balanced discussion: a pity, for with sounder judgement this could have been a truly great and brilliant book.

G. E. MINGAY

JOHN WEBB (ed.), *Poor Relief in Elizabethan Ipswich*. Suffolk Records Society, vol. IX, 1966. Ipswich and East Suffolk Record Office, County Hall, Ipswich, 1967. 168 pp. illus. 30s.

The records of poor relief in Elizabethan Ipswich are unusually good and Mr Webb has provided an illuminating selection in this volume. The municipal authorities at Ipswich co-ordinated private and public charities and maintained two institutions for indoor relief, the Tooley Foundation (almshouses), and a municipal poor house, Christ's Hospital. The administration and accounts of these two institutions are well illustrated by selected documents, while the system of outdoor relief for the able-bodied poor is explained by specimen weekly payments and poor-rate assessments. The latter provide a directory of the wealthier inhabitants in 1574. Perhaps the most interesting document in the volume is a detailed census of the poor in 1597 which describes the occupation, age, and needs of the head of each family as well as those of his wife and children.

Mr Webb confines his introduction and editorial comments to explanation, which is admirably done, and promises a more detailed analysis in a later volume. This should be interesting, but it would have been helpful if the documents selected here could have been related more fully to the history of Ipswich—and particularly if the numbers of the poor could

have been compared with population estimates. Nevertheless, this is a valuable collection of documents which shows how Elizabethan poor relief really worked.

M. A. HAVINDEN

E. L. JONES (ed.), *Agriculture and Economic Growth in England, 1650-1815*. Debates in Economic History. University Paperbacks. Methuen, 1967. x+196 pp. 15s.

This book is oddly described as a University Paperback Original, for it consists of seven reprinted papers; only the introduction by the editor is original work. The reprints are Lord Ernle's general discussion on obstacles to progress, originally printed in 1925; Havinden on agricultural progress in open-field Oxfordshire (1961); Mathias on agriculture and the brewing and distilling industries in the eighteenth century (1952); Chambers on enclosure and the supply of labour in the industrial revolution (1953); Martin on the cost of Parliamentary enclosure in Warwickshire (1964); E. L. Jones on agricultural change in England from 1660 to 1750 (1965); and A. H. John on agricultural productivity and economic growth in England from 1700 to 1760 (1967).

It is useful to have these papers reprinted in a handy and very cheap edition. Dr Jones's introduction is a valuable summary of current thought on the very considerable technical improvements of the seventeenth century which culminated in the later extinction of the open fields under Parliamentary enclosure; he has added a brief bibliography of recent books and articles on the agricultural history of England in the seventeenth and eighteenth centuries.

E. H. WHETHAM

GERTRUD SCHRÖDER-LEMBKE (ed.), *Martin Grosser, Anleitung zu der Landwirtschaft; Abraham von Thumbshirn, Oeconomia: Zwei frühe deutsche Landwirtschaftsschriften*. Gustav Fischer Verlag, Stuttgart, 1965. 110 pp. DM 34.

It is a pleasure to welcome the republication of two of the oldest agricultural treatises in German literature. Conrad Heresbach wrote an earlier tract in Latin (*De Re Rustica*, 1570), but

Thumbshirn and Grosser were the first authors of works in the German language. Grosser is the more sympathetic writer and the more interesting to students of peasant agriculture. He was familiar, as a theologian, with the classical literature on farming, but recognized its irrelevance in his native countryside of Lower Silesia. Instead, he studied the farming ways of his parishioners—he was also interested in their weather lore and dialects, though promised accounts of these did not materialize—and in 1585 was prevailed upon by his landlord and patron to write an account of local agriculture. With refreshing humility and respect for the experience of the peasantry, he expressed no desire to change their ways, only to record. He observed differences between the rich and poor farmers: the Jews of Cracow fattened their geese in winter on mashes of barley and wheatmeal; the poor used millet, an inferior food for this purpose. Yet millet, he explains elsewhere, yielded better than any other grain in the right places, and fetched as high a price as wheat at the market. There are other instructive comments on the choice of grains: winter barley varieties were available, but since they did not yield much more than spring barley they were not often used; spring wheat, however, was favoured by peasants around Strehlen and Neisse because it ripened quicker than other varieties and gave them more time to bring in their other harvests, though yields were not high; spring rye produced a better meal than winter rye.

Thumbshirn's treatise is written in the more generalized manner of a landlord accustomed to command his servants, but without any close interest in idiosyncrasies of farming practice. He was a landowner in Saxony and steward to the Kurfürst August von Sachsen, who carried out a survey of his master's estate in 1571, and later wrote this textbook for other stewards. It circulated widely in manuscript, and was much plagiarized, but was not published until 1616, 23 years after his death. In the light of recent work on the value of fishponds (see this REVIEW, vol. 16, pt 2, pp. 161-3) it is worth noting that Thumbshirn recommended fishponds among the fields, not only for their fish which were then so expensive, he

said, but also for their mud for fertilizing the fields.

JOAN THIRSK

HANS-HEINRICH MÜLLER, *Märkische Landwirtschaft vor den Agrarreformen von 1807. Entwicklungstendenzen des Ackerbaues in der zweiten Hälfte des 18 Jahrhunderts*. Veröffentlichungen des Bezirksheimatmuseums Potsdam, Heft 13, 1967, 232 pp. illus. 6.50 MDM.

This book deals with agriculture in the Mark Brandenburg during the fifty years preceding the agricultural reforms of 1807. This part of Prussia includes the Kurmark, centred on Berlin, the Altmark, west of the Elbe, and the Neu-mark, east of the Oder. Even when it is allowed that some change came earlier it is usually said that these legal reforms initiated agricultural progress. Here however is proof, in quantitative detail, of the remarkable progress achieved between 1750 and 1800.

Change came through the work of those who leased the great estates of the nobility and the king, often "*wagemutige Profiteure*," who had grown wealthy during the wars, and of the peasants who provided feudal labour on the estates and who, where their own farms were favourably enough located, made changes particularly on the small plots near their homes and became commercial farmers. It is important to realize that these parts of Prussia were not those where feudal burdens on the peasants were heaviest. Many of these changes ran parallel, but not necessarily in phase, with those well known in Great Britain, particularly as some of them were achieved by such Englishmen as Brown, who introduced the "*englische Wirtschaft*" as an administrator on Count Kameke's estates. These improvements included the use of the English plough, the separation of demesne land from the common strips, and the consolidation of other farms, the introduction of leguminous leys and roots, the diminution of the fallow, the increase of pasture on once casually cultivated outfields, manuring, marling, and draining of intensively cultivated infields, etc. Feudal dues were rapidly commuted while the number of day labourers increased. Rural life became polar-

ized between the large and medium-scale commercial farmers and the labouring proletariat. By the time of the formal changes of 1807 these processes had gone very far, though their exact extent would require more research to evaluate precisely.

This book was published in Eastern Germany from the local history museum at Potsdam. Accordingly the changes are discussed against a background of Marxist theory, both of the original Marx-Engels theory and more recent interpretations. Marx, in fact, was born only ten years after the official reforms. The author maintains that the more traditional economic historians, and many Marxists also, have tended to post-date agricultural change.

The author bases his work upon detailed archival research and cites evidence from sources surprisingly like those we possess in England. Perhaps his attempt to characterize the physical and agricultural landscape is better performed by the geographer, A. Krenzlin, in *Dorf, Feld, und Wirtschaft im Gebiet der grossen Täler und Platten östlich der Elbe* (1952), for it requires more space and maps than are provided here. It is in fact essential to realize that this is a land of barren sands, variable moraines, and marsh (some drained). Thus as the land differs from Great Britain so many of our reforms were not directly of benefit. What, for instance, would be the advantage of ploughing sands 10 inches deep? The physical worthlessness of much of this area and its gentle charm, and much of the spirit of the great estates, is more attractively put in T. Fontane's classic, *Wanderungen durch den Mark Brandenburg*. Nevertheless the very clear and detailed account of agricultural customs, tools, seeds, and crop yields, and agricultural serfdom is tersely authentic, the result of direct study and observation. The thirty illustrations are well to the point but, as this is an inexpensive book, rather grey. The bibliography of over 300 items is useful, containing a list not only of sources in the archives, but also of early scientific agricultural treatises, the memoirs of landowners and early agricultural scientists, and more recent books from Eastern Germany probably little known in western Europe. A long appendix of great interest contains agricultural

statistics, conversion tables for old local measures, inventories of peasant possessions, data on crop yields, taxation, and population structure. This authoritative and tolerant book is well suited to a useful conversation between historians in both parts of Europe, but equally well serves its local purpose of providing an account of the great changes that preceded those of the present day.

D. J. DAVIS

J. K. S. ST JOSEPH (ed.), *The Uses of Air Photography: Nature and Man in a New Perspective*. John Baker Publishers Ltd, 1966. 166 pp. 65s.

This handsome volume is sponsored by the Cambridge Committee for Aerial Photography. The editor secured the services of a dozen specialists, ranging alphabetically from Lord Esher to W. W. Williams, each of whom contributed a chapter. Air photography was first applied to archaeology as recently as 1906, i.e. within the memory of thousands of scholars still living, and has clearly given historians in general and archaeologists in particular a new and fruitful means of interpreting the past. For agricultural historians, and particularly those obsessed by field systems, its importance is obvious, and Professor David Knowles's short but masterly chapter (pp. 126-38) on "Air photography and history" underlines this with the help of some outstandingly magnificent photographs. Special mention should be made of the 1591 map (Plate 62) of Padbury West Field, in Buckinghamshire, contrasted with the oblique low-level aerial photograph of the same area taken in the early part of the reign of the second Elizabeth (Plate 63), and of the traces of the deserted medieval village at Newbold Grounds, Catesby, Northamptonshire. Other chapters of interest to agricultural historians are those on "Air photographs and the geographer" (J. A. Steers), "Air photography and the scientific study of soils" (R. M. S. Perrin), "Air photography in plant ecology" (C. D. Pigott), and "Applications of air photography to problems of plant disease" (J. Rishbeth). Although this volume will probably not tell the expert much that he did not know before, it will be valuable for acquainting the

local historian with the possibilities of a comparatively new type of evidence.

W. H. CHALONER

JOHN ROACH (ed.), *A Bibliography of Modern History*. Cambridge University Press, 1968. xxiv+388 pp. 30s.

To call this unsystematic and eccentric volume, designed to supplement the *New Cambridge Modern History*, a bibliography of modern history is almost to empty the English language of meaning. A detailed analysis is supererogatory but a few general points can be made. Apart from the misguided decision to limit the lists of books for individual sections to something like thirty titles, editorial supervision was

minimal. Published in 1968 there is no systematic *terminus ad quem* but, according to the editor, "most of the contributions go down to approximately 1961." There is no author index and the subject index clearly reveals that the *New Cambridge Modern History* is dominated by a concern with foreign relations. In particular the coverage of agrarian history is too slight to make this volume worth consulting for this purpose. It is sad to have to review a bibliography so harshly but this slight volume cannot possibly stand on its own, as the preface suggests, as "a useful tool for research and teaching."

W. E. MINCHINTON

## Shorter Notices

H. P. R. FINBERG, *Tavistock Abbey. A Study in the Social and Economic History of Devon*. Reprinted by David and Charles, 1969. viii+320 pp. 63s.

A number of memorable studies of ecclesiastical estates appeared between the 1930's and the 1950's which gave us a much clearer notion than ever before both of the common economic and social trends influencing the policy of the great estates in the Middle Ages and the infinite diversity of local agricultural practice. Professor Finberg's work on Tavistock Abbey, whose lands lay mainly in west Devon, was one of these. It sharpened interest in many aspects of Devon agrarian history and continues to do so. Its reprinting—this time by David and Charles—is greatly to be welcomed. Only small corrections have been made to the text.

H. C. DARBY, *The Draining of the Fens*. Second edition reprinted, Cambridge University Press, 1968. xx+314 pp. 65s.

The reprinting of this work, first published in 1940, makes a classic study of fenland history available once more. Professor Darby's new preface revises one or two statements in the last

chapter relating to drainage developments since 1940, but the rest of the text remains the same. Research since the book first appeared has enabled us to appreciate more sympathetically than did Professor Darby the economy of the fens before drainage, and it is a pity that this work is not referred to in the new preface, which offered a chance to bring the bibliography up to date. But it remains a valuable study of drainage history, written mainly from the drainers' point of view.

WILLIAM MARSHALL, *The Review and Abstract of the County Reports to the Board of Agriculture*. Reprinted by David and Charles, 1968. 5 vols. 95s. each vol.

The publishers David and Charles are making a noble contribution to the library of reprints of works on agriculture. They are now issuing one of the most prized works of the early nineteenth century, William Marshall's summaries of the county reports to the Board of Agriculture. Marshall grouped the counties into five regions or departments, and the whole set therefore runs to five volumes. William Marshall is generally regarded as a more sensi-

tive and thoughtful commentator than Arthur Young, and these summaries reveal his powers of searching criticism at their best, though he did not always escape niggling comment. Beginning with a frank and often scathing appraisal of each surveyor's qualifications to write on the agriculture of his chosen county, he went on to reorganize and abbreviate their reports under systematic headings, giving the original author's remarks in quotation commas, then adding observations of his own, and occasionally seizing an opportunity to draw out some generalizations based on the wider agricultural literature and his own personal experience. Thus each volume contains the substance of many county reports together with the comments of another well-informed contemporary. This photographic reprint reproduces the smudgy effect of the original pages, but it is a very welcome reprint nevertheless.

JAMES CAIRD, *English Agriculture in 1850-51*.

Second edition with a new introduction by G. E. Mingay. Frank Cass, 1968. xxviii+548 pp. £6 6s.

James Caird's survey of English agriculture in the middle of the nineteenth century has always been regarded as a valuable intermediate survey between the Board of Agriculture's reports at the beginning and those contained in Rider Haggard's *Rural England* and the Parliamentary inquiries into the Great Depression at the end. Writing at the beginning of a new era of free trade, and as an enthusiastic free trader, Caird surveyed the opportunities that lay ahead in an optimistic vein. In every district that he visited he pointed the way, seeing the best chances for pasture farmers, but noting in every arable region ways by which farmers there could also expand their profits by greater efficiency and higher production. This policy was, of course, only open to farmers with capital, and Caird did not explain how the small man was to find it; but his account is the best description of the meaning and methods of high farming that we have. This edition is made more valuable by a new introduction by Professor Mingay, giving details of Caird's career, summarizing and criticizing his main argu-

ments, and giving references to the most relevant articles that have appeared in recent years.

J. B. HARLEY (ed.), *The First Edition of the One Inch Ordnance Survey. A Reprint covering England and Wales in 97 sheets*. Sheets 75: Bridgwater; 83: Tiverton; 97: Plymouth; 91: Exeter and Dartmouth; 90: Tavistock; 82: Bideford, 1969. David and Charles. 15s. per sheet.

All local historians will welcome the splendid enterprise of David and Charles in reprinting this first edition of the Ordnance Survey map on the one-inch scale. They are an invaluable historical record. The series, which will be completed in ninety-seven sheets, began publication in February this year with six sheets which cover the whole of Devon and small parts of Cornwall and Somerset. The rest will be published in batches of six at six-weekly intervals during the next two years. The map covers contain some brief general notes by Dr J. B. Harley on the various printings and revisions of the first edition, together with more specific information relating to each county. A fuller account of the original undertaking will be given in a pamphlet by Dr Harley to follow later. Private buyers are offered a concessionary price of £55 for the whole series if paid for in advance. The maps can be bought folded or flat.

C. L. MOWAT (ed.), *The New Cambridge Modern History. Vol. XII. The Shifting Balance of World Forces, 1898-1945*. Cambridge University Press, 1968. xxviii+846 pp. £3.

This is the second edition of the volume which originally appeared in 1960. It was then entitled *The Era of Violence*. A longer view of the same period, however, has persuaded the new editor that a more hopeful theme is the interdependence of the continents, bound together by common problems and aspirations and sharing the common use of scientific discoveries; and so the title has been changed. But if, as the editor believes, one of the vital international problems is the population explosion, then the heaviest responsibility for solving it rests with

the farmer, and agriculture deserves a place in this survey. In fact, there is next to nothing on the subject.

*Northamptonshire Past and Present*, vol. IV, no. 3, 1968-9. Northamptonshire Record Society, 1968. 60 pp. 3s. incl. postage.

This issue of *Northamptonshire Past and Present* contains a number of articles of interest to agricultural historians. Pamela Horn writes on 'Nineteenth-Century Farm Workers in Naseby', a village in which, in the incumbent's words in 1878, "the bitter prejudice of dissent united with [agricultural] unionism." She draws together a number of references especially associating the mud-wall or cob construction of cottages in Northamptonshire with open parishes, since this method of construction was the cheapest possible. J. W. Anscomb describes an eighteenth-century enclosure in the cloth-making village of West Haddon, in the course of which an advertisement appeared, ostensibly inviting attendance at a football play, which was in fact an invitation to join in a riot against the enclosure. J. M. Steane gives local examples of poor relief from Rothwell documents, 1750-1840; and Miss Joan Wake writes a personal reminiscence of Sir Frank Stenton.

*Etudes Rurales*, nos. 27, 28, 29 (July-Sept. 1967; Oct.-Dec. 1967; Jan.-March 1968). Readers interested in the agrarian history of France will find these three issues of *Etudes Rurales* of considerable value as a guide to current literature and research. No. 27 publicizes the *Rural Atlas of France*. Under the direction of Henri Mendras it is planned as a sociological survey of France between 1954 and 1962, to be presented in the form of maps showing total population, birth and death rates, the rate of migration, the distribution of different age groups, of occupations, of large and small farms, of agricultural equipment, agricultural credit, religious denominations, and political parties, the size of families, and patterns of primary education and litigation. No. 28 contains an extremely useful list covering the whole of France, except Paris (which was dealt with in no. 19, 1966) of institutions engaged in research on French rural society. Under each institution

is listed the scope of its research, work in progress, atlases in preparation for each region, and recently completed theses and memoirs. No. 29 contains a bibliography of articles on rural society that have appeared between January and June 1967. Some are summarized in a short sentence or two.

HUGH PRINCE, *Parks in England*. Pinhorn's, 1967. 56 pp. 12s. 6d.

Mr Prince's article in the *Amateur Historian* (vol. III, no. 8) has now been expanded into an attractive illustrated booklet, dealing with the great age of formal park-making in the seventeenth and eighteenth centuries. A very useful appendix lists and maps the parks improved by Charles Bridgeman, William Kent, Lancelot Brown, Richard Woods, and Humphry Repton.

*Local Population Studies, Magazine and Newsletter*, no. 1, autumn 1968. Nottingham University Department of Adult Education. 56 pp. Annual subscription 7s. 6d. Single copies 5s. 6d.

This new publication has been set up to maintain contact between all workers, amateur and professional, in the field of population studies. The Cambridge Group for the History of Population and Social Structure will report on its results in it, but articles and letters are invited from local historians so that the journal may become a genuine forum for discussion. It will appear twice yearly. The first number includes an article on 'Population and agrarian change in an eighteenth-century Shropshire parish' by R. E. Jones, and a list of recent publications and local research in progress. Subscriptions should be sent to Mrs A. Boden, Tawney House, Matlock, Derbyshire.

*Magyar Mezőgazdasági Múzeum Közleményei*, 1967-8, Budapest, 1968, 292 pp.

The latest collection of articles published by the Hungarian Agricultural Museum (which also publishes the *International Bibliography of Articles on Agrarian History*) contains an interesting contribution by István N. Kiss on the export of wine from the estates of the nobility in Upper Hungary to Poland in the

seventeenth century. Much more is known of Hungarian cattle exports than of other farm products. Yet according to the customs records for 1610 and 1611 the annual export of wine from Upper Hungary amounted to 30,000 casks, roughly the equivalent in value of 75,000–80,000 fat cattle. This volume also includes an article on types of Hungarian wooden ploughs of the eighteenth and nineteenth centuries.

SVEND GISSEL, *Landgilde og Udsæd på Sjælland i de Store Mageskifters Tidsalder. Retrospektive Studier i Landbo- og bebyggelsehistorie*. Landbohistorisk Selskab, Copenhagen, 1968. 444 pp.

This is a study of manorial rents and crops in Zealand in the sixteenth century, based especially on the Landbook or survey of Zealand of 1567, and on documents relating to the great land exchanges. The author shows that the assessment of rents was not as completely irrational as agricultural historians used to think, but carefully related to the use of land, i.e. rent was calculated according to the crops sown. A short English summary unfortunately leaves out the detailed information on cropping which the English reader would most like to see.

GERTRUD HELLING, 'Berechnung eines Index der Agrarproduktion in Deutschland im 19. Jahrhundert', *Jahrbuch für Wirtschaftsgeschichte*, pt 4, 1965, pp. 125–51; 'Zur Entwicklung der Produktivität in der deutschen Landwirtschaft im 19. Jahrhundert', *ibid.*, pt 1, 1966, pp. 129–41; 'Berechnung vergleichbarer Indizes der Agrarproduktion entwickelter kapitalistischen Länder im 19. Jahrhundert', *ibid.*, pt 1, 1968, pp. 183–238; pt 3, 1968, pp. 277–337.

In four recent articles Dr Gertrud Helling has attempted to calculate an index of agricultural production for Germany in the nineteenth century and then to compare it with the evidence from France, America, and Great Britain. These articles deserve to be brought to the attention of British agricultural historians.

No official statistics on agricultural production were collected in Germany until 1878.

Hence the construction of an index presents great difficulties, which are made worse by the division of Germany into many small states. Nevertheless, scattered data are brought together to make an index of arable production, 1800–1900, and another of animal production, which are then combined in an index of both sectors of agriculture. This suggests that total agricultural production increased over the century three to three and a half times (from index no. 100 to 364 reckoned by current grain prices, or 328 reckoned by fixed prices). The increase was much greater in the first half of the century than in the second and is not explained away by the deficiencies of the evidence. Although the level of production was unduly depressed by the Napoleonic War, great improvements in agricultural technique were readily visible in the 1840's.

In the second article, Dr Helling compares this result with the evidence of industrial productivity. Agricultural performance shows up well when account is taken of the changing size of the labour force in the two sectors of the economy. Population rose by 230 per cent in the nineteenth century, but whereas the number of workers in industry rose, that in agriculture fell substantially. Yet output per hectare doubled at the very least, labour productivity in cereals trebled, and in agriculture as a whole, it rose 2.6 times.

In the third article Dr Helling compares these results with those for France and the U.S.A. The sources are discussed and indices compiled on a uniform basis. French agricultural production appears to have increased two and a half times (compared with three and a half times in Germany), a surprising result which Dr Helling attributes partly to the more advanced state of development of France in 1800 compared with Germany, partly to the difficulties in which the French peasantry found themselves after the Revolution, endowed with land but burdened with rents, dues, and taxes which hampered their efforts to increase production. The problem of interpreting the statistics looms large at this point but is not pursued. The increase in American production was so spectacular (rising from 100 in 1800–10 to 1,220 in 1896–1900) that it could not

fail to exert a tremendous impact on European economies. On the other hand, productivity per worker was lowest in America and highest in France. In all three countries, it is noticeable that production increased much more rapidly in the first half of the century than in the second and that sharp fluctuations separated each five-year period.

In the fourth article Dr Helling examines British agricultural production, and compares her results with those for France and Germany. Britain showed greater success in increasing her production of arable crops in the first half of the century but fell back more dramatically than the others in the second half. However, stock production in the U.K. increased through-

out the century, faster than in France, though not as fast as in Germany. Measured against the increase of population and the size of the labour force in farming, agricultural production in Great Britain, alone of all three countries, failed to match the rate of population increase. Production did not overtake population growth until 1841-5, kept pace with it till 1856-60, but fell increasingly behind from 1861 to the end of the century. By 1896 production had risen 2.4 times but the population had risen 3.2 times. Nevertheless, productivity per worker increased almost without interruption from 1841 onwards and at a much faster rate than in other countries from the 70's onwards.

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## A Note on the Origins of the 'Broiler' Industry

By W. H. CHALONER

IN view of the continuing controversy about the raising of chickens in broiler houses, it is interesting to note that this 'industry' is not a particularly recent development. As far back as 1903 Chapman and Hall published, as vol. vi of 'The Woman's Library', a book entitled *The Lighter Branches of Agriculture* by Edith Bradley, warden of Lady Warwick College, Studley Castle, Warwickshire, and Bertha La Motte, with an introduction by the Countess of Warwick. After noting that the impetus to introduce "new appliances of every description both elaborate and simple . . . likely to revolutionize the poultry industry" had come from the U.S.A., and particularly from the Anglo-American Poultry Company and the Cyphers Incubator Company, the authors went on (pp. 199-200) to describe the Cyphers Duck and Broiler Plant at Wayland, near Buffalo, N.Y. They had to explain that 'broilers' was the American name for "young birds from five to six weeks old, which are 'picked up',

plucked, and trussed, split open and broiled like a mackerel. They are very delicious if nicely cooked and served hot, as they possess much more flavour than the mature chicken." From the catalogue of the Cyphers Incubator Company they quoted a description of the Wayland plant: "It consists of a 300-foot brooding house of the latest pattern, heated by hot water and regulated by a Cyphers electric regulator . . . during the past four years thousands of pounds of green ducks, broilers, and roasters have been produced and sold." From the photographs accompanying the text (pp. 201, 203) it would appear that a certain amount of 'free range' was provided. The authors commented: "Of course this is all carried on, on a truly American or 'mammoth' scale, which is quite beyond the scope of ordinary people, as an immense capital is necessarily required." It would be interesting to know when the first British broiler plant was established.

## Notes and Comments

### THE ANNUAL CONFERENCE

The annual conference of the Society was held at the University of Lancaster from Monday, 14 April, to Wednesday, 16 April 1969. An opening reception, provided by the University of Lancaster, was followed by a dinner at which the Society's guests were Professors P. A. Reynolds, A. H. Woolrych, and H. J. Perkins.

Papers were read by Professor F. M. L. Thompson on 'The role of the surveyor in eighteenth- and nineteenth-century agriculture'; by Professor G. E. Mingay on 'The survival of the small farmer'; and by Professor J. Oliver on 'Climate and agricultural history, with respect to variations in time, space, and farming systems'. Dr J. D. Marshall's paper, 'Some Lakeland agricultural history in the eighteenth and nineteenth centuries', provided a background to an excursion to Lake Windermere, Town End, a yeoman's house at Troutbeck, and John Wilkinson's land reclamation near the Cartmel coast.

### THE ANNUAL GENERAL MEETING

The Society's seventeenth AGM was held at the University of Lancaster on 15 April 1969 with Professor W. E. Minchinton, who had been re-elected chairman by the Executive Committee, in the chair. Mr G. E. Fussell, Mr C. A. Jewell, and Mr M. A. Havinden were re-elected President, Treasurer, and Secretary respectively. Professor H. P. R. Finberg, Mr G. Houston, Mr Harwood Long, and Dr W. J. Rowe were elected to the Executive Committee.

In presenting the report of the Executive Committee, Professor Minchinton noted that membership had risen from 672 to 683 and hoped that members would not slacken their efforts to increase numbers still further. The 1970 conference will be held from Monday, 6 April, to Wednesday, 8 April, in the West Midlands, while a joint conference with Dutch agricultural historians at Wageningen is proposed for April 1971.

The British Academy was thanked for its

further grant of £200 towards the publications of the Society.

The Treasurer reported that the Society's financial position was sound and the accounts were adopted.

### BANKER'S ORDERS

The Treasurer would like to stress that payment of subscriptions by Banker's Order is a great convenience, both to members and to the Society, and hopes that all members who do not yet subscribe by this means will be persuaded of the advantages it offers since it saves members from having to send cheques and the Society the expense of sending out requests and reminders.

### EXPORT OF HISTORICAL MANUSCRIPTS

It was reported that Mr J. Edwards, Reading University Archivist, had represented the Society at a meeting to consider the draft of the proposed Bill to control the export of historical manuscripts.

### INSTITUTE OF AGRICULTURAL HISTORY

The University of Reading, which has for a long time acted as a focus of interest in agricultural history on account of its Museum of English Rural Life, has now set up an Institute of Agricultural History. Its staff all hold existing full-time appointments in the university and consist of three associate directors, C. A. Jewell (Keeper of the Museum), E. J. T. Collins (bibliography), and E. L. Jones (research), with some bibliographical and secretarial help. The functions of the Institute are to promote teaching and research in agricultural history within the University of Reading and to offer facilities and bibliographical assistance to other *bona fide* scholars.

Reading is ideally situated for this enterprise. The main library of Reading University is strong in agricultural and agricultural history works, including the older printed works and pamphlets. Special collections include the Overstone Library of which the nucleus originally belonged to the nineteenth-century politi-

cal economist, J. R. McCulloch. Situated within the main library is the university archive, which has a large and comprehensively catalogued collection of eighteenth-, nineteenth-, and early twentieth-century farm records. These come mainly, but not solely, from southern and eastern England. In addition to original sets of farm accounts relating to over 700 farms, copies of which have been offered to the relevant county archives, there are microfilm copies of outstanding records from other repositories, making the collection in total the biggest single body of historical farm account material in Britain. There are also collections of estate records, the papers of firms of country solicitors, the correspondence of leading agriculturists and ancillary documents. The Museum of English Rural Life, moreover, contains a big selection of material artefacts, a large body of illustrative material, and its own specialist library of books and pamphlets on rural history. Finally, Reading is fairly close to a ring of other institutions with libraries (often containing special historical collections) of interest to agricultural historians. Some of these are constituent parts of, or attached to, Reading University. They include the National Institute for Research in Dairying nearby at Shinfield, the Grasslands Research Institute at Hurley, the National College of Food Technology at Weybridge, the ICI research station at Jealott's Hill, and the Curtis Agricultural Museum at Alton. The College of Estate Management has become part of the university and will shortly be moving to Reading. Also within reach west of London are such bodies as the Milk Marketing Board at Thames Ditton and the Meteorological Office at Bracknell.

On the bibliographical side the Institute is attempting to build up an abstracting service covering publications on British agricultural history from 1967, and is starting to work back through articles in the major journals. Ultimately it is hoped to develop an information retrieval system from which subject-classified lists of references and sets of abstracts can be made available to inquirers. Beyond this, the intention is to publish as occasional papers selected and annotated bibliographies on special subjects, mainly prepared by interested

members of the academic staff at Reading. Although a lack of funds at the present moment hampers expansion, it is hoped that this enterprise will flourish.

#### THE FARMER'S JOURNAL AND MANUFACTURER'S AND TRADER'S REGISTER, 1807-09

The Brynmor Jones Library at Hull University has recently acquired volumes 1 and 2 of *The Farmer's Journal, and Manufacturer's and Trader's Register*. These two volumes contain the Saturday edition of this journal from no. 1 (Saturday, 25 April 1807) to no. 104 (Saturday, 15 April 1809). The title of the journal was changed to *Evans and Ruffy's Farmer's Journal and Manufacturer's and Trader's Register* with volume 3 (no. 105, 22 April 1809), and further changed with volume 4 (no. 205, 23 March 1811) to *Evans and Ruffy's Journal and Agricultural Advertiser*.

It appears from the *British Union Catalogue of Periodicals* and the *Union List of Serials* that no other library, either in Britain or North America, has a complete holding of these two volumes: the British Museum holdings begin with vol. 3, 1809; Rothamsted Experimental Station and the Walter Frank Perkins Agricultural Library at Southampton University have only later volumes; and the Ministry of Agriculture Library and the Agricultural Research Council have no holdings.

#### THE MUSEUM OF FARMING LIFE AT AUCHINDRAIN, ARGYLL

A Museum of Farming Life has been set up at Auchindrain, between Inverary and Lochgilphead, which is a unique project for preserving a record of past life in the Highlands of Scotland. The site is the last multiple-tenancy farm in mainland Argyll, from which the last tenant moved out as recently as 1963. The buildings were then in a relatively good state of preservation and a Trust was formed in 1964, representing the Argyll Trustees, Argyll County Council, the Universities of Glasgow and Edinburgh, the National Museum of Antiquities of Scotland, Glasgow Museum and Art Galleries, and the Natural History and Antiquarian Society of Mid Argyll, to restore the

place and gather together household goods, tools, toys, and other material with which to furnish the buildings as they looked in the nineteenth and early twentieth centuries. The museum has received generous assistance from the Carnegie U.K. Trust, the Highlands and Islands Development Board, and the Argyll County Council, and it is now a going concern. A society has been formed of the Friends of Auchindrain to offer support, advice, and help in acquiring and arranging museum materials. The minimum subscription is one guinea. Information and membership forms may be obtained from Miss Elizabeth Meldrum, Secretary, Friends of Auchindrain Society, 2 The University, Glasgow, W.2.

#### THE HISTORY OF THE BRITISH CLIMATE

A Group for the Study of the History of the British Climate has been formed, which meets twice a year in Oxford. Anyone who is interested in receiving the literature circulated by this group and in attending its meetings should write to Trevor Aston, Corpus Christi College, Oxford. At the last meeting a detailed discussion took place on the period 1300-45, which included the evaluation of tree-ring evidence. The next meeting is planned for January 1970 and will discuss methods and evidence used by climatologists in the study of present and future weather.

#### TOOLS AND TILLAGE

The first issue of a new journal, *Tools and Tillage*, has just appeared. It is edited jointly by Axel Steensberg, Grith Lerche, and Alexander Fenton, in English and German, and its aim

is to provide a forum for the discussion, by scholars in several disciplines, of field systems, and the methods and implements of cultivation as they have appeared and changed through the ages in all parts of the world. This deliberately specialist journal will appeal to all who take a serious interest in agrarian history. Volume 1 contains a system for classifying pre-industrial implements of cultivation by Frantisek Sach of Czechoslovakia, a study of harvesting with sickles in Iran by Grith Lerche of Denmark, notes on an international bibliography of plough literature by Ulrich Bentzien of Rostock, and fresh information, including radio-carbon dates, on a number of wooden ploughing implements from peat bogs. There are also notes, and reviews of relevant books.

Subscriptions should be placed with the publishers, G. E. C. Gad, 32 Vimmelskaftet, DK-1161 Copenhagen K, Denmark. The cost is \$3 U.S. (approx. 25s. 6d.).

#### INTERNATIONAL SECRETARIAT FOR RESEARCH ON THE HISTORY OF AGRICULTURAL IMPLEMENTS

The REVIEW receives the regular newsletter sent out by the secretariat from Denmark (address: Brede Allé, 2800 Lyngby). The latest contains a report of a long trip by Axel Steensberg and the secretary to study collections of agricultural implements at Canberra, take part in an international congress in Japan, and examine prehistoric implements at Aleppo. It also includes the latest accessions to the library. The Editor will gladly lend this literature to any interested member of the B.A.H.S.

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Correspondence about conferences and meetings of the Society should be sent to Michael Havinden, Secretary, British Agricultural History Society, Dept. of Economic History, Streatham Court, Rennes Drive, The University, Exeter, Devon.

All other correspondence, including matters relating to membership, subscriptions, details of change of address, sale of publications, exchange publications, and advertising, should be addressed to Andrew Jewell, Treasurer, B.A.H.S., Museum of English Rural Life, The University, Whiteknights Park, Reading, Berkshire.

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