

# *The* **AGRICULTURAL HISTORY REVIEW**



VOLUME XV 1967

PART I

\*

## PRINCIPAL CONTENTS

The Origin and Early History of the Cultivated Barleys  
by HELENA H. CLARK

\*

The Parliamentary Enclosure Movement and Rural Society  
in Warwickshire  
by J. M. MARTIN

\*

The Rural Economy of Medieval Holderness  
by D. J. SIDDLE

PUBLISHED BY  
**THE BRITISH AGRICULTURAL HISTORY SOCIETY**

# THE AGRICULTURAL HISTORY REVIEW

VOLUME XV PART I · 1967

## CONTENTS

|                                                                                                                                                                                                                                                                                                                                               |                          | page      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|
| The Origin and Early History of the Cultivated Barleys. A Botanical and Archaeological Synthesis                                                                                                                                                                                                                                              | <i>Helena H. Clark</i>   | i         |
| The Parliamentary Enclosure Movement and Rural Society in Warwickshire                                                                                                                                                                                                                                                                        | <i>J. M. Martin</i>      | 19        |
| The Rural Economy of Medieval Holderness                                                                                                                                                                                                                                                                                                      | <i>D. J. Siddle</i>      | 40        |
| List of Books and Articles on Agrarian History issued since September 1965                                                                                                                                                                                                                                                                    | <i>H. A. Beecham</i>     | 46        |
| Letter to the Editor                                                                                                                                                                                                                                                                                                                          |                          | 18        |
| Reviews:                                                                                                                                                                                                                                                                                                                                      |                          |           |
| <i>The Agricultural Revolution, 1750-1880</i> , by J. D. Chambers and G. E. Mingay                                                                                                                                                                                                                                                            | <i>F. M. L. Thompson</i> | 54        |
| <i>The Agricultural Revolution in South Lincolnshire</i> , by David Grigg                                                                                                                                                                                                                                                                     | <i>Hugh Prince</i>       | 56        |
| <i>A History of Agricultural Science in Great Britain</i> , by Sir E. John Russell                                                                                                                                                                                                                                                            | <i>George Ordish</i>     | 57        |
| <i>Die Landwirtschaft Niedersachsens, 1914-64</i> , by Dr Albert Niemann                                                                                                                                                                                                                                                                      | <i>D. J. Davis</i>       | 59        |
| <i>La Distribuzione della Proprieta Terriera e della Coltura ad Imola nel XVII e XVIII Secolo</i> , by Claudio Rotelli                                                                                                                                                                                                                        | <i>G. E. Fussell</i>     | 60        |
| <i>Historical Statistics of Canada</i> , by M. C. Urquhart and K. A. H. Buckley; <i>Pioneer Days in Upper Canada</i> , by Edwin C. Guillet; <i>Between the Red and the Rockies</i> , by Grant MacEwan; <i>West of Yesterday</i> , by George Shepherd; <i>Awakening Continent. The Life of Lord Mount Stephen, Vol. I</i> , by Heather Gilbert | <i>Irene M. Spry</i>     | 61        |
| <i>Lands Alive</i> , by René Dumont                                                                                                                                                                                                                                                                                                           | <i>J. A. Mollett</i>     | 62        |
| Notes and Comments                                                                                                                                                                                                                                                                                                                            |                          | 45 and 53 |
| Notes on Contributors                                                                                                                                                                                                                                                                                                                         |                          | 39        |

# The Origin and Early History of the Cultivated Barleys

A BOTANICAL AND ARCHAEOLOGICAL SYNTHESIS

By HELENA H. CLARK

ALTHOUGH it may never be possible to determine exactly the time, place, and circumstances of the original domestication of the primary temperate cereal crops, the available evidence suggests that this took place in south-western Asia not long after the end of the Pleistocene period. Here, in the favourable environment of the flanks of the Zagros-Taurus mountains,<sup>1</sup> grew the large-grained annual grasses which became the progenitors of the cereal wheats and barleys. Amongst these was the wild two-rowed barley, *Hordeum spontaneum*, from which the first cultivated barleys were undoubtedly derived, but whether this single species could have given rise to the vast array of existent barley cultivars, or whether more than one ancestral form must be postulated, has long been the subject of speculation. During the last thirty years, both botanical and archaeological research has been directed towards the solution of this problem and it is proposed in this paper to collate the accumulated knowledge from both sources in an attempt to design for the cultivated barleys an acceptable phylogenetic scheme. To be tenable this must be supported by clear and irrefutable evidence and all suppositions based on inadequate data must be discarded. Botanical theories must be confirmed by the results of archaeological investigation and any discrepancy between the two must be interpreted as an indication of the inaccuracy of one or the other. In this way it may be possible to outline an evolutionary sequence which truly represents the origin and early history of one of the world's most important crops.

The cereal barleys and the barley grasses belong to the genus *Hordeum* of the grass tribe Triticeae. This tribe is characterized by its inflorescence which is a true spike in which *sessile* (stalkless) or sub-sessile spikelets<sup>2</sup> are

<sup>1</sup> Robert J. Braidwood and Gordon R. Willey (eds.), *Courses towards urban life*, Viking Fund Publications on Anthropology, no. 32, 1962.

<sup>2</sup> The spikelet is the unit of structure of the grass inflorescence. It consists typically of a short axis (*rachilla*) on which is borne a pair of chaffy protective bracts (the *glumes*), within which are one or more florets. Each floret has a further pair of bracts (the *lemma* and *palea*), two small scale-like structures (the *lodicules*), usually three stamens, and a pistil consisting of a single ovary, two styles, and two feathery stigmas. The ovary ripens a single seed, the thin outer

borne alternately on opposite sides of the rachis (inflorescence axis). The spikelets are arranged so that the edges of the glumes are adjacent to the axis, i.e. in the manner of the couch-grasses and not that of the rye-grasses. There is a further division of the tribe into the sub-tribes Triticineae and Hordeinae, both of which contain cereal species of great economic importance. In the Triticineae, to which wheat and rye belong, the sessile spikelets are borne *singly* at each node of the rachis while in the Hordeinae there is *multiple* insertion of sessile or sub-sessile spikelets at each node. To this sub-tribe belong the grass genera *Elymus*, the lyme-grasses of the temperate regions of the northern hemisphere, *Sitanion*, the squirrel-tail grasses of drier areas in the western states of North America, and *Hordeum*, the cereal barleys and barley-grasses, of which wild species are found in the temperate regions of both hemispheres. Whereas in *Elymus* and *Sitanion* the spikelets are two- or more-flowered, those of *Hordeum* are always one-flowered and are inserted in groups of three (the triplet of spikelets) at each node of the rachis.

It is usually considered that there are at least four distinct sections of the genus *Hordeum* of which three contain the agriculturally unimportant annual and perennial barley-grasses while the fourth, the Cerealia section, embraces the cultivated barleys and the large-grained wild forms obviously related to them. A strong indication that this section is phylogenetically distinct from the other three is given by the fact that no natural hybrids between the barley-grasses and the cereal barleys are known and artificial hybrids between them are almost impossible to obtain. Furthermore, while a polyploid series of diploid, tetraploid, and hexaploid species exists within the barley-grasses, all the cereal barleys are diploid annuals ( $2n=14$ ) and their further classification is based not on chromosome number but on morphological variations in the ear. In *Hordeum spontaneum*, the wild brittle-eared<sup>1</sup> two-rowed barley, and in all forms of *H. distichon*, the cultivated tough-eared two-rowed barley, only the median spikelet of the triplet is fertile and ripens grain. This *heterospiculate* condition is shared with the true barley-grasses and seems natural to the genus. In the doubtfully wild *H. agriocrithon*, to which reference will be made later, and in all the cultivated barleys of the *H. vulgare* aggregate (the many-rowed barleys<sup>2</sup>) all three spikelets are fertile. It is with coat of which is fused to the ovary wall. This resultant specialized, indehiscent fruit is known as the *caryopsis* or grain and is the characteristic feature of the grass family, Gramineae. The whole grass inflorescence shows adaptation to wind pollination.

<sup>1</sup> The brittle ear, in which the triplet of spikelets is shed at maturity, is a wild characteristic. Had the mutation from the brittle to the tough condition not occurred, man would never have been able to harvest the barley crop.

<sup>2</sup> The distinction between four- and six-rowed barleys is of little botanical significance. All

the origin of this *isospiculate* condition that the barley evolutionists are most concerned.

Comparative morphological studies appear to indicate that development within the tribe Triticeae has taken place by reduction, and the situation within the Cerealia section of the genus *Hordeum* can be interpreted as a further manifestation of this tendency. The "intermedium" barleys (*H. intermedium*) cultivated in Tibet and China, in which the lateral spikelets, although fertile, show morphological differentiation and ripen a smaller grain can be looked upon as reduced forms of *H. vulgare*. Further reduction leading to loss of fertility of the lateral spikelets would result in the two-rowed *H. distichon* and the final stage would be reached in the highly specialized endemic two-rowed barley of Abyssinia, *H. deficiens*, in which the whole lateral spikelet is vestigial. If one accepts this view then evolution within the group must have proceeded from the six- to the two-rowed condition and the wild two-rowed *H. spontaneum* is eliminated as a possible ancestor of the cereal barleys.

In the absence of more concrete evidence, this type of reasoning is extremely beguiling and leads directly to the postulation that there must have existed at one time, or perhaps even still exists, a primitive brittle-eared six-rowed wild barley from which all others were derived. In 1926, the Russian botanist, Vavilov, had suggested that the centre of origin of a species of cultivated plant is that geographic region where today the greatest number of genetic varieties is to be found. On this basis such a centre of origin for the six-rowed barleys could be identified in south-eastern Asia, including China, Tibet, and Nepal. Here were to be found not only the "*intermedium*" barleys but various fully six-rowed forms including those with short-awned or awnless ears, naked grains<sup>1</sup> and hooded lemmas.<sup>2</sup> Furthermore, until less than a hundred years ago, only six-rowed barleys were cultivated in the vast agricultural area east of the Hindu-Kush. It seemed likely, therefore, that if a wild six-rowed barley still existed it would be discovered somewhere in south-eastern Asia.

The upholders of this point of view had not long to wait. Amongst the cereal material brought back by the Swedish Expedition to Eastern Tibet in many-rowed barleys are, in fact, six-rowed but a four-rowed condition is simulated when the spike is lax.

<sup>1</sup> As the barley grain ripens, a mucilaginous substance is secreted by the outermost layer of the pericarp (the ovary wall) which, as it dries out, glues lemma and palea to the developing fruit. In the naked barleys there is no such secretion and the grain threshes out freely as in wheat.

<sup>2</sup> In the hooded barleys the awn is replaced by a trilobed appendage for which there is no parallel in any other grass. This hood often carries an accessory spikelet.

1934, two grains of a hulled barley were detected in a sample of naked, six-rowed cultivated barley from Taofu near to the frontier of Szechuan. On germination these gave rise to a six-rowed hulled barley with a brittle rachis quite unlike the naked, tough-eared, cultivated barleys of Tibet. This unique form was described as a new wild species by Åberg<sup>1</sup> in 1940 and named *Hordeum agriocrithon* Åberg. Later its existence was confirmed by the German Tibet Expedition (1938-9) which brought back five samples of grain said to have been obtained from the market in Lhasa, 1,200 km. south-west of Taofu. Finally, among the cereal grains collected by the British Museum Expedition to Tibet (1949), Elisabeth Schiemann<sup>2</sup> identified not only *H. agriocrithon* but a second brittle-eared hulled form with reduced but fertile lateral spikelets morphologically similar to *H. intermedium*. To this she gave the name *Hordeum paradoxon* Schiem. and the status of a third wild species.

If one accepts, as did Åberg and Schiemann, the authenticity of *H. agriocrithon*, then it is possible to postulate the derivation from it, by a series of mutations and subsequent hybridizations, of the whole range of known barley forms. Between 1940 and 1955,<sup>3</sup> stimulated by the new finds, many phylogenetic schemes for the Cerealia barleys were published in which *H. agriocrithon* was named not only as the progenitor of the six-rowed cultivated barleys but also of the wild two-rowed *H. spontaneum*. The two-rowed cultivated barleys were then either derived from the cultivated six-rowed (the monophyletic theory of the origin of the cultivated barleys) or, alternatively, from the wild two-rowed (the diphyletic theory of origin). It was inevitable that arguments should develop as to which of the two schemes was the more likely, but no one doubted that the starting-point of them both was the new wild six-rowed Tibetan barley, *H. agriocrithon*.

Unfortunately, it soon became evident that this enthusiasm was premature. The new form had never been found in a truly natural habitat, but only in association with cultivated crops. In many of its characters it was less primitive than *H. spontaneum*, and, as the six-rowed condition is recessive to the two-rowed,<sup>4</sup> it was realized that even this character was more likely to be derived than ancestral. In 1947, the Russian cereal botanist, Bakh-

<sup>1</sup> E. Åberg, 'The Taxonomy and Phylogeny of *Hordeum* L. sect. Cerealia Ands. with special reference to Tibetan Barleys', *Symbolae Botan. Upsaliensis*, 4, 1940, p. 1.

<sup>2</sup> E. Schiemann, 'Neue Gerstenformen aus Ost-Tibet und ein weiterer Fund von *Hordeum agriocrithon* Åberg', *Ber. D. Bot. Ges.*, 64, 1951, p. 56.

<sup>3</sup> For a clear exposition of the early work, see G. Staudt, 'The Origin of Cultivated Barleys: A Discussion', *Economic Botany*, xv, no. 3, p. 205.

<sup>4</sup> F. Kh. Bakhteyev, 'Experimental data on the mode of inheritance of certain taxonomic characters in *Hordeum spontaneum*', *Genetica*, Moscow, 1965.

teyev,<sup>1</sup> in a paper entitled "Is *Hordeum agriocrithon* Åberg a species?" reported that he had failed to find any differences between this "species" and plants which he detected amongst the offspring of artificial hybrids between *H. spontaneum* and *H. vulgare*. Some years later Kamm<sup>2</sup> drew attention to the presence in Israel of a range of brittle six-rowed barleys among which forms morphologically identical with *H. agriocrithon* and *H. intermedium* occurred. Some of these remained constant in cultivation while others segregated for several of the diagnostic features which separate *H. agriocrithon* from *H. spontaneum* and *H. vulgare*. His observations were confirmed by Zohary<sup>3</sup> who commented upon the almost exclusive association of these *agriocrithon*-like forms with natural hybrid swarms between the wild two-rowed and the cultivated six-rowed, which occurred wherever the parental species came into contact. He also pointed out that whereas the very specialized dispersal unit (the mature triplet) of *H. spontaneum* was extremely efficient and accounted for the high competitive ability of the wild two-rowed barley, that of *H. agriocrithon* was so constructed that the survival of this species in the wild was practically impossible. Only as a close associate of cultivated crops could it ever be perpetuated. Furthermore, except for the cultivated *vulgare* barleys which were not dependent upon efficient natural dispersal mechanisms for their continuance, all the barley grasses were disseminated by means of dispersal units of the *H. spontaneum* type. The indication is that this feature is natural to the genus and that the splayed-out triplet carrying three fertile grains is a lethal modification which in nature would lead to the elimination of forms possessing it. Under these circumstances it seemed unrealistic to consider seriously the possibility of the derivation of the cultivated barleys from a six-rowed ancestor.

The alternative view, that all forms of cultivated barley are directly descended from the wild two-rowed barley, also encounters difficulties. It has been established that the brittle ear of the wild barleys is dependent on the interaction of two complementary dominant genes *Bt* and *Bt*<sub>2</sub>,<sup>4</sup> and that both *H. spontaneum* and *H. agriocrithon* have in this respect the same genetic constitution. The tough-eared condition of the cultivated barleys, on the other hand, is produced by either of the recessive alleles *bt* and *bt*<sub>2</sub>. The

<sup>1</sup> F. Kh. Bakhteyev, 'Is *Hordeum agriocrithon* Åberg a species?', *Doklady Acad. Nauk. U.S.S.R.*, LVII, 1947, p. 195.

<sup>2</sup> A. Kamm, 'The discovery of wild six-rowed barley and wild *Hordeum intermedium* in Israel', *Ann. Agr. Coll. Sweden*, 21, 1954, p. 287.

<sup>3</sup> D. Zohary, 'Studies on the origin of cultivated barley', *Bull. Res. Council of Israel*, 9D, 1960, p. 21.

<sup>4</sup> I. J. Johnson and E. Åberg, 'The inheritance of brittle rachis in barley', *J. Am. Soc. Agr.*, xxxv, 1943, p. 101.

Japanese cereal geneticist, Takahashi,<sup>1</sup> investigated the geographical distribution of the possible genotypes. He collected upwards of twelve hundred strains of cultivated barley from many parts of the world and subjected them to genetic analysis. The results were remarkable. Almost without exception the two-rowed barleys from the occidental region of the Old World were of the *bt bt Bt<sub>2</sub> Bt<sub>2</sub>* type (Type W) whereas six-rowed barleys from the oriental region were predominantly *Bt Bt bt<sub>2</sub> bt<sub>2</sub>* types (Type E). Any divergence from this simple relationship could be explained by hybridization at points where the different genotypes were brought into contact. As *H. spontaneum* has never been found wild east of the Hindu Kush mountains, and as two-rowed cultivated barleys were not introduced into the orient until about ninety years ago, it could be concluded that the two-rowed and six-rowed barleys have followed different evolutionary paths which have been, from the beginning of their history, genetically and geographically distinct.

This argument was, however, countered by Zohary<sup>2</sup> who strongly believes that *H. agriocrithon* is not a wild form but only a secondary hybrid derivative. That *H. spontaneum* has not yet been found in Tibet is not a valid objection to this view for, as he points out, botanical exploration in this region has been extremely limited. To Zohary, the demonstration by Takahashi that the east-Asiatic barleys are predominantly Type E, while west of the Hindu Kush the cultivated barleys are mainly Type W, does not necessarily imply a diphyletic origin for the cultivated barleys. Both mutations to the non-brittle condition could have occurred in *H. spontaneum* in western Asia and both could have been picked up independently by the early agriculturalists. The fortuitous introduction of Type E into the orient in already cultivated six-rowed forms, for which there seems to have been a distinct regional preference, would, according to Zohary, account for its presence there now. It is necessary to point out, however, that he gives no satisfactory explanation of the apparent restriction of Type W two-rowed barleys to the occidental region, nor is there any proof for his suggestion that there is a relatively higher selective value to the *bt<sub>2</sub>* gene when it occurs as part of the six-row genotype.

Recent researches by Takahashi<sup>3</sup> and his co-workers have demonstrated further geographical regularities in genotype distribution. Hiura<sup>4</sup> has shown

<sup>1</sup> Ryuhei Takahashi, 'The Origin and Evolution of Cultivated Barley', *Advances in Genetics*, VII, 1955, p. 227.

<sup>2</sup> Zohary, *op. cit.*, p. 41.

<sup>3</sup> Ryuhei Takahashi, 'Further studies on the phylogenetic differentiation of cultivated barley', *Barley Genetics I, Proc. of the First International Barley Genetics Symposium*, Wageningen, 1963, p. 19.

<sup>4</sup> U. Hiura, 'Genetic studies of the resistance of barley varieties to powdery mildew', Ph.D. thesis, Ohara Institute for Agricultural Biology, 1959.

that practically all barleys in the oriental region are susceptible to barley mildew (*Erysiphe graminis forma hordei*) Race I, whereas those occurring in the occident include a high proportion of resistant or medium-resistant forms. Although the genetics of disease resistance in barleys is complex and cannot be discussed in detail here, Hiura has been able to deduce from his experimental data that all Type E barleys lack the genes for resistance to mildew Race I, while most Type W forms carry one or more resistance genes. Evidence of a similar regularity in the geographical distribution of the genes controlling the winter and spring habits and of those determining the length of hairs on the rachilla has also been obtained. The situation governing these regularities has been analysed by Takahashi<sup>1</sup> who strongly maintains that they are not compatible with an evolutionary theory for the origin of the cultivated barleys which derives all *Cerealia* barleys from the same source. He concedes the strength of Zohary's doubts concerning the wild status of *H. agriocrithon* but still cannot reconcile the genetic and phytogeographic evidence with a monophyletic theory of origin. In his paper contributed to the First International Barley Genetics Symposium in 1963, to which reference has already been made, he tentatively suggested that the apparent contradictions in the botanical evidence could only be explained by postulating *two* distinct introductions of wild two-rowed barley into cultivation separated from one another by a considerable period of time. These could have instigated two entirely independent evolutionary lines, one deriving the tough rachis from the mutation of the dominant *Bt*<sub>2</sub> gene to the recessive condition, and the other from the mutation of the complementary *Bt* gene. From the former, the ancient two-rowed barleys and the whole range of six-rowed forms could have stemmed, while from the latter the more recent two-rowed barleys of agriculture could have been derived. One could then accept the hybrid nature of *H. agriocrithon* and discard completely the claim of this species to be an ancestral type.

As it is impossible to test the validity of such a theory by botanical methods, it is proposed to examine it here in the light of the results of archaeological and historical research. For the first time one is able to do this with some degree of confidence. Not only has one faith in the accuracy of the more recent identifications of botanical material recovered from archaeological sites but improved methods of dating have made possible the establishment of reasonably reliable chronological sequences. Furthermore, it has at last been realized that it is essential for an archaeological field team<sup>2</sup> to include

<sup>1</sup> Ryuhei Takahashi, *op. cit.*, *Barley Genetics I*, p. 25.

<sup>2</sup> The example was set by Professor Robert J. Braidwood of the Oriental Institute of the University of Chicago who included Hans Helbaek as botanist, Charles A. Reed as zoologist,

natural scientists amongst its members. The task of identifying recovered botanical and zoological material is made very much easier if it is seen, immediately it is exposed, in its correct archaeological context and against the ecological background of the excavation. Much valuable information from important classical sites has been irretrievably lost because of failure in the past to appreciate the necessity of careful handling and expert examination on the spot. Equally essential is the meticulous recording of relevant data and subsequent storage under such conditions that, if necessary, the material can be re-examined and reassessed with confidence.

It is a reasonable supposition that the introduction of wild plants into cultivation would take place within the area of their natural distribution. Although it will never be possible to delineate exactly the boundaries of the habitat zone of the ancestral forms of wheat and barley at the time of their domestication, certain deductions can be made. Today the wild two-rowed barley, *H. spontaneum*, grows at altitudes up to 2,000 m. above sea level throughout a wide crescentic area in western Asia. This embraces Turkey, Iraq, Transcaucasia, Syria, Israel, Jordan, and Northern Arabia, with an easterly extension into Afghanistan. In spite of reports which appear from time to time, there are no authentic records of its having been found wild on the African continent. The wild emmer wheat, *Triticum dicoccoides*, on the other hand, is much more restricted in its distribution, although its habitat area falls within that for *H. spontaneum*. As it is likely that the two species were domesticated simultaneously, for barley and wheat are invariably found together at sites of early agriculture, it can then be inferred that this domestication took place within the area of distribution common to both. This, according to Helbaek,<sup>1</sup> comprises the western foothills of the Zagros mountains (Iraq-Iran), the Taurus (Southern Turkey), and the Galilean uplands (Northern Israel), a region characterized today by the diversity of its terrain and the comparatively high winter rainfall.

From what is known of the climatic conditions of the immediate post-glacial period in western Asia,<sup>2</sup> Butzer<sup>3</sup> has constructed a map in which he

and Herbert E. Wright as geologist in his team excavating the neolithic village of Jarmo in Iraqi Kurdistan in 1955.

<sup>1</sup> Hans Helbaek, 'Domestication of Food Plants in the Old World', *Science*, xxx, no. 3372, 1959.

<sup>2</sup> For an account of current investigations into the climatic conditions which obtained at the time when cereals were introduced into cultivation and animals domesticated, see Herbert E. Wright, 'Climate and Prehistoric Man in the Eastern Mediterranean', in *Prehistoric Investigations in Iraqi Kurdistan*, ed. R. J. Braidwood and Bruce Howe, Chicago University Press, 1960.

<sup>3</sup> Karl W. Butzer, *Environment and Archaeology*, London, 1965.

relates the location of early agricultural and proto-agricultural sites (c. 9000–5750 B.C.) to vegetational zones. If one were to superimpose upon this map the common area of distribution of the potential cereal domesticates, one would see that this lies entirely within the zones of deciduous mixed forests and sub-tropical woodlands, i.e. within the winter rainfall belt, and coincides exactly with the area within which the known sites of incipient and early agriculture occur. It is also interesting to note in this connection that Sauer,<sup>1</sup> in considering agricultural origins in the Near East, argued that because of the difficulty of cultivating a heavy and continuous sod with primitive implements, woodland rather than grassland offered the most suitable environment for the beginning of cereal cultivation. It is, therefore, possible to conclude that when man had reached the stage of his cultural development at which it was inevitable that he should start to cultivate plants, he found, growing around him, in conditions not very different from those existing today, the large-grained<sup>2</sup> cereal grasses which were to become the ancestors of the modern wheats and barleys.

The first indications of conscious agriculture in western Asia are to be found at the sites of "incipient cultivation" with radio carbon<sup>3</sup> dates of around 9000 B.C., i.e. a date very close to that accepted as the boundary line between the Pleistocene and the Holocene. From sites such as Karim Shahir and Zawa Chemi in the Kurdish foothills and Natufian sites such as Mount Carmel and Mallaha in Central Palestine assemblages including milling stones, pestles and mortars, and flint-set sickles have been uncovered. These seem to point directly to the reaping of wild or cultivated grasses and their subsequent use as food. Although their occurrence together is suggestive, one must be very wary of jumping to conclusions, for each of these tools is known to have been used in prehistoric times for purposes other than agriculture. In fact, the sickle, which may have been an efficient means of cutting reeds or grasses for mats or bedding, is a most unsuitable instrument for the harvesting of wild grasses. At a touch from such an implement the fragile ears would shatter and the grain would be shed. It would be much more easily caught by beating it into a basket. In India, today, the wild rice,

<sup>1</sup> C. O. Sauer, *Agricultural Origins and Dispersals*, American Geographic Society, New York, 1952.

<sup>2</sup> The present writer recently had the opportunity of examining ears of wild two-rowed barley and wild emmer wheat which had been collected in Eastern Galilee in May 1966. The large size of the mature grain was their most striking feature and one can easily understand how early man would be attracted to such an obvious and easily obtainable source of food.

<sup>3</sup> The limitations of the radio-carbon dating techniques are realized, but they do make it possible to establish comparative chronologies. The dates quoted in this paper are approximations to the nearest 250 years.

*Oryza fatua*, is harvested by the tying together of the awns of the unripe spikelets. These are shed at maturity and the little bundles are quickly and efficiently collected from the ground. The present writer has very successfully retrieved the grains of the wild two-rowed barley in this manner and, if this were indeed the practice in the past, it could be argued that the presence of the sickle indicated either that the grasses were being gathered for their straw or that the mutation to the tough-eared condition had already taken place. Unfortunately, no plant remains have been identified from any of these early sites. All that one can say is that, at the time when they were occupied, *Hordeum spontaneum* and *Triticum dicoccoides* would be easily available wild grasses.

Two thousand years later, the picture had changed completely. Excavations at Jarmo<sup>1</sup> under the directorship of Professor Robert J. Braidwood have revealed the existence in the seventh millennium B.C. of fully developed village farming communities situated in the foothills of the Kurdish mountains. Jarmo (radio carbon dating  $\pm$  6750 B.C.) lies at an elevation of 2,500 ft on a grass-covered, silt-floored plain in a hollow between limestone and gravel hills. That the area was tree-covered in the past is shown by the recovery of a considerable amount of oak charcoal. The Jarmo plant material was examined with great care by Hans Helbaek<sup>2</sup> and his findings are of supreme importance in the present context. Amongst the carbonized grains and the imprints in baked clay he was able to recognize not only the wild einkorn and emmer wheats (*T. boeoticum* and *T. dicoccoides*) which normally still grow together in the vicinity of the site, but also an emmer wheat bearing the stamp of a fully domesticated form. He considers this to represent an early stage in the evolution of the cultivated emmer (*T. dicoccum*). Of even greater interest are the results of his examination of the Jarmo barley which made up the bulk of the cereal finds. The kernels were hulled, straight, and unwrinkled, and some of the recovered specimens consisted of the median fertile spikelet to which the sterile lateral spikelets still adhered. These laterals were not sessile, as in the modern cultivated two-rowed barleys, but were borne on short but distinct pedicels as in *Hordeum spontaneum*. Although so similar morphologically to the wild two-rowed barley, the rachis, however, was tough and portions of the axis of the ear were found consisting of two or three internodes still attached to one another. Helbaek considers this to be "an unambiguous indication of domestication" for such plants could not

<sup>1</sup> For a full account of the Jarmo investigations, see *Prehistoric Investigations in Iraqi Kurdistan*, ed. Robert J. Braidwood and Bruce Howe, Chicago University Press, 1960.

<sup>2</sup> Hans Helbaek, 'The Palaeoethnobotany of the Near East and Europe', in *Prehistoric Investigations in Iraqi Kurdistan*, 1960.

survive in the wild and could only perpetuate their kind through the agency of man. We thus know with certainty, that some nine thousand years ago, a two-rowed barley directly derived from the wild form was being cultivated in northern Mesopotamia. Other sites tell the same story. The "Jarmo" barley has been recognized amongst the plant material from Tepe Sarab (c. 6750 B.C.) lying 120 miles south-east of Jarmo, and a similar two-rowed barley abounds amongst the plant remains of Matarrah, Hassuna, and Mersin—three sites of lower altitude (750 ft) and later date (c. 5750 B.C.), but of essentially the same cultural complex as Jarmo. Nowhere was there the slightest sign of six-rowed barley.

At this point the archaeological story takes a striking turn. In 1957 Helbaek was given the opportunity of examining pottery and carbonized grain from a series of sites from Khabur in Northern Kurdistan to Ur in southern Mesopotamia. He found that, although in the northern foothills two-rowed barley was grown exclusively until later Halafian times (i.e. c. 4500 B.C.), at later dates evidence of the cultivation of a six-rowed barley began to appear.<sup>1</sup> Furthermore, in the area south of Baghdad, i.e. in the alluvial plains of the Tigris and Euphrates rivers, no traces of two-rowed barley occurred at all, but there was, on the other hand, convincing morphological evidence for the existence of a hulled, nodding, lax-eared, six-rowed barley. As colonization of lower Mesopotamia took place some time during the fifth millennium B.C. by peoples from the northern hill country who presumably brought their cereal crops with them, one is faced with the problem of determining the source of this six-rowed barley.

There is no necessity to presuppose an ancestral six-rowed wild form, for the change from the two-rowed to the six-rowed (i.e. from the heterospiculate to the isospiculate ear) is brought about by a simple mutation from the dominant to the recessive condition of a single gene.<sup>2</sup> Helbaek<sup>3</sup> suggests that barley was sensitive to the sudden change in its ecology and that the mutation was induced by the move from the moist conditions of its mountain habitat to the hot plains of the lowlands where cultivation was only possible under irrigation. Whether this is so or not, it is certainly true that many researchers have reported similar changes in row number in experimental material as a result of the application of a wide variety of mutagenic agents.

<sup>1</sup> Helbaek considers this as an indication of a two-way traffic between the hill peoples and the settlers of the plains.

<sup>2</sup> Robert A. Nilan, *Cytology and Genetics of Barley*, 1951-1962, Monograph Supplement No. 3, Research Studies, Washington State University, xxxii, no. 1, 1964.

<sup>3</sup> Hans Helbaek, 'Ecological effects of Irrigation in Ancient Mesopotamia', *Iraq*, xxii, 1960.

Of particular interest is the report by Seveluka,<sup>1</sup> that changes in the environment of the growing plants have induced the mutation from the two-rowed to the six-rowed state, but more information is needed before this can be accepted. It seems unnecessary, however, to invoke alteration in the environment as a causative agent. Mutations are genetic changes which, when they occur naturally in a population, provide the variation over which selection can act. Without them there can be no evolution. It is inconceivable that the simple mutation from the dominant to the recessive condition of the gene controlling the fertility of the lateral spikelets has not occurred spontaneously over and over again in the long history of barley. In the wild, as has been pointed out earlier, there would be strong selection pressure against the new six-rowed form, but under cultivation, it would be harvested and disseminated with the parent crop. The heavy ear, with its implications of a higher yield, would undoubtedly attract the attention of a primitive agriculturalist and, as barley is naturally self-fertilized, a homozygous strain which would breed true would be exceedingly easy to establish. If experiments<sup>2</sup> which showed that six-rowed barleys outyielded two-rowed when grown under irrigation, reflect a true difference between the two forms, then the preference for six-rowed barleys shown by the early farmers of Mesopotamia would be explained. Eventually, two-rowed would fall out of cultivation altogether, as it apparently did before the end of the fifth millennium B.C. Unfortunately, archaeological evidence covering this critical stage in the evolution of cultivated barley is almost completely lacking. The period of transition during which the two varieties must have been grown together is not represented at all in Mesopotamia. Even for the period immediately following the changeover, direct evidence for cereal cultivation is scarce, although from 3500 B.C. onwards the gap in the records begins to be filled by written and pictorial data. A beautifully decorated ritual bowl from Ur<sup>3</sup> (c. 3000 B.C.) bears a repetitive design based on an ear of six-rowed barley and cylinder seals depicting the same cereal have been recovered from the sites of the Sumerian city states of the third millennium B.C. Significantly, no illustrations of two-rowed barley have ever been found. It was a long-forgotten cereal which was not to return to the fields of Mesopotamia until well into the Christian era.

From western Asia, following the routes of the great Neolithic migrations, agriculture spread southwards to Egypt, northwards and westwards through

<sup>1</sup> V. I. Seveluka, 'Observations on the variability of winter barleys in the foot-hill zone of the North Caucasus', *Izvest. Timiryazev. Sel'skokhoz. Akad.*, vi, 1957.

<sup>2</sup> *Barley Newsletter*, no. 2, 1958.

<sup>3</sup> Leonard Woolley, *Excavations at Ur*, London, 1954.

Asia Minor to Europe and, eventually, east to the valley of the Indus. We know that by the middle of the fifth millennium B.C. wheat and barley were being cultivated at Fayum in Egypt and the results of the recent re-examination by Hans Helbaek<sup>1</sup> of the mummified<sup>2</sup> grain from its straw-lined grain pits is of great interest in the present context.

Wheat and barley are not native to Egypt and, therefore, one would not expect the "incipient" stage in their domestication to be represented. Instead at Fayum one finds an assemblage of cereal forms which seem to be in an active state of evolution. To Helbaek, this corresponds to the variability which must have existed in these crops when they were first exposed to the new habitat conditions of the Mesopotamian alluvial plains, a phase of their evolution in this region for which, as has been seen, no archaeological record as yet exists. In Helbaek's words "both six- and two-row barley are present; both varieties, the lax-eared as well as the dense-eared of the six-row form; remains of two-row spikes that correspond exactly to ancient and modern examples of the cereal, and even a further reduced form, *Hordeum deficiens*, in which indeed the glumes of the lateral spikelets are developed, but of the flowers practically nothing is left. The deposit represents the most complete sliding scale of all imaginable mutative changes except the naked form." He goes on to note the significance of the fact that in none of the later Egyptian finds, many of them perfectly preserved, is there any instance of the two-rowed, the "deficient," or the six-rowed dense-eared forms. As upon the Mesopotamian plains, only the six-rowed lax-eared forms survive.

Whether or not these circumstance represent, as Helbaek believes, the evolutionary influence of environmental change upon cultivated plants, one of his observations seems to have passed without sufficient comment. He recognized amongst the Fayum deposits the unmistakable remains of a two-rowed barley, morphologically identical to the indigenous Abyssinian cultivated barley, *H. deficiens*. The presence of this species and other endemic cereal forms in Abyssinia had led Vavilov<sup>3</sup> to identify this region as a centre of origin of the two-rowed hulled barleys and of the tetraploid wheats, but his theory failed to take account of the fact that the area postulated was well outside the natural distributional range of the probable wild progeni-

<sup>1</sup> Hans Helbaek, *op. cit.*

<sup>2</sup> Because of the hot dry climate of Egypt grain can be preserved in a near-fresh condition. Mummified grain retains many more of the diagnostic characters than does carbonized grain.

<sup>3</sup> N. L. Vavilov, 'Geographische Genzentrier unserer Kulturpflanzen', *Z.I.A.V. Suppl.*, 1, 1925.

tors. Elisabeth Schiemann<sup>1</sup> believed that two-rowed barley and emmer wheat were brought to Abyssinia as plants already well adapted to cultivation by man. Once there, the cultural and geographical isolation to which they have been subjected ever since, together with practice of a primitive agriculture which would favour the preservation of any mutations which might occur, would result in the area becoming an "accumulation centre" rather than a centre of diversity in the Vavilov sense. She, like Helbaek, considered environmental factors to be promoters of mutations of which the *deficiens*<sup>2</sup> condition of the two-rowed barley was one. With the discovery, however, of this form amongst the cereal remains of Fayum, there is no longer any need for such a postulation. *H. deficiens* could have reached Abyssinia from Egypt at a very early date and would thus be a relict of ancient cultivation. If this were so, one would expect it to conform to the genetic Type E barleys in which the toughness of the rachis is the result of the mutation of the dominant *Bt*<sub>2</sub> gene to the recessive condition (see earlier). Takahashi<sup>3</sup> reports the occurrence of both Type E and Type W amongst the cultivated barleys of Abyssinia, but no information is available concerning the genetic nature of the tough rachis in *H. deficiens* itself. A searching study of the morphological, physiological, and genetical characteristics of the Abyssinian barleys on the lines of the investigations carried out recently in Afghanistan ought to be most rewarding.<sup>4</sup>

From western Asia, agriculture spread into Europe. Although the archaeological details are as yet rather sparse, there is evidence of at least three migratory waves. Of these, most is known of that which penetrated from Mesopotamia through southern Asia Minor to Greece and thence through the Balkans to the valley of the Danube and southern Russia. The period of time occupied by this phase stretches from 4200 B.C. to 2500 B.C. Cereal cultivation also extended in other directions. It had reached the Elbe valley by 4000 B.C., north-west Africa by 3050 B.C., and had crossed the channel to southern and eastern England perhaps as early as 3400 B.C.<sup>5</sup> By 2650 B.C., neolithic farmers were established in Denmark.

<sup>1</sup> Elisabeth Schiemann, 'New Results on the History of Cultivated Cereals', *Heredity*, v, pt 3, 1951.

<sup>2</sup> The *deficiens* condition is recessive to the normal two-rowed but dominant over the six-rowed.

<sup>3</sup> R. Takahashi, 'The Origin and Evolution of Cultivated Barley', *op. cit.*

<sup>4</sup> R. Takahashi, *et alii*, 'Characteristics of the wild and cultivated Barleys from Afghanistan and its neighbouring regions', *Berichte des Ohara Instituts für landwirtschaftliche Biologie*, xii, no. 1, 1963.

<sup>5</sup> J. G. D. Clark and H. Godwin, 'The Neolithic in the Cambridgeshire Fens', *Antiquity*, March 1962.

The cereals cultivated in prehistoric Europe can be determined by examination of carbonized grains and grain impressions in pottery and baked clay. Unfortunately, most of the early identifications are unreliable and once more, one is indebted to the recent archaeobotanical researches of Helbaek<sup>1</sup> for an accurate determination of the cereal crops of early European agriculture. Three species of wheat (einkorn, emmer, and a form of bread wheat) were cultivated and two forms of six-rowed barley, the naked and the husked. Of these the naked form was much the more common during the early prehistoric periods in north-western Europe, but later it was superseded by the hulled form. At one time Helbaek believed in an independent European origin for the naked six-rowed barley, but his more recent researches, as will be shown later, suggest otherwise. No authentic finds of two-rowed barley have ever been made and Helbaek is of the opinion that this form did not arrive in Europe until classical times and did not reach northern Europe until the second millennium of the Christian era. This, of course, is what one would expect if the neolithic migrations began, as the evidence seems to show, after the disappearance of two-rowed barley from south-western Asia.

According to Sir Mortimer Wheeler,<sup>2</sup> civilization reached India fully-fledged from Mesopotamia, sometime during the third millennium B.C. It led to the establishment of the Indus valley cultures, exemplified by the cities Mohenjo-daro and Chanhudaro on the Indus, and Harappa on the Ravi some distance to the north. Their economy rested upon irrigation farming and depended upon the cultivation of club wheat (*Triticum compactum*) and a hulled six-rowed barley. Again, for undoubtedly the same reason, there is no sign of two-rowed barley. The absence of this species from the agricultural area east of the Hindu-Kush until its introduction from Europe in 1870, is not because the exclusive cultivation of six-rowed barley is related to the occurrence in this region of a wild six-rowed barley, but because agriculture was introduced into the orient at a time when two-rowed barley was no longer cultivated in the agricultural occident.

Up to this point botanical and archaeological evidence go hand in hand. The derivation of all cultivated barleys from *Hordeum spontaneum* seems to be strongly indicated. The source of endemic barleys of Abyssinia has been discovered. A convincing explanation of the absence of two-rowed cultivated barleys from the agriculture of prehistoric Europe and from the ancient

<sup>1</sup> Knud Jessen and Hans Helbaek, 'Cereals in Great Britain and Ireland in Prehistoric Times', *Kgl. Danske Vid. Selsk. Skrifter*, 1944; Hans Helbaek, 'Early Crops in Southern England', *Proceedings of the Prehistoric Soc.*, XVIII, pt 2, 1952.

<sup>2</sup> Mortimer Wheeler, 'Ancient India', in *The Dawn of Civilization*, London, 1961.

and modern orient has been given. Two problems only remain. Was there a second introduction of two-rowed barley into cultivation and when and where did the first naked barleys arise?

Recent researches have partly answered both of these questions and, at the same time, have suggested a currently very unpopular possibility. In 1961 Helbaek<sup>1</sup> reported the results of his examination of cereal material recovered during the excavations of the mound of Beycesultan in Anatolia, sponsored by the British Institute of Archaeology in Ankara. The carbonized material had been handled with great care and was in an extremely good state of preservation. Morphological details were distinct and distortion of size and shape was minimal. As this was the first ancient Anatolian grain deposit to be subjected to thorough analysis in recent times, it was of great archaeological importance. Amongst the earliest samples, dateable to the thirteenth century B.C., einkorn, emmer, and bread wheats were recognized, but the most significant feature was the recovery of a storage jar containing upwards of 4,500 grains; the majority of which were those of a nodding two-rowed barley. The only impurities were a few irregular grains which were impossible to identify with certainty and two kernels of a naked six-rowed barley. More recently still, in his preliminary report of the plant remains from the site of Nimrud (c. 700 B.C.), Helbaek<sup>2</sup> reports the occurrence of bread wheat and a husked barley which was predominately two-rowed. Once again, from approximately 4,500 grains only 60 came from six-rowed ears.

A time span of three thousand years separates the two-rowed barleys of Beycesultan from those of the later Halafian period and no authentic records of cultivation of this species bridge the gap. Did two-rowed barley have a continuous but as yet unrecorded history in the hill country in, and adjacent to, the area of its original cultivation, or must the two-rowed barleys of Beycesultan and Nimrud be interpreted as evidence of a second and quite independent introduction of this species into cultivation? Until the archaeological evidence is complete the answer cannot be given, but the possibility still remains that the two-rowed barleys of the historic period did not stem from the ancient barleys of Jarmo.

The first barleys to reach the British Isles from the continent of Europe some five thousand years ago were naked and six-rowed and their source had long been the subject of speculation. They could have arisen locally as mutations of the husked form, but their widespread distribution and early appearance in European agriculture suggested that they had come from

<sup>1</sup> Hans Helbaek, 'Late Bronze Age and Byzantine Crops at Beycesultan in Anatolia', *Anatolian Studies, Journal of the British Institute of Archaeology at Ankara*, XI, 1961.

<sup>2</sup> Hans Helbaek, 'The Plant Remains from Nimrud', *Nimrud and its Remains*, II, 1966.

elsewhere. The problem was solved by the discovery by Helbaek<sup>1</sup> of naked six-rowed barley in considerable quantity amongst the deposits of carbonized grains and seeds excavated at Çatal Hüyük in Anatolia. The occurrence of naked barley at such an early date (radio carbon determinations for Çatal Hüyük, 5850 B.C.–5600 B.C.) is remarkable, but, even more so, are the most recent finds reported by Helbaek. In a paper read to the International Botanical Congress in Edinburgh in 1964, he told how he had firm proof of the existence of this cereal in Khuzistan (c. 8000 B.C.) and in Arabia Petrea some thousand years later. As naked barley completely lacks mechanisms for the dispersal of its grains and is thus entirely dependent upon man for its continuance, it is, according to Helbaek, a reliable indicator of organized agriculture. He therefore deduces that it split off from its hulled, two-rowed parent almost immediately after cultivation began and was expressed as a fully domesticated crop plant at least three thousand years before the appearance of the hulled six-rowed barley of the Mesopotamian plains.

There is, however, one serious objection to this view. The derivation of a hulled six-rowed barley from the cultivated two-rowed requires the mutation of a single gene from the dominant to the recessive state. Before the naked six-rowed could emerge, on the other hand, two such mutations must have occurred. As it is most improbable that these would take place simultaneously and as naked two-rowed barleys only exist as the result of recent and deliberate hybridizations, then only one sequence of events is possible. Early cultivated two-rowed forms must have given rise to hulled six-rowed derivatives from which the naked six-rowed barleys must have stemmed. This, unfortunately, is at variance with the apparent chronology and so one must either accept that the archaeological record is, as yet, incomplete and that hulled six-rowed barley was cultivated at a much earlier date than has so far been established or one must start to think along entirely different lines.

Could there have been, after all, a wild six-rowed barley with a natural area of distribution in south-western Asia? Is Bakhteyev<sup>2</sup> perhaps correct in his recent assertion that wild populations of *Hordeum spontaneum* include six-rowed variants which cannot be explained by antecedent hybridity? If so, are they the source of the naked six-rowed barleys which appeared so early in the history of agriculture? Bakhteyev has suggested that there is an urgent need to organize large-scale international expeditions into the differ-

<sup>1</sup> Hans Helbaek, 'First impressions of the Catal Hüyük plant husbandry', *Anatolian studies, Journal of the British Institute of Archaeology at Ankara*, xiv, 1964.

<sup>2</sup> F. Kh. Bakhteyev, 'Origin and phylogeny of barley', *Barley Genetics I. Proc. of the First Internat. Genetics Symposium*, Wageningen, 1963.

ent geographical areas of distribution of *H. spontaneum* and *H. agriocrithon* to collect material for further intensive phylogenetic studies. Until this is done it may not be possible to go further towards finding a solution to the tantalizing problem of the origin of the cultivated barleys.

---

## Letter to the Editor

MADAM,—May I request a little space in order to comment briefly on Dr Martin's valuable article which appeared in your last issue?

It is most interesting that Dr Martin finds the use of the Warwickshire land tax returns unaffected by enclosure and by avoidance and voluntary redemption of the tax; and in view of Dr Grigg's comments on the returns for Lincolnshire (volume XI, 2 of this REVIEW), and other writers' findings in Leicestershire, Bedfordshire, and Nottinghamshire, I am inclined to wonder how far the Warwickshire returns may be typical. It is also the case that some earlier investigators, who used the land tax to estimate the size of units of ownership, did not take the necessary precaution, noted by Dr Martin and Dr Grigg, of calculating the acreage equivalent for each parish examined, nor did they allow for differences in acreage equivalent between large and small owners and between varying qualities of land within parishes; nor, apparently, was consideration given to the growth of industrialized villages, and what Ashby called "village property," namely, small areas of land owned by village tradesmen and others rather than by farmers.

On the question of the accuracy of the size of holdings as estimated from the land tax returns, it does not appear to me very reassuring that in Warwickshire, after excluding parishes of contrasting soil and cultivation, and excluding also the semi-industrialized and semi-urban parishes, Dr Martin still finds in some instances errors ranging up to 36 per cent, and that 4s. of tax may represent anything from 2.7 acres to 6.6 acres. And there is still, of course, the limitation on the value of the figures derived from the returns arising from the fact that units of ownership did not necessarily represent units of occupation: some of these small owners were in fact substantial farmers. On reconsideration, I do not see any very good reason for departing from the conclusion of my article in *The Economic History Review*: that, while we cannot ignore the evidence of the land tax assessments, neither should we ignore their grave limitations as a source for agrarian history.

G. E. MINGAY

UNIVERSITY OF KENT  
AT CANTERBURY

# The Parliamentary Enclosure Movement and Rural Society in Warwickshire

By J. M. MARTIN

ALTHOUGH a number of studies of rural society based on enclosure awards have been made, often they have been of parishes chosen at random throughout the country, or of single parishes.<sup>1</sup> That of H. G. Hunt, based on Leicestershire awards, was perhaps a more satisfactory investigation, though his attention was confined mainly to 45 enclosures where the whole parish area was dealt with.<sup>2</sup> Clearly, such parishes might have, in some respects, a special character of their own.

Few, if any, studies have investigated all awards relating to a particular county, although it is perhaps only by so doing that the profoundly varied character of the movement, even within the confines of a single area, can be demonstrated. It was, in part, with the aim of giving closer attention to the variety of meaning which the word 'enclosure' could possess in the eighteenth century, that a study of this movement in Warwickshire was undertaken. A further, related aim was to throw light on the different kinds of rural community and landownership structure existing in Warwickshire, as these differences were reflected in the awards and other records.

It was discovered, in the first place, that the character of enclosure appeared to change from period to period during the course of the eighteenth century. This showed itself with respect to aims, the men behind enclosure, the type of community affected, and the social consequences. Apart from the time factor, it was felt that enclosure meant quite different things in different geographical localities. Warwickshire showed considerable variety of soil conditions and topography. First the Felden south was differentiated from the pastoral Arden Forest in the north. Within the Felden itself there were differences between the highly fertile Avon valley and the heavy intractable clays of the south-east, towards the Northamptonshire border.

Taking our standpoint around 1700, a number of features distinguished the various communities from one another. The Arden Forest parishes were

<sup>1</sup> For a comprehensive survey of studies dealing with various phases of the enclosure movement prior to 1954, see W. H. Chaloner, 'Bibliography of Recent Work on Enclosure, the Open Fields, and Related Topics', *Agric. Hist. Rev.*, II, 1954.

<sup>2</sup> H. G. Hunt, 'Landownership and Enclosure, 1750-1830', *Econ. Hist. Rev.*, 2nd ser., XI, no. 3, 1959.

large and consisted of scattered hamlets. The Felden communities, on the other hand, consisted of smaller, nucleated villages. Furthermore, both the soil and the villages were poorer in the Arden, compared with the south. There were differences also in landownership structure and in husbandry practice, not only as between north and south but also, within the Felden, between the Avon valley and the south-east, and between old-enclosed and open parishes.

The 1663 Hearth Tax suggests differentiation in the size of these communities, and a variable standard of wealth in each locality.<sup>1</sup>

TABLE I

VARIATIONS IN THE SIZE OF RURAL COMMUNITIES IN WARWICKSHIRE

| <i>Type of parish</i>  | <i>Average number of households based on 1663 Hearth Tax Return</i> |
|------------------------|---------------------------------------------------------------------|
| 18 Forest-type         | 120.4 (over 190 in 5 parishes)                                      |
| 64 Felden (open-field) | 54.2                                                                |
| 18 „ (old-enclosed)    | 46.4                                                                |

TABLE II

VARIATIONS IN STANDARDS OF WEALTH IN RURAL COMMUNITIES IN WARWICKSHIRE

| <i>Type of parish</i>  | <i>Average number of households exempted on grounds of poverty</i> | <i>Average number of households assessed in 1663 Hearth Tax Return at</i> |                       |
|------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------|
|                        |                                                                    | <i>1 hearth only</i>                                                      | <i>over 2 hearths</i> |
| 17 Forest-type         | 48.0                                                               | 50                                                                        | 2                     |
| 63 Felden (open-field) | 17.5                                                               | 20                                                                        | 9                     |
| 23 „ (old-enclosed)    | 15.1                                                               | 11                                                                        | 12                    |

The comparatively poor quality of the agricultural land and the high proportion of uncultivated waste and woodland in the Arden north were reflected in the assessment to the land-tax made at the end of the seventeenth century, and based on the rental value of the land.<sup>2</sup> The majority of the Forest parishes were assessed at 0.8s. per acre, compared with 1.3s. per acre for the county as a whole. The highest assessments, in some cases nearly 2s. per acre, were

<sup>1</sup> The Warwickshire Hearth Tax Return for 1663: Warwick County Record Office (hereafter Warwick C.R.O.), Shire Hall, Warwick, MS. QS.11/5.

<sup>2</sup> Warwickshire Land Tax Returns 1779-1830. On microfilm in Bodleian Library, Oxford, Western MSS.

not unnaturally of land in Felden parishes already enclosed by the later seventeenth century.

Court-rolls, glebe-terriers, and enclosure-awards suggest some degree of flexibility in pre-enclosure farming methods within the county.<sup>1</sup> Within the traditional framework there were noticeable changes from the seventeenth century, at least. As a result, in a sample of farming inventories made in the summer months of the years 1698 to 1704 a movement is discernible towards more variable husbandry to suit the soil conditions and market demand of each locality.<sup>2</sup>

As one might expect, the cultivators of the Avon valley seemed to be the best off; the average value of their farming stock was perhaps 60 per cent greater than those of Arden husbandmen, as suggested below.

TABLE III

THE VALUE OF FARM STOCK IN THREE WARWICKSHIRE LOCALITIES, 1698-1704

|                                              | <i>Felden</i><br>( <i>Avon Valley</i> ) | <i>Felden</i><br>( <i>South-East</i> ) | <i>Arden Forest</i> |
|----------------------------------------------|-----------------------------------------|----------------------------------------|---------------------|
| Total inventories used                       | 14                                      | 28                                     | 27                  |
| Average value of farming stock,<br>1698-1704 | £151.4                                  | £107.0                                 | £93.6               |

The total value of the crops was more than twice as great in the Avon Valley as in the Arden, and the difference was almost as marked in respect of the former and the south-east clays.

TABLE IV

THE VALUE OF CROPS IN THREE WARWICKSHIRE LOCALITIES, 1698-1704

|                                       | <i>Felden</i><br>( <i>Avon Valley</i> ) | <i>Felden</i><br>( <i>South-East</i> ) | <i>Arden Forest</i> |
|---------------------------------------|-----------------------------------------|----------------------------------------|---------------------|
| Total inventories used                | 14                                      | 28                                     | 27                  |
| Average value of crops, 1698-<br>1704 | £83.6                                   | £43.1                                  | £37.8               |

<sup>1</sup> For a discussion of some evidence, see J. M. Martin, 'Warwickshire and the Parliamentary Enclosure Movement', unpublished Ph.D. thesis in Birmingham University Library, Vol. 1, Chapter I, sections III and IV.

<sup>2</sup> See Inventories attached to wills, 1698-1704, of the Diocese of Worcester, St Helen's Church, Worcester.

On the other hand, the total value of the animal stock was more nearly the same in all localities. In the Arden it consisted chiefly of cattle and horses. Cattle rearing and fattening, and dairying activity were already significant in this forest area in the sixteenth century.<sup>1</sup> Horses, likewise, were bred here in the sixteenth century, though in the eighteenth century they may well be-taken the development of industrial activity in north Warwickshire where carrying services were becoming an important source of livelihood to the Arden villagers.<sup>2</sup>

TABLE V

THE VALUE OF ANIMAL STOCK IN THREE WARWICKSHIRE LOCALITIES

|                             | <i>Felden</i><br>( <i>Avon Valley</i> ) | <i>Felden</i><br>( <i>South-East</i> ) | <i>Arden Forest</i> |
|-----------------------------|-----------------------------------------|----------------------------------------|---------------------|
| Number of inventories used  | 14                                      | 28                                     | 27                  |
| Total value of animal stock | £66.0                                   | £62.0                                  | £53.8               |
| Average value of sheep      | £11.9                                   | £19.4                                  | £8.4                |
| Average number of sheep     | 49.6                                    | 50.7                                   | 20.0                |
| Average value of cattle     | £28.6                                   | £23.0                                  | £30.0               |
| Average number of cattle    | 12.0                                    | 11.5                                   | 11.3                |
| Average value of horses     | £19.0                                   | £16.3                                  | £17.0               |
| Average number of horses    | 5.4                                     | 4.5                                    | 3.8                 |
| Average value of pigs       | £3.0                                    | £2.6                                   | £2.2                |
| Average number of pigs      | 3.7                                     | 1.3                                    | 2.5                 |

Other differences showed themselves between the various localities and even between individual parishes within the same area. In the Felden rural society exhibited considerable contrasts. The lands of many parishes in the later seventeenth century remained in the possession of small squires and yeomen farmers.<sup>3</sup> But the Felden was dotted with a growing number of enclosed and depopulated parishes in the hands of great landowners.

With the growth of population and the rise in poor-rate expenditure these 'closed' parishes came to be increasingly prized by eighteenth-century land-owners.<sup>4</sup> Often such parishes lay contiguous to overcrowded 'open' parishes

<sup>1</sup> I am indebted to Dr J. Thirsk for this information. See also A. M. Mimardi re, 'The Finances of a Warwickshire Gentry Family 1693-1726', *University of Birmingham Historical Jnl*, ix, 2.

<sup>2</sup> As the commoners of Atherstone explained when their commonlands were threatened in the 1730's. See Warwick C.R.O., Compton-Bracebridge MS., Box H.R/35—*The Case of Atherstone concerning Inclosure of the Common Fields* by W. Baxter, 1738.

<sup>3</sup> P. Styles, 'The Social Structure of Kineton Hundred in the Reign of Charles II', *Trans. Birmingham Arch. Soc.*, LXXVIII, 1962, p. 96.

<sup>4</sup> See advertisement of estate in parish of Billesley: "There are only two houses in the parish, and the taxes are trifling."—*Aris' Birmingham Gazette*, 24 May 1756.

like 'Hungry' Harbury, where land ownership was widely dispersed and great poverty apparent from the later seventeenth century, at least. These villages formed convenient pools of agricultural labour for the 'closed' parishes.

In the Arden, not only were the rural communities comparatively large and poor by the later seventeenth century, but we have the impression that landownership was in many cases widely dispersed among a large number of smallish owners.<sup>1</sup> Socially, it was made up of communities of small freeholders, husbandmen, and a body of landless labourers and squatters which had come into existence in the second half of the seventeenth century.

Evidence is forthcoming of the fundamental necessity of rural industry to these, as to other, forest and pastoral communities in order to supplement a living from the land. Farming inventories originating from the Arden bear witness to the activity, here as elsewhere, in the woollen and linen industries. The parish registers for a few years around 1700 give the occupations of all people buried and this source likewise demonstrates the growing importance of rural industry in the Arden in the later seventeenth century. Below is a table of occupational figures to illustrate this point.

Evidence shows that other Arden parishes around Coventry were engaged

TABLE VI

OCCUPATIONAL STRUCTURE IN FOUR ARDEN PARISHES AROUND 1700

| Arden parish          | Total households, 1663 | Total males where occupation recorded | Total engaged in occupation of |          |                         |
|-----------------------|------------------------|---------------------------------------|--------------------------------|----------|-------------------------|
|                       |                        |                                       | Farming                        | Crafts   | Chief craft represented |
| Coughton <sup>2</sup> | 40                     | 135                                   | 67                             | 68 (54%) | 24 metalworkers         |
| Berkswell             | 200                    | 192                                   | 119                            | 73 (40%) | 25 weavers              |
| Knowle                | 227                    | 201                                   | 104                            | 49 (25%) | 18 woodworkers          |
| Hampton-in-Arden      | 55                     | 129                                   | 88                             | 30 (23%) | 26 weavers              |
|                       |                        |                                       |                                |          | 4 nailers               |
|                       |                        |                                       |                                |          | 10 weavers              |

<sup>1</sup> How this landownership structure developed remains to be studied. There is some suggestion that here, as in other Forest localities, the system of inheritance may have been a factor. One Arden village where a peculiar system prevailed is described by the Board of Agriculture Reporter. W. Murray, *A General View of the Agriculture of Warwick*, 1815, p. 26.

<sup>2</sup> The figures relating to the parishes of Coughton and Berkswell are drawn from P. Styles, 'The Social Structure of Kineton Hundred. . .', *loc. cit.*, p. 99. Note: Only men whose main occupation was in some craft are here included. This does not take account of that vast army of part-time craftsmen who were described as 'husbandmen'.

from the early eighteenth century in producing felts and ribbons. Finally, in the north-east of the county entirely new rural industrial communities were growing up from the seventeenth century, dependent on the North Warwickshire coal-mining industry.

It is thus clear that the Parliamentary enclosure movement in Warwickshire can be understood only if it is studied against the background of quite different social and economic conditions, not only in different parts of the county but even in parishes within the same locality.

The total county acreage is 618,000 acres, of which it was estimated by W. E. Tate that 25 per cent was enclosed by private act, that is, 154,000 acres gross. This is probably an underestimate of land enclosed by this method.<sup>1</sup> Parliamentary enclosure began early in this county and the first few Acts appeared in the 1720's and 1730's. The majority, however, were passed between 1750 and 1779, when the long period of depressed agricultural prices was replaced by an even longer upward movement of all food prices, and also of wool. There was some correlation between the chronology of enclosure Acts and the fluctuating rise of grain prices in the Birmingham market.<sup>2</sup> Were it possible to attempt to correlate livestock prices in the same way, the results might prove at least as interesting.

The following table sets out the net acreage of common field and common land allotted to landowners under 125 Parliamentary awards in various periods.<sup>3</sup>

TABLE VII

THE NET ACREAGE OF LAND AWARDED TO LANDOWNERS BY PRIVATE ENCLOSURE ACTS

|                                                                         |   |   |   |   |   |   |   |   |                      |
|-------------------------------------------------------------------------|---|---|---|---|---|---|---|---|----------------------|
| <i>Total Net Acreage allotted to Landowners in the Period, 1720-49:</i> |   |   |   |   |   |   |   |   | 15,421 acres         |
| "                                                                       | " | " | " | " | " | " | " | " | 1750-69: 40,418 "    |
| "                                                                       | " | " | " | " | " | " | " | " | 1770-89: 44,709 "    |
| "                                                                       | " | " | " | " | " | " | " | " | 1790-1815: 28,060 "  |
| "                                                                       | " | " | " | " | " | " | " | " | After 1815: 13,428 " |

This land was allocated to various categories of landowner in the following proportions within the various periods.

<sup>1</sup> See J. M. Martin, 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. I, Chapter II. Tate failed to include 6 parishes possessing common-fields which were enclosed by Act.

<sup>2</sup> J. M. Martin, 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. II, Appendix XLI.

<sup>3</sup> Awards dealing only with common waste are not included here. Also a further 8 awards which did include some common-field land are not included because of their illegibility or other difficulties.

TABLE VIII  
ALLOTMENT OF LAND UNDER 125 ENCLOSURE AWARDS<sup>1</sup>

| Period of award         | Allotment to owners of |               |               |               |              |              |                |              |     |       |     |       |     |       |
|-------------------------|------------------------|---------------|---------------|---------------|--------------|--------------|----------------|--------------|-----|-------|-----|-------|-----|-------|
|                         | Over 500 acres         | 300-500 acres | 200-300 acres | 100-200 acres | 50-100 acres | 10-50 acres  | Under 10 acres |              |     |       |     |       |     |       |
|                         | No.                    | Acreage       | No.           | Acreage       | No.          | Acreage      | No.            | Acreage      |     |       |     |       |     |       |
| 12 awards<br>1720-49    | 7                      | 7,722<br>50%  | 6             | 2,286<br>15%  | 2            | 469<br>3%    | 10             | 1,365<br>9%  | 28  | 2,044 | 53  | 1,211 | 78  | 324   |
| 35 awards<br>1750-69    | 17                     | 12,076<br>30% | 15            | 5,717<br>14%  | 15           | 3,272<br>8%  | 51             | 5,980<br>15% | 87  | 6,288 | 256 | 5,974 | 272 | 1,011 |
| 38 awards<br>1770-89    | 11                     | 10,177<br>23% | 13            | 4,959<br>11%  | 23           | 5,735<br>12% | 56             | 7,827<br>18% | 123 | 8,866 | 252 | 6,089 | 348 | 1,056 |
| 25 awards<br>1790-1815  | 11                     | 9,974<br>36%  | 5             | 1,989<br>7%   | 15           | 3,666<br>13% | 36             | 5,018<br>18% | 55  | 3,812 | 126 | 3,158 | 116 | 443   |
| 15 awards<br>After 1815 | 5                      | 5,357<br>40%  | 5             | 1,780<br>13%  | 5            | 1,342<br>10% | 12             | 1,595<br>12% | 27  | 1,972 | 51  | 1,156 | 65  | 226   |

<sup>1</sup> Enclosure awards are perhaps the most useful source for a study of landownership structure in the eighteenth century. In this study they are linked up with land-tax assessments. In the use of the latter, an acreage equivalent has been calculated for each parish, following the suggestion of D. B. Grigg, 'The Land Tax Returns', *Agric. Hist. Rev.*, XI, pt I, 1963.



The first observation to be made on the state of landownership at the time of enclosure is that a considerable degree of inequality in the distribution of land had already come about by the enclosure date in almost all parishes; even those which were dominated largely by freeholders showed this trend.<sup>1</sup> Furthermore, most parishes, even some 'open' ones like Tysoe and Napton, possessed, by this time, big estates created in an earlier period by some great landlord.

Of the 133 enclosure awards examined for this study, some 45 dealt with roughly the whole parish area, extending over 56,652 acres. As we see from Tables VIII and IX above, the small owner was, generally speaking, stronger in his share of the land in this type of parish. Both tables, however, demonstrate that the strength of the various classes of landowner may have varied noticeably from phase to phase of the enclosure movement.

Before 1750 the Private Act was often merely an alternative to the Chancery Decree giving recognition to a private agreement. Under these early awards, the enclosure was carried out by a landowner, usually the lord of the manor, who had often bought out most of the other proprietors and sought to consolidate his estate. His aims were usually those of the great landowner: to increase his social and landowning strength and to augment his income from rents, at the expense of the lesser gentry and the freeholders. Conversion to grass was usual after these early Acts. Here then was a process familiar from the fifteenth century. In twelve such enclosures taking place between 1720 and 1749 proprietors of over 500 acres were already, at the time of the award, in possession of 50 per cent of the land. From the enclosure of Brinklow in 1742, and increasingly between 1750 and 1779, the character of enclosure seems to have changed. In the first place the nature of the community involved was different. Often the ancient freehold society remained more or less intact. The people behind enclosure in this phase of the movement appear, in a number of cases, to have been the freeholders themselves, or at least the more substantial of their class. The main aim was to embark upon further improved farming, either by laying down the open fields to grass, or by an intensification of mixed arable farming, depending on the locality. As we have already said, evidence suggests that experiments aimed at rationalized and economical land use were under way in common-field parishes from the seventeenth century. Enclosure is thus seen, at this time, as a natural culmination to improvements in freehold farming, a response to population

<sup>1</sup> A more detailed picture of landownership structure in each individual parish at the time of enclosure is given in J. M. Martin, 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. II, Appendices v and vi.

growth and rising commodity prices from the 1750's.<sup>1</sup> Socially, the process was accompanied by the differentiation of the ranks of the freeholders (described later); hence the necessity to resort to Parliament.

In Alveston, one of the most progressive of these communities, where a number of innovations were introduced into the common fields, the community consisted entirely of freeholders, mainly in the possession of estates of between 70 and 130 acres at the time of the award. Enclosure was followed by a renewed burst of innovating activity to intensify grain production.<sup>2</sup>

At Wolfhamcote, another parish dominated by freeholders, and situated in the south-east clay land, 26 of the 32 freeholders belonging to one of the three hamlets there drew up a document stating their reasons for seeking an enclosure.<sup>3</sup> "The soil is naturally unfit for ploughing . . . the fields will not produce half the crops as the lighter and more mixed soils do in the neighbouring fields with half the labour and expense . . . the turf in Flecknoe Field is very proper for grazing . . . our reliance has long lain on our flocks and herds." The opposition of a number of the smaller freeholders was referred to. This was sufficient to delay action until 1745 when the recovery of wool prices and the cattle plague gave added strength to the arguments of those advocating partition.

In such parishes as these, we notice that the small landowner, as a class, remained significant, being in possession of between 33 and 36 per cent of the land coming under 73 enclosure awards drawn up between 1750 and 1789. Village society remained here closely knit; the unifying factor of family relationship cut across the dividing lines of occupation, status, and income. The long-standing village families provided generation after generation of church and parish officers, in the same way that the gentry and squires furnished the unpaid administration of the hundred and county. In freehold society, furthermore, it was the neighbourhood, rather than the village or parish, which formed the unit of family relations, and sometimes of ownership also.<sup>4</sup>

<sup>1</sup> For a detailed examination of the relationship between enclosure and population growth in Warwickshire, see J. M. Martin, 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. I, Chapter x. Also Vol. II, Appendices xxxv-xli. An article based on this material will be published in the near future.

<sup>2</sup> Two Alveston freeholders received special mention from the Board of Agriculture Reporter in 1794, for "zeal in improvement."—J. Wedge, *A General View of the Agriculture of Warwickshire*, 1794.

<sup>3</sup> A photostat of this document is now in Warwick C.R.O. It is entitled 'The Case Stated for the Enclosure of Flecknoe Field', 1730, Ref. Z/12.

<sup>4</sup> This is one of the weaknesses of using Land Tax Returns which has not perhaps received the attention it deserves.

Enclosure awards offer a number of examples of such families, but one will suffice. The Mann family was centred on the 'open' parishes of Napton and Harbury. The name first appears in the parish register of Harbury in 1569, and there are several families of varying economic status mentioned in the Hearth Tax Return of 1663. In the eighteenth century nine families of this name received allotments under the awards of five neighbouring parishes totalling in all 555 acres. The size of common-field estates allotted to the Manns under these awards ranged from 195 to 5 acres. More than one received land in two parishes.

From the 1780's the character of the Parliamentary enclosure movement changed again, under the influence of a growing food market and sharply rising land prices.<sup>1</sup> Now it was the turn of the great overcrowded 'open' parishes. Though land ownership in these parishes remained widely dispersed amongst a multitude of small owners, big landlords had, in a number of cases, secured a substantial foothold. The impoverished state of husbandry in this type of parish is reflected in the very low rental value of the land prior to enclosure and the enormous increase which occurred as a consequence. Below we illustrate this point from the post-enclosure rise in the rental value of land in the parish of Napton.<sup>2</sup> The increase in land value was here due not only to the enclosure of 1779, but also to the subsequent cutting of the Napton and Warwick Canal, a further demonstration of the influence of the expanding food market.

TABLE X

CHANGE IN THE RENTAL VALUE OF LAND IN PARISH OF NAPTON, 1735-1835

| <i>Napton</i>                                     | <i>Date</i> | <i>Land valuation</i> | <i>% rise in value</i> | <i>Average value of land per acre</i> |
|---------------------------------------------------|-------------|-----------------------|------------------------|---------------------------------------|
| (Enclosed 1779,<br>Parish acreage<br>4,027 acres) | 1735        | £1,148                | 206<br>264             | 5.5/-                                 |
|                                                   | 1779        | £3,512                |                        | 17.4/- (post-enclosure)               |
|                                                   | 1835        | £9,300                |                        | 46.4/-                                |

Such parishes offered great obstacles to enclosure, and it is not surprising that it was delayed here until the end of the century. Furthermore, they were

<sup>1</sup> For some signs of the growing demand for landed estates in the Midlands, and the considerable building activity which was a consequence, see J. M. Martin, 'Social and Economic Trends in the Rural West Midlands, 1785-1825', unpublished M.Com. thesis in Birmingham University Library, Chapters III, IV, and Appendices.

<sup>2</sup> These figures are taken from the valuations recorded in Rate Books of Parish Overseers of the Poor in Warwick C.R.O.

frequently inaccessible, and enclosure was then necessarily coupled with expensive road and bridge construction schemes.<sup>1</sup>

In spite of the difficulties and the expense involved,<sup>2</sup> such underdeveloped parishes offered rewards to the man with capital during the last decades of the eighteenth century.<sup>3</sup> Thus the movement came once again largely into the hands of the big landowner who already had a foothold, or of the speculator from outside the parish. It was in these parishes, as we shall see, that the most striking post-enclosure changes probably took place. It was recognized that not only would the value of the great estate be increased by partition of the common fields, but that opportunities for its enlargement would be greatly enhanced. Enclosure was a means of putting pressure not only on smaller freeholders but also on those holding leases for life or for long terms of years. The latter were encouraged, as at Brailes in 1787, to surrender their leases and accept annuities "not wishing to burden themselves with the great expense of an enclosure."<sup>4</sup>

Examples of common-field parishes which in these years attracted outsiders were Wolvey and Little Compton.

TABLE XI

THE PURCHASE AND SALE OF LANDED ESTATES IN PARISHES ENCLOSED, 1794-5

| <i>Parish</i>  | <i>Seller</i>    | <i>Purchaser</i>                   | <i>Description of estate</i>                     | <i>Purchase date</i> | <i>Award date</i> | <i>Resale date</i> |
|----------------|------------------|------------------------------------|--------------------------------------------------|----------------------|-------------------|--------------------|
| Wolvey         | Earl of Coventry | J. Foster, Esq.                    | First manor, second manor, & estate of 664 acres | 1780<br>1794         | 1794              | —                  |
| Little Compton |                  | M. Corgan, Esq., of Enstone, Oxon. | Manor & estate of 1,073 acres                    | 1793                 | 1795              | 1815               |

Common-fields left over until the nineteenth century in Warwickshire were comparatively few. As we see from the landownership tables, they were, in general, already in the hands of great landowners, and large-scale tenant-

<sup>1</sup> 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. 1, Chapter VIII.

<sup>2</sup> Between the 1730's and 1780's the average cost per acre of enclosure trebled in Warwickshire.—J. M. Martin, 'The Cost of Parliamentary Enclosure in Warwickshire', *University of Birmingham Hist. Jnl.*, ix, 2, 1964.

<sup>3</sup> These did not always involve reorganized farming. The preamble to the award of Chilvers Coton, 1774, stated that enclosure was a necessary preliminary to an extension of the coalfield.

<sup>4</sup> Another example was the enclosure of Kenilworth, where pressure was put on the unusually large number of copyholders and leaseholders for life.

farmers. The area of land remaining in an open state was usually small, and since most of the parish land was already improved and high-rented, we can imagine that comparatively little gain would accrue to the landowner from a private act. Temple Grafton, enclosed in 1815, was such a parish. It was already largely enclosed by the first decades of the eighteenth century, and by the award date the parish was in the hands of four great landowners. Even in the later seventeenth century, when the assessment to the land-tax was made, the rental value of the land was high.

Many enclosures, however, taking place from the later eighteenth century onwards related to Arden Forest parishes. Though more numerous at that date than has sometimes been supposed,<sup>1</sup> those common fields were small and of secondary importance to the vast areas of surrounding waste and woodland. Partition of these fields went on continuously throughout the eighteenth century, often without the commotion associated with those in the Felden and without recourse to Parliament. Not infrequently landownership in these parishes was found to be minutely divided. This was an argument for delay. The fragmentation of landownership in such parishes is illustrated in the awards as we demonstrate in the table below:

TABLE XII

ALLOTMENT OF LAND IN 13 ARDEN FOREST COMMON-FIELD AWARDS

| <i>Total acreage</i> | <i>Total acreage allotted to owners of<br/>over 10 and under 100 acres</i> | <i>Total acreage allotted to owners of<br/>under 100 acres</i> |
|----------------------|----------------------------------------------------------------------------|----------------------------------------------------------------|
| 11,489 acres         | 5,607 acres, i.e. 48·8%                                                    | 6,394 acres, i.e. 55·6%                                        |

This picture of landownership structure in the Arden receives strength from other sources. The most numerous body of freeholders voting in the Coventry election of 1774 were drawn from the Forest parishes, and certain 'open' Felden parishes. From the Forest parishes of Tanworth and Kenilworth, 62 and 69 freeholders respectively, voted in that year.<sup>2</sup> The assessments to the eighteenth-century land-tax paint a similar picture as we see from the selection given in Table XIII (p. 32).

<sup>1</sup> For example, the present writer came across evidence, quite by chance, of the survival of common fields in the eighteenth century in the two Arden parishes of Upper Whitacre and Stoneleigh. Neither had, apparently, been previously recorded, and they were presumably enclosed without resort to Parliament. There may well have been other sets of common fields elsewhere in the Arden.

<sup>2</sup> See the Coventry Poll Book published at Coventry, 1775, now in Warwick C.R.O.

TABLE XIII

THE STRUCTURE OF ARDEN LANDOWNERSHIP AS REFLECTED IN LAND-TAX RETURNS

| <i>Parish</i> | <i>Total owners paying<br/>tax 1780</i> | <i>Total owners paying<br/>over 10s. tax in 1780</i> |
|---------------|-----------------------------------------|------------------------------------------------------|
| Tanworth      | 150                                     | 100                                                  |
| Allesley      | 63                                      | 37                                                   |
| Fillongley    | 63                                      | 53                                                   |
| Barston       | 55                                      | 39                                                   |
| Lapworth      | 49                                      | 42                                                   |

The shaping of this characteristic form of landownership structure has been traced in the medieval Arden.<sup>1</sup> Here the social consequences of enclosure of the common fields were probably less painful. Nevertheless, there is evidence of consolidation of these smallholdings by 1825. In Tanworth, for example, the total number of owners paying over 10s. tax had been reduced from 100 to 76.

When we consider the question of owner-occupation we find that this varied also from period to period and was affected by the character of enclosure. As we would perhaps expect, it was most prevalent during the period 1750-79.

TABLE XIV

OWNER-OCCUPATION IN VARIOUS CATEGORIES OF PARISH IN 1780

| <i>Type of parish</i> | <i>Number of<br/>parishes</i> | <i>Total<br/>landowners</i> | <i>Owner-occupiers</i> |                                    |
|-----------------------|-------------------------------|-----------------------------|------------------------|------------------------------------|
|                       |                               |                             | <i>Numbers</i>         | <i>Proportion of<br/>total (%)</i> |
| Old-enclosed          | 56                            | 453                         | 106                    | 23                                 |
| Enclosed 1730-79      | 30                            | 881                         | 502                    | 58                                 |
| Enclosed 1780-99      | 13                            | 445                         | 209                    | 47                                 |
| Enclosed 1800-22      | 9                             | 223                         | 66                     | 30                                 |

If we compare this picture with that offered by the land-tax returns of 1825, then a significant correlation can be detected. It is precisely where the great landowners and tenant-farmers were strongest at the earlier date, that

<sup>1</sup> R. H. Hilton, *Social Structure of Rural Warwickshire in the Middle Ages*, Dugdale Society Occasional Papers, no. 9, 1950.

the number of occupiers increased by 1825. On the other hand, where freehold society remained fairly strong in 1780, the number of owners declined, and owner-occupiers saw a considerable decline in numbers.

TABLE XV  
OWNER-OCCUPATION IN VARIOUS CATEGORIES OF PARISH IN 1825

| <i>Type of parish</i> | <i>Number of parishes</i> | <i>Total landowners</i> | <i>Owner-occupiers</i> |                                |
|-----------------------|---------------------------|-------------------------|------------------------|--------------------------------|
|                       |                           |                         | <i>Numbers</i>         | <i>Proportion of total (%)</i> |
| Old-enclosed          | 56                        | 437                     | 147                    | 34                             |
| Enclosed 1730-79      | 30                        | 571                     | 250                    | 44                             |
| Enclosed 1780-99      | 13                        | 338                     | 132                    | 34                             |
| Enclosed 1800-22      | 11                        | 164                     | 77                     | 47                             |

Examples of parishes in the hands of great landowners and tenant-farmers where owner-occupation was on the increase include Birdingbury and Marton where, under the award of the year 1804 dealing with the whole parish, three-quarters of the land went to 2 owners, and owner-occupiers increased between 1780 and 1825 from 5 to 9. An increase was seen at Temple Grafton, described above. At Fenny Compton, where the increase was from 5 to 7, one of the newcomers was William Payne, a leading tenant-farmer.

This question of owner-occupation is usually considered from the point of view of the small landowner. The increase in this form of ownership may have been less a sign of the continuing prosperity of the ancient freeholder than of the successful extension of large-scale tenant-farming. It also reflected a tendency for landowners, after 1790, to cultivate part of their own land. This conclusion is further strengthened by signs that the size of individual owner-occupied estates was increasing (a fact remarked upon by E. Davies), and by the purchase of exemption from the land-tax.

Freedom from this tax required the down-payment of a sum equal to about 30 years' purchase, and presupposed a considerable sum of money in hand. The new owner-occupiers described above would be more likely to avail themselves of this opportunity than ancient freeholders. By 1825, 30 per cent of 1,434 landowners in 65 parishes had purchased their freedom from this obligation, an average of 6.6 owners in each parish. Over a third of those so exempted in Warwickshire were owner-occupiers assessed at less than £10 tax, as shown in Table XVI (p. 34).

It appears from the landownership tables that in many parishes the small

TABLE XVI

EXEMPTION OF LANDOWNERS FROM PAYMENT OF LAND-TAX BY 1825

| <i>Total parishes examined</i> | <i>Total owners</i> | <i>Total exempted</i> | <i>Exempted owner-occupiers</i> | <i>Owner-occupiers paying under £10</i> |
|--------------------------------|---------------------|-----------------------|---------------------------------|-----------------------------------------|
| 65                             | 1,434               | 432                   | 157                             | 148                                     |

landowners, considered as a class, were, at the time of the enclosure, in a strong position both in respect of their share of the land, and numerically. As in Leicestershire, there is little evidence that large-scale engrossing of estates preceded Parliamentary enclosure where this took place after 1750. The average number of landowners was upwards of 25 in most parishes undergoing the process. This was in sharp contrast to the situation in a large group of old-enclosed parishes. In 1780 some 35 out of 56 of these had no owner-occupiers at all, while 44 per cent of the land-tax was paid by owners contributing over £100 and owning 1,500 acres or more.

We can now turn to consider how the small landowner fared as a consequence of enclosure. In general, his fortunes seem to have varied once again, depending on the locality, and the period. There were certainly some parishes, particularly along the valley of the Avon and its tributaries, where the small owner held his own after the disappearance of the common fields. This was true, for example, in the parishes of Brinklow, Aston Cantlow, Haselor, Cubbington, and Snitterfield. As we have already emphasized, this was probably connected with post-enclosure land use. Particular circumstances in other parishes enabled the freeholder to flourish after enclosure. For example, in the parish of Willoughby, many small freeholders divided up amongst themselves the large estate of Magdalen College, Oxford, which they farmed on highly favourable long-term leases. At the date of enclosure, some 13 leaseholders divided up this estate in lots of about one yardland. As

TABLE XVII

LANDOWNERSHIP STRUCTURE IN THE PARISH OF WILLOUGHBY, 1780-1825

| <i>Date</i> | <i>Landowners holding</i> |                |                    |                |                     |                |
|-------------|---------------------------|----------------|--------------------|----------------|---------------------|----------------|
|             | <i>50-100 acres</i>       |                | <i>10-50 acres</i> |                | <i>10-100 acres</i> |                |
|             | <i>No.</i>                | <i>Acreage</i> | <i>No.</i>         | <i>Acreage</i> | <i>No.</i>          | <i>Acreage</i> |
| 1780        | 5                         | 329            | 9                  | 251            | 14                  | 580            |
| 1825        | 7                         | 512            | 7                  | 204            | 14                  | 716            |

a consequence, the position of the small landowner was strengthened between 1780 and 1825 as the land-tax returns show.

At Aston Cantlow the freeholders continued to carry out enclosure of the considerable waste land in the parish, after the award of 1742.<sup>1</sup> In the parish of Oxhill enclosure could not weaken the dominant hold of the resident freeholders on the parish lands, established long before when the lord's lands passed into their hands.<sup>2</sup> In contrast, other parishes, particularly those situated in the south-east, may have seen a decline in the strength of the small landowner, both in respect of numbers and of his share of the land. This was particularly noticeable between 1780 and 1825 in the 'open' parishes like Napton (where they declined from 34 to 22), Harbury (from 27 to 15), and Brailes (from 30 to 18).

If we consider those parishes which underwent Parliamentary enclosure as a group, the land-tax returns can give us some idea of how the small landowner fared. Though a comparison of landownership as recorded in awards and land-tax cannot be made with accuracy, it seems likely in a number of instances that his share of the land had declined between enclosure and the returns of 1780. This trend seems to have continued between 1780 and 1825, though it appears to have been most noticeable in parishes enclosed in the interval between the two assessments. Thus, in 27 parishes enclosed within that period, the share of the small landowner seems to have declined by as much as a third. At the same time, that of proprietors in possession of 500 acres and more rose quite markedly from 10,890 acres in 1780 to 14,786 acres in 1825.

TABLE XVIII

THE STRENGTH OF OWNERS IN POSSESSION OF BETWEEN 4 AND 100 ACRES  
IN 1780 AND 1825

| <i>Award date</i> | <i>No. of parishes</i> | <i>Acreage equivalent 1780</i> | <i>% share 1780</i> | <i>Acreage equivalent 1825</i> | <i>% share 1825</i> |
|-------------------|------------------------|--------------------------------|---------------------|--------------------------------|---------------------|
| 1726-59           | 13                     | 5,883                          | 23                  | 4,389                          | 18                  |
| 1760-9            | 11                     | 4,915                          | 19                  | 4,286                          | 16                  |
| 1770-9            | 12                     | 6,822                          | 25                  | 6,228                          | 22                  |
| 1780-1802         | 27                     | 14,322                         | 25                  | 9,751                          | 17                  |

<sup>1</sup> See J. M. Martin, 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. I, Chapter IV.

<sup>2</sup> "There is no Lord of the Manor, but divers freeholders do Inheritt the Towne," said Sir S. Archer in 1625.—*V.C.H. Warwickshire*, III, p. 125. Similarly, the strength of the yeomanry at Haselor can be traced to the granting of eleven leases, virtually as favourable as freeholds, by the Throckmortons in the early seventeenth century.—*Ibid.*, III, p. 113.

Information from other sources lends strength to the view that the numbers of small landowners not infrequently declined during the period of enclosure, at least in the 'open' parishes partitioned after 1779. Though not perhaps of regular occurrence, many freeholders were bought out prior to the enclosures of Hunningham, Kenilworth, Binton, Easington, and Long Compton.<sup>1</sup> In addition, some 55, or about half the Warwickshire awards, contain references to the purchase of estates which occurred in the interval between the application for the Act and the drawing up of the award. This involved the buying up of over 200 estates, including 221 yardlands so-named, a large number of cottage-commons, and of tithe converted to land at the time of enclosure. One should add that perhaps this change in the ownership of land is no more than one would expect to have taken place while the enclosure was under negotiation. The pace of change quickened after 1789, as we see below.

TABLE XIX

THE PURCHASE OF LANDED ESTATES BETWEEN PASSING OF THE ACT AND THE AWARD

| <i>Period of award</i> | <i>Estates bought up</i> | <i>Total acreage</i> |
|------------------------|--------------------------|----------------------|
| 1750-69                | 37                       | 1,303                |
| 1770-89                | 35                       | 685                  |
| 1790-1815              | 68                       | 2,415                |
| After 1815             | 66                       | 3,205                |

Examples of parishes where extensive transfers of land took place are Radway, where enclosure in the 1750's was accompanied by the sale of 11 yardlands belonging to 10 freeholders; of Easington (1797), where 25 yardlands were sold up by 11 freeholders to 3 large proprietors; and of Long Compton (1812), where Lord Northampton received an estate of 1,596 acres in lieu of 50 yardlands of his own land and 21 yardlands "lately bought" of 10 named men. In the nineteenth century, land purchase was considerable at the enclosures of Nether Whitacre, Wolverton, Burmington, Woolford, and Winderton.

The conversion of tithe payments into land also contributed towards the consolidation of the great estate, and the consequent decline of the small landowner. The opportunity to make this change was almost universally taken at the time of enclosure in Warwickshire. This not only greatly

<sup>1</sup> Evidence of considerable purchase of estates in Hunningham and Kenilworth by Lord Leigh is in Leigh MS., Birthplace Trust Library, Stratford, Series C.5, Bundles 2-7; Series C.6, Bundles 2 and 3. For Binton see *V.C.H. Warwickshire*, III, p. 62. For Easington and Long Compton evidence is furnished by the land-tax returns prior to enclosure.

strengthened the large landowner but also benefited the new class of tenant farmer. In 113 awards covering 146,160 acres, no less than 25,538 acres were transferred in lieu of tithe payments: that is to say, 17·4 per cent of the total common field and common land enclosed by private Act was given up to recompense tithe owners. More than half of this total, i.e. 13,513 acres, went to lay proprietors and not to the Church at all.

Within the class of great proprietors owning estates of above 300 acres, ownership of common-field land dealt with by the awards was fairly widely dispersed, and the peerage as a body received only a small part of the total unenclosed land. If we exclude some thousands of acres allotted to the Church, then the peerage received 22,928 acres or 15 per cent of the total; a further 13,973 acres or 10 per cent was allotted to baronets, and 11,973 acres or 8 per cent to a variety of institutions.

The main body of estate owners who launched, and who often benefited by enclosure, were esquires and leading gentry resident in the county from the seventeenth century. Newcomers from the professions, trade, and industry had comparatively little influence in initiating enclosure, although they became of increasing importance as landowners from the early nineteenth century.<sup>1</sup>

The decline of the small landowner was not always to the advantage of the great landowner, however. Particularly is this true of parishes where freeholders remained important at the time of enclosure. In these communities a differentiation within the class of freeholders seems to have occurred, as a consequence perhaps of enclosure. Those who were willing and able to take advantage of the partition of the common fields to cultivate cash crops showed no signs of decline between enclosure and 1825. Some of the land of their smaller neighbours came into their hands. Such men also took advantage of leaseholds and tenancies where these were being created on the new tithe farms and the newly consolidated estates. Table XX (p. 38), based on awards and land-tax assessments, illustrates the continuing prosperity of freeholders in possession of about 100 to 199 acres. Though their numbers may have fallen, their share of the land probably increased after enclosure.

As an illustration of the way in which the substantial freeholder clung to his share of the land in the face of great changes in landownership, we must look again at the parish of Wolfhamcote. It consisted of 3,855 acres in three hamlets. Socially it was a parish of freeholders. There were 85 households in 1663 and 95 by 1730. Between this date and 1801 the population declined

<sup>1</sup> 'Warwickshire and the Parliamentary Enclosure Movement', *loc. cit.*, Vol. I, Chapters v and vi.

TABLE XX

THE SUBSTANTIAL FREEHOLDER AS LANDOWNER

| <i>At enclosure</i>  |             |                         |                       | <i>In land-tax returns</i> |                       |                          |                       |
|----------------------|-------------|-------------------------|-----------------------|----------------------------|-----------------------|--------------------------|-----------------------|
|                      |             |                         |                       | 1780                       |                       | 1825                     |                       |
| <i>No. of awards</i> | <i>Date</i> | <i>Acreage received</i> | <i>Share of total</i> | <i>Date of enclosure</i>   | <i>Share of total</i> | <i>Date of enclosure</i> | <i>Share of total</i> |
| 35                   | 1750-69     | 5,980                   | 15%                   | 1750-69                    | 21%                   | 1750-69                  | 21%                   |
| 38                   | 1770-89     | 7,827                   | 18%                   | 1770-99                    | 19%                   | 1770-99                  | 20%                   |
|                      |             |                         |                       | 1800-15                    | 15%                   | 1800-15                  | 13%                   |

following the partition of most of the parish under awards of 1745 and 1757 and the conversion of the open fields to pasture. A comparison of the state of landownership at the time of the two enclosures and later is given below.

TABLE XXI

LANDOWNERSHIP CHANGES IN WOLFHAMCOTE, 1745-1825

| <i>Source</i>                       | <i>Estate size</i>             |                      |                      |                      |                    |                    |                       |
|-------------------------------------|--------------------------------|----------------------|----------------------|----------------------|--------------------|--------------------|-----------------------|
|                                     | <i>Owners in possession of</i> |                      |                      |                      |                    |                    |                       |
|                                     | <i>Over 500 acres</i>          | <i>300-499 acres</i> | <i>200-299 acres</i> | <i>100-199 acres</i> | <i>50-99 acres</i> | <i>10-49 acres</i> | <i>Under 10 acres</i> |
| Two enclosure awards, 1745 and 1757 | 1/613                          | —                    | 3/745                | 9/1,065              | 7/550              | 21/544             | 10/49                 |
| Land-tax 1780                       | 2/1,606                        | —                    | —                    | 10/1,260             | 8/612              | 16/406             | 11/72                 |
| 1825                                | 1/899                          | 2/665                | 2/559                | 8/1,147              | 6/459              | 10/249             | 5/31                  |

The small landowners lost much ground between the awards and 1825; their numbers shrank from 28 to 16, and their share fell by over one-third. We notice, however, that the substantial freeholder in possession of between 100 and 199 acres was the most significant class of owner at the time of the awards, and remained remarkably firm during the subsequent 70 years. The 250 per cent increase in the share of land possessed by owners of over 300 acres was not achieved at the expense of this class of owner.

Thus, to summarize our main conclusions: it is clear that even within Warwickshire Parliamentary enclosure had a varied character and meant

quite different things in different localities and in different periods. Freeholders often remained an important group at the time of enclosure, and the small landowner continued to hold a significant share of the land. The evidence suggests that whether enclosure resulted in the decline of the small landowner depended on the locality and the period. After 1779, when 'open' parishes came to be enclosed, there may have been a substantial loss to this class of owner. In a number of parishes the decline of the small landowner may not necessarily have benefited the great landowner but have helped the substantial freeholders who were sometimes responsible for securing a private Act in the first instance. The increase of owner-occupation after 1790 did not necessarily indicate continuing prosperity for the small landowner, since it seems to have been most noticeable in parishes long in the hands of big landowners and substantial tenant-farmers. The commutation of tithe for land was an important factor in the transference of landownership to the large landowner. It seems likely that the launching of the Parliamentary enclosure movement was mainly done on the initiative of that class of substantial local gentry resident in the county since the seventeenth century, and newcomers probably played little part in this. The former, and not the members of the peerage or baronetcy, were, apart from substantial freeholders, the main beneficiaries of the changes wrought on the land.

In the Arden, Parliamentary enclosure caused less upheaval, and was often delayed until the end of the eighteenth century. Many common fields survived in North Warwickshire until the Parliamentary era, but a large number were partitioned without resort to Parliament. Landownership was, in many of these parishes, widely dispersed amongst a large number of small proprietors, and the awards and land-tax assessments clearly reflect this structure of ownership.

---

## NOTES ON CONTRIBUTORS

Mrs Helena H. Clark, M.Sc., is Lecturer in Crop Botany in the Department of Plant Science, The School of Agriculture, University of Newcastle upon Tyne. Her main interest is in the origin, evolution, and early history of temperate cereal crops.

J. M. Martin, B.A., M.Com., Ph.D., is a lecturer in social and economic history at The Queen's University, Belfast. He is studying economic and social structures in the Mid-

lands in the seventeenth and eighteenth centuries, and their relationship to demographic patterns in the region.

D. J. Siddle, B.A., M.Litt., was for three years lecturer in geography at Fourah Bay College, University College of Sierra Leone, and is preparing a Ph.D. thesis on patterns of rural settlement. He is temporarily lecturer in geography in the Hull College of Education.

# The Rural Economy of Medieval Holderness

By D. J. SIDDLE

THE student of the medieval landscape is often confronted by apparently conflicting evidence. This fact is nowhere better illustrated than in the plain of Holderness, one of England's smallest and most distinctive regions. The chronicler of the Cistercian monastery of Meaux (in the Hull valley), recording the partition of lands which followed the Norman conquest, noted that the new earle of Holderness inherited a land; "... which was exceedingly barren and infertile at this time, so that it produced nothing but oats."<sup>1</sup> In his recent study of the Domesday material, Maxwell summarizes the Holderness returns in this way, "... in spite of its marshy nature, Holderness was the most prosperous part of the East Riding in the eleventh century."<sup>2</sup> One must admit at the outset that neither statement could ever be taken as incontestable. The Meaux Chronicle was compiled two hundred years after the Norman conquest. The analysis of Domesday documents in the Cambridge series of Domesday Geographies is designed to present irregular and uneven information as meaningfully as possible in the form of maps. Summaries of the significance of these data in terms of the medieval rural landscape are at best, tentative. Nevertheless, an examination of evidence in the light of this contradiction does suggest a plausible explanation of how both statements could be interpreted as carrying some measure of truth. It is hoped thereby to cast some light on the nature of the Holderness rural economy during the medieval period.

The plain of Holderness is the triangular peninsula which forms the south-eastern extremity of Yorkshire. The region is bounded to the west and north by the dip slopes of the Yorkshire Wolds, and to the south and east by the Humber estuary and the North Sea. In the case of Holderness, the use of the word plain is deceptive. Within the limits of its subdued relief, the region contains considerable topographical variety. In the east are a series of arcuate moraines, extending from north-east to south-east, representing various stages in the glacial retreat. They often rise to 25 ft, but are rarely above 50 ft. Much dissected by post-glacial stream erosion, these areas of boulder clay display little continuity, especially in south Holderness. Between the boulder clay hillocks are irregular kettleholes and depressions, outwash fans, and other smaller sand and gravel deposits. To the south of this area of glacial till are the gradually accumulating silt lands of the Humber shore. Separating the area from the flanks of the Wolds to the west, is the broad, flat, flood plain of the river Hull.

Today there is little to distinguish Holderness from most other areas of undulating glacial till in the English lowlands. During the medieval period, however, it is likely that a surprisingly large proportion of the region was either permanently, or seasonally, inundated. Apart from the physical evidence of lacustrine and marshland deposits recorded on geological drift maps, a convincing body of toponymic and historical evidence has been collected to substantiate this view by Dr June

<sup>1</sup> "Quae valde sterilis et infructuosa erat eo tempore nec gignebat nisi avenam."—*Chronica Monasterii de Melsa*, in *Rerum Britannicarum Medii Aevi Scriptores*, ed. A. E. Bond, I, 1890, p. 90. R. H. Smith possibly follows the same source when referring to Holderness as "practically an undrained swamp" at this time.—*Victoria County History of Yorkshire*, II, 1912, p. 74.

<sup>2</sup> H. C. Darby and I. S. Maxwell, *The Domesday Geography of Northern England*, 1962, pp. 203, 217, 230.

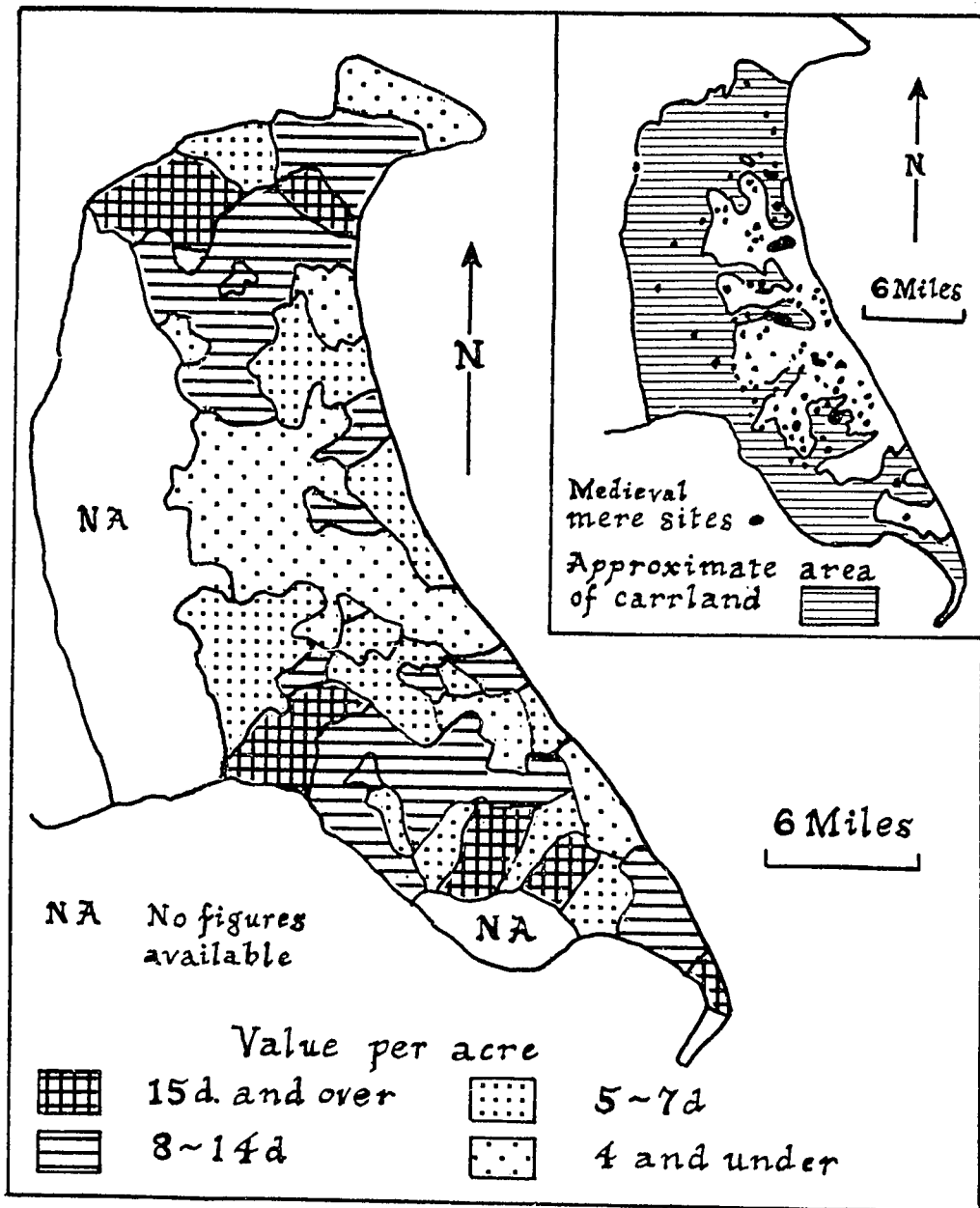


FIG. I

Sheppard.<sup>1</sup> It seems that approximately two-thirds of the region were affected in this way (Fig. I).

A landscape dominated by aqueous tracts

and cold, wet boulder clays would seem to justify the depressing evaluation made of the area in the Meaux Chronicle. Upon what bases, then, does Maxwell come to such a

<sup>1</sup> J. Sheppard, *The Draining of the Yorkshire marshlands*, London University Ph.D. thesis, 1956; 'The Mediaeval Meres of Holderness', *Trans. and Papers Institute of British Geographers*, xxiii, 1957, pp. 75-85.

different conclusion? Two features would appear to emerge from the Domesday evidence for Holderness: the relatively large number of plough-teams per square mile, and the comparatively high density of population. In both these aspects, Holderness—and particularly the southern two-thirds of the region—stands out clearly from most other areas of Yorkshire. It seems, however, a little misleading to deduce that the area was relatively prosperous upon the basis of such information, as it stands.

First, one must bear in mind the strictly relative nature of such comparisons. Domesday population densities in southern Holderness, where they were at their highest (3–6 persons per square mile), were only higher than most other areas in the East Riding. They were unremarkable when compared with other areas in northern England (e.g. between 8 and 13·8 persons per square mile in east Nottinghamshire).<sup>1</sup> This is also true of the plough-team density of the area (1·0 per square mile in south Holderness, compared with 4·5 and above in east Nottinghamshire).<sup>1</sup> It is also important to remember that two-thirds of Holderness, where the 'high' densities occur, apparently escaped Norman wasting almost entirely.<sup>2</sup> They would therefore stand out from the rest of the East Riding which was fairly severely affected in this way.

Further evidence makes it difficult to believe that cropland provided much of a basis for prosperity, even of a 'relative' nature. Recent agricultural research would suggest

that the heavy undrained clays which comprised the bulk of potential arable land at this time, and throughout the medieval period, could scarcely have given reasonable yields of many crops other than oats.<sup>3</sup> Historical evidence supports this view. Gray has pointed out that the more regular fallowing necessary on infertile soils was more suited to the two-field than the three-field system of cultivation.<sup>4</sup> Harris has shown from his detailed study of open-field structures in Yorkshire, that of the forty-four parishes of Holderness, for which records survive, as many as thirty-six had a two-field system.<sup>5</sup> On the neighbouring free-draining Wolds, over half were three-field villages. A drainage plea for Brandesburton in the time of Edward III furnishes further indication that poor drainage of retentive soils restricted Holderness villages to a less intensive two-field system. The award for drainage was encouraged because: "... one of the two fields of the township is lying idle in each year, and no profit ensuing therefrom."<sup>6</sup>

With the cold clays yielding generally poor returns, and a large proportion of the region made useless for agriculture by inundation, it appears that any prosperity which the region enjoyed did not depend on its arable wealth. Indeed, it is probable that in the attempt to create more cropland, practically all of the more accessible woodland had been cleared by the Middle Ages.<sup>7</sup> So much so that the region was soon very short of timber. Remaining woodland became closely guarded<sup>8</sup> and there are many records of charges of "break-

<sup>1</sup> H. C. Darby and I. S. Maxwell, *op. cit.*, pp. 189, 196, 252, 433.

<sup>2</sup> *Victoria County History of Yorkshire*, II, 1912, pp. 195 *et seq.* Only five villis were 'wasted': Rise, Brandesburton, Hilston, Owstwick, and Southcoates. For further comparison with other areas in northern England, see H. C. Darby and I. S. Maxwell, *op. cit.*, pp. 214, 445, 447, 449.

<sup>3</sup> J. A. G. Watson and Wattie. J. West, *Agriculture; the Science and Practice of British Farming*, 1956, pp. 66–77; E. J. and E. W. Russell, *Soil Conditions and Plant Growth*, 1963, pp. 410–13.

<sup>4</sup> H. L. Gray, *English Field Systems*, Cambridge, Mass., 1915, p. 73.

<sup>5</sup> A. Harris, *Open Fields in the East Riding of Yorkshire*, East Yorkshire Local History Society, no. 4, 1961, p. 5.

<sup>6</sup> Public Record Office, Brandesburton Papers. See also, *Yorks. Archaeolog. Soc. Rec. Ser.*, XII, p. 80.

<sup>7</sup> H. C. Darby and I. S. Maxwell, *op. cit.*, p. 230.

<sup>8</sup> In 1235–49, permission was sought to widen the moat surrounding the wood at Routh.—*Chronica Monasterii de Melsa*, *op. cit.*, II, p. 37. Wood was obviously in great demand. Records of the sale of faggots from this wood are frequent in the Meaux Chronicle.—*Ibid.*, I, p. 48; II, pp. 106, 110, 151, 245.

ing and entering a close and taking timber," often worth as much as £20.<sup>1</sup>

If this prosperity was not based on arable farming, it seems reasonable to deduce that it was the marshland and lakes which provided the basis of the economy. It seems indeed that Holderness, like other better known areas of marshland in lowland England, depended to a considerable extent on these products.

The most obvious uses of the pure tracts of water were for fishing and fowling. The Domesday survey, however, mentions only five fisheries in Holderness, all in the Hull valley. It is probable that the record was remiss in this respect, for later medieval inquisitions dwell on the value of the fisheries of the region.<sup>2</sup> The following extracts from a fourteenth-century inquisition of the estates of the Lord of Holderness give some idea of the value of this activity in the region as a whole: "The take of eels from skipse and Fitbowker are worth 105s. . . . Sutton mere has a take of 4,000 eels . . . there are four meres and a half (in the estate) with fishery throughout the whole and also fishery in a lake called Langwath."<sup>3</sup>

The importance of fishing in the Middle Ages may be measured by its continued significance even when silting and drainage drastically diminished the area of water at the end of the period. Sixteenth- and seventeenth-century bequests frequently list "carr boats, fishing geare, and fowling nets."<sup>4</sup> Even during the major drainage activities in the eigh-

teenth century, the word "filling" occurs frequently in contemporary records, denoting an area over which nets could still be drawn.<sup>5</sup> Parish registers in Sutton and Leven, on the eastern margins of the Hull valley, reveal that people were listing their occupations as "fishermen" as late as 1830, and Blashill records that fishing feasts survived in Holderness into the nineteenth century.<sup>6</sup>

Fowling must have played an equally important part in the early economy of the region. Holderness lies on one of the main bird migration routes, especially of water birds, and was famous as a breeding ground for many types of water fowl.<sup>7</sup> Many early charters include the rights of fowling with those of fishing. Even as late as 1790 when several of the meres had been filled in or drained it was possible to take as many as 400 ducks a day on the larger fens.<sup>8</sup> The most interesting of the early references to this activity is found in the Humberstone Report of 1570, recording the lands in Holderness belonging to the House of Northumberland. "To the said manor of Leconfield belongeth a grate fen . . . there the Earle hath a grate mark of swannes and very much wild fowl. And very profitable fishing which the Earle has always reserved for the use and commoditie of his house, and has appointed four keepers as well of fowl as of fish. . . ."<sup>9</sup>

There is little doubt that turbary also played an important part in the medieval economy especially with the growing shortage of timber

<sup>1</sup> *Yorks. Archaeolog. Soc. Rec. Ser.*, LXXXI, pp. 43, 50; xvii, pp. 113, 134, 153, 158, 164, 165.

<sup>2</sup> R. Lennard, *Rural England, 1086-1132*, 1959, p. 248, suggests that this is because only fishing "machinery" was recorded in the Domesday Book.

<sup>3</sup> *Yorks. Archaeolog. Soc. Rec. Ser.*, xii, p. 83. See also pp. 6, 65, 78, 81, 82, 84. *Chronica Monasterii de Melsa*, I, p. 288. Useful material is also found in R. Denholme-Young, 'The Yorkshire Estates of Isabella de Fortibus', *Yorks. Archaeolog. Jnl*, xxxi, p. 389. This lady owned a third of Holderness in the mid-thirteenth century and sufficient water to employ as many water bailiffs as land bailiffs. Fish was sufficiently plentiful to distribute surpluses to the monasteries.

<sup>4</sup> Borthwick Institute of Historical Research, York, Inventories of Wills, Misc. Bundles, 1690-1720.

<sup>5</sup> *Yorks. Archaeolog. Soc. Rec. Ser.*, LXII, p. 58; A. Harris, *The Rural Landscape of the East Riding of Yorkshire*, 1961, p. 37.

<sup>6</sup> Parish Records for Sutton, Leven, Lockington, and Brandesburton; T. Blashill, *History of Sutton-on-Hull*, 1890, p. 264.

<sup>7</sup> The mud flats at Spurn Point are now a bird sanctuary.

<sup>8</sup> *Yorks. Archaeolog. Soc. Rec. Ser.*, LIII, p. 29. Even in the nineteenth century the region retained fame as an area of wild fowl: "Geese and fowl were winging their way to distant Holderness."—Walter Scott, *Ivanhoe*, 1832, p. 185.

<sup>9</sup> Public Record Office, E. 164, 37, 249.

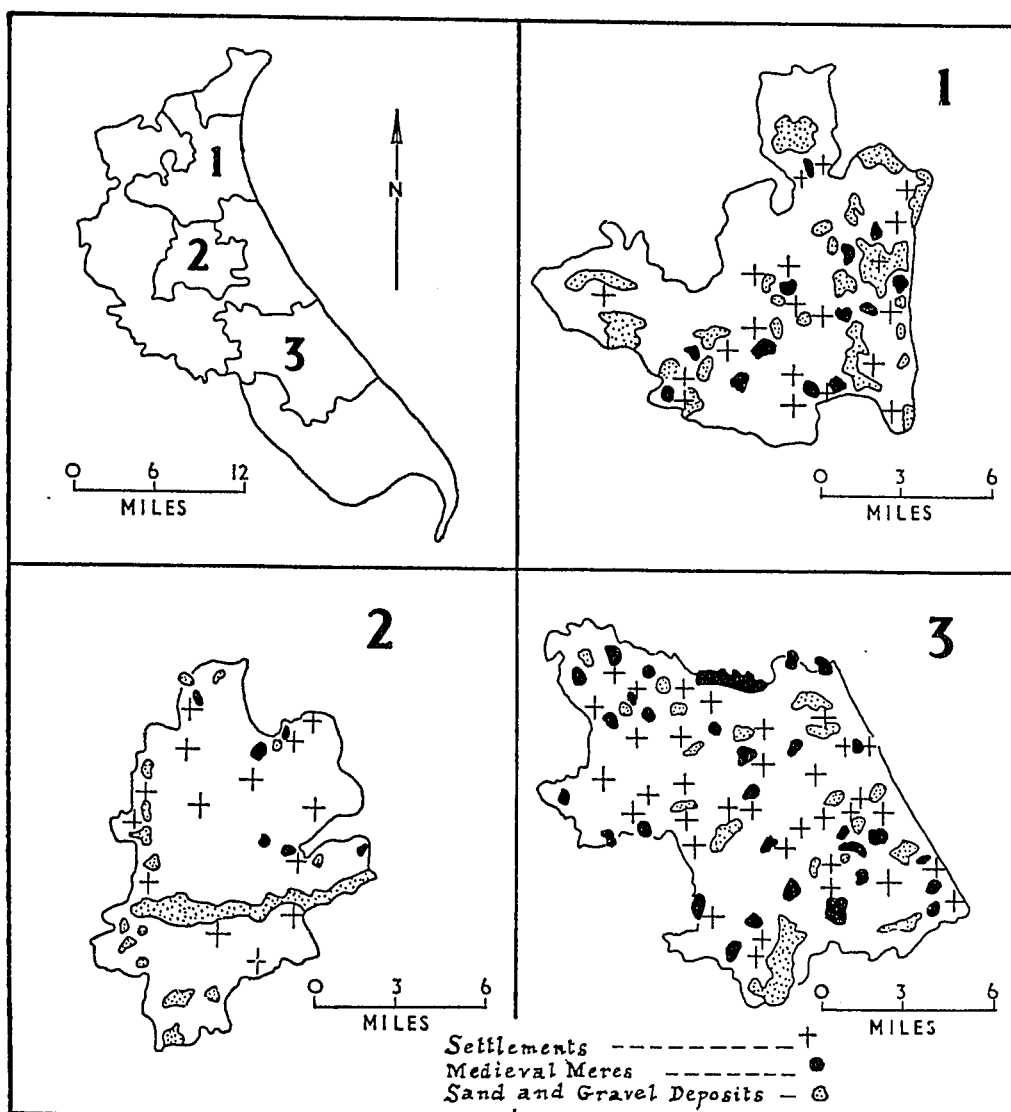


FIG. II

both in Holderness and on the Wolds. The Meaux Chronicle refers frequently to the practice of peat cutting.<sup>1</sup> Often as much as six acres of marsh were set aside for the purpose.<sup>2</sup> The Prior of Bridlington is noted as having the right to cut "fifty cartloads of turves" annually from a marsh near to the township.<sup>3</sup>

One may suppose that the activity provided a valuable source of trade with areas outside the region, although no direct evidence has been found to substantiate this view.

One of the most important uses of the periodically flooded bottom-lands (known as "carrs") was, however, the summer pasturage

<sup>1</sup> *Chronica de Melsa*, I, pp. 214, 356; II, pp. 5, 365.

<sup>2</sup> *Ibid.*, II, p. 216.

<sup>3</sup> *Yorks. Archaeolog. Soc. Rec. Ser.*, xcv, p. 139. For its later importance, see East Riding Record Office, DDCV, 105-7.

of sheep and cattle. Its increasing value throughout the period was shared by all the great marshland areas. So common was this practice that restriction was often necessary to prevent over-exploitation, and there were frequent boundary disputes.<sup>1</sup>

It is not surprising that the bottom-lands were often rated at a much higher value than arable land on the uplands.<sup>2</sup> The Lay Subsidy Returns for 1297, although not altogether complete for Holderness, reveal the higher rating of the villages holding a high proportion of carrland (Fig. I).

Historical evidence, then, would seem to support the view that the medieval economy of Holderness depended for any prosperity it may have shown, upon the wealth of its meres and marshes rather than its arable land. This is further substantiated by reference to the distribution of settlement sites.

Interpolation of evidence from glacial drift maps, the distribution of medieval meres and marshes, and the sites of settlements reveal interesting relationships. Not only does the

highest density of Domesday population occur in the southern claylands, where mere sites are most frequently found (Fig. II), but the closest clusters of settlement occur where meres were adjacent to the more easily cleared and worked sand and gravel hillocks, as in the north-east and south-east parts of the main moraine area. These areas were probably freer draining, and, at least initially, more fertile. Conversely, settlement was most sparse where these factors were widely spaced, as in the east-central moraine area.

Thus, whilst medieval Holderness, from the arable farmer's viewpoint, may have seemed a watery waste land whose heavy boulder clays produced low yields of most crops, it was nevertheless an area of fairly dense settlement. Like the better known marshland areas of Lincolnshire and Norfolk, Holderness too would seem to have depended for its prosperity upon the products of its marshes and meres. Such prosperity as existed may well have been 'because of' and not 'in spite of' these features.

<sup>1</sup> H. C. Darby, *The Draining of the Fens*, 1940, and the bibliography therein; J. Thirsk, *English Peasant Farming*, 1957, p. 49

<sup>2</sup> *Yorks. Archaeolog. Soc. Rec. Ser.*, XII, pp. 78, 79; Public Record Office, E, 164, 37, 249.

## Notes and Comments

### THE BRITISH AGRICULTURAL HISTORY SOCIETY

The joint winter conference of the Society with the Association of Agriculture was held at the Institute of Education, Malet Street, London, W.C.1, on Saturday, 3 December 1966. The subject was 'Agrarian Unrest in England'. The President of the Society, Professor H. P. R. Finberg, opened the conference, and the sessions were chaired by Mr Rex Russell of the University of Hull. At the morning session Dr E. J. Hobsbawm of Birkbeck College, London, spoke on 'The farm labourer's movements of the first half of the nineteenth century', and at the afternoon session Dr J. P. D. Dunbabin of St Edmund Hall, Oxford, spoke on 'The incidence and

organization of agricultural trades unionism in the 1870s'. This was followed by an interesting and stimulating discussion.

### ESSAYS IN AGRARIAN HISTORY

Members may be interested to know that two volumes, edited by Professor W. E. Minchinton, of the more important articles on agrarian history published in this and other journals, will shortly be published by David and Charles Ltd. The first volume will cover the period up to about 1760, and the second will cover the later period. Members of the Society will be able to buy the volumes at the reduced rate. Further details will be included in the next issue.

(continued on page 53)

# List of Books and Articles on Agrarian History issued since September 1965<sup>1</sup>

Compiled by H. A. BEECHAM

## BOOKS AND PAMPHLETS

- ADAMS, R. H. *Commission of Sewers for the Isle of Wight, 1631-1939*. 15th & Final Report, Isle of Wight River Board. 1965.
- ALLPORT, D. H. *Ramsden: the story of a Wychwood village. Reprinted with a supplement*. D. H. Allport, Walnut Tree Cottage, Ramsden, Oxon. 1965.
- ALMACK, T. F. *A village heritage: the story of Blandford St Mary*. Longmans, Dorchester. 1965.
- AUSTERBERRY, J. *A glimpse of old Shropshire*. Wilding & Son, Castle St, Shrewsbury.
- BAGOT, N. C. *Blithfield Hall: a descriptive survey and history*. English Life Pubs, Derby.
- BALFOUR, H. S. *An account of the parish of Georgeham together with an history of it*. H. S. Balfour, Crowberry Cottage, Georgeham, Braunton, Devon. 1965.
- BARTON, T. F., and FARROW, M. A. *Index of Wills proved in the Consistory Court of Norwich, 1687-1750, and now preserved in the Norfolk and Norwich Record Office*. Norfolk Rec. Soc., vol. XXXIV. 1965.
- BATESON, F. W. *Brill: a short history*. Brill Society, c/o F. W. Bateson, Corpus Christi College, Oxford.
- BATEY, M. (ed.). *Index of Records relating to Farnham*. Farnham Urb. Distr. Council. 1965.
- BERRY, E. K. *Henry Ferrers—an early Warwickshire antiquary, 1550-1633*. Dugdale Soc. Occas. Papers, no. 16. 1965.
- BINNS, A. L. *The Viking Century in East Yorkshire*. East Yorks Loc. Hist. Soc., E.Y. Local Hist. Series, no. 15. 1963.
- BOWOOD, R. *Our land in the making*. Wills & Hepworth.
- BRIGHT, M. J., and WARD, K. E. *Wardour Castles*. 3rd ed., Oriole Pub. Co., 174 Herbert Avenue, Parkstone, Poole, Dorset. 1964.
- BRITISH SUMMER SCHOOL OF ARCHAEOLOGY. *Prehistoric and early Wales*. Ed. L. LL. Foster and Glyn Daniel. Routledge & Kegan Paul. 1965.
- CAMERON, D. *The Field of Sighing: a Highland boyhood*. Longmans.
- CAMERON, K. *Scandinavian settlement in the territory of the five boroughs: the place-name evidence; inaugural lecture*. Nottingham University. 1965.
- CAMPBELL, R. H. *Scotland since 1707: the rise of an Industrial Society*. Basil Blackwell. 1965.
- CHALKLIN, C. W. *Seventeenth Century Kent: A Social and Economic History*. Longmans Green.
- CHAMBERS, J. D. *Nottinghamshire in the eighteenth century; a study of life and labour under the squirearchy*. 2nd edn. Cass.
- CHAMBERS, J. D., and MINGAY, G. E. *The Agricultural Revolution: 1750-1880*. Batsford.
- CHIBNALL, A. C. *Sherington: fiefs and fields of a Buckinghamshire village*. Camb. U.P. 1965.

<sup>1</sup> The date of publication is 1966 unless otherwise stated. The compiler is indebted to the late Mr George Green for help with this bibliography.

- CHISHOLM, M. *Rural settlement and Land Use*. Hutchinson Univ. Lib.
- COOPER, C. E. *Memoirs of Selworthy and West Somerset*. 2nd edn. Cox, Son, & Co.
- CRAUFURD, J. G. *County of Hertford: Aldbury Open Fields and the Green Belt*. J. G. Craufurd, Lincoln's Inn, London, W.C.1.
- CREGEEN, E. R. (ed.). *Argyll Estate Instructions: Mull, Morramn, Tiree*. Scottish Hist. Soc., 4th ser., vol. I. T. & A. Constable. 1964.
- CROMARTY, D. *The Fields of Saffron Walden in 1400*. Essex County Council, Chelmsford.
- CURTIS, W. F. H. *Ingoldmells: a short history of the village in the country by the sea, and of its ancient parish church*. Church Publishers, Ramsgate, Kent. 1965.
- DAVIS, W. L. 'Orare Norgam': *an East Sussex village and its story*. W. L. Davis, Quinneys, Dixter Rd, Northiam, Rye, Sussex. 1965.
- DELL, R. F. (ed.). *The Glynde Place archives: a catalogue*. County Hall, Lewes, Sussex. East Sussex County Council. 1964.
- DU BOULAY, F. R. H. *The lordship of Canterbury: an essay on medieval society*. Nelson.
- DUNSTAN, G. R. *The Register of Edmund Lacy, Bishop of Exeter, 1420-1455, Registrum Commune, vol. II*. Devon & Cornwall Rec. Soc., vol. x.
- EAST ANGLIAN DAILY TIMES. *East Anglian miscellany upon matters of history, genealogy, archaeology, folk-lore, literature, etc. relating to East Anglia*. College Gateway Bookshop, 3 Silent St, Ipswich, Suffolk. 1965.
- ESSEX COUNTY RECORD OFFICE. *Stuart Essex*. Essex County Council, Chelmsford.
- EVERITT, A. M. *The Community of Kent and the Great Rebellion, 1640-60*. Leic. U.P.
- FILLMORE, N. (transcr.) and GIBSON, J. S. W. (ed.). *Baptism and Burial Register of Banbury, Oxfordshire, Part One, 1558-1653*. Banbury Hist. Soc., vol. VII.
- FRASER, C. M. *Ancient Petitions Relating to Northumberland*. Surtees Soc. Pubs, vol. CLXXVI.
- FUSSELL, G. E. *Farming technique from pre-historic to modern times*. Pergamon.
- GETHYN-JONES, J. E. *Dymock*. Rev. J. E. Gethyn-Jones, The Rectory, Dymock, Glos. 1965.
- GETHYN-JONES, J. E. *Dymock down the ages*. Rev. J. E. Gethyn-Jones, The Rectory, Dymock, Glos.
- GONNER, E. C. K. *Common land and inclosure*. 2nd edn. with a new introd. by G. E. Mingay.
- GRANT, W. *Life in Georgian Billericay, 1787-1819: a local history source book*. W. P. Grant, 143 Perry St, Billericay, Essex. 1965.
- GRANT SCARFE, H. *As we were, 20: A Viking village in England about 900 years ago*. Longmans. 1965.
- GREAT BRITAIN. COURT OF COMMON PLEAS. *Feet of Fines for Essex*. Essex Arch. Soc., vol. IV: 1423-1547, eds. P. H. Reaney and M. Fitch. 1964.
- GREENSLADE, M. W. *Barlastan: a history*. Department of Extramural Studies, Keele University.
- GREENSLADE, M. W., and STEWART, D. G. *A History of Staffordshire, with maps and pictures*. Finlayson. 1965.
- GREENWOOD, G. B. *Notes towards a history of Hersham*. Walton & Weybridge Hist. Soc. Pubs, 16 Annett Road, Walton-on-Thames.
- GRIGG, D. B. *The agricultural revolution in South Lincolnshire*. Cambridge U.P.
- HAMMOND, J. L., and B. *The Village Labourer*. New edition. Longmans, Green.
- HARVEY, B. F. *Documents illustrating the rule of Walter de Wenlok, Abbot of Westminster, 1283-1307*. Camden Series (Roy. Hist. Soc.), 4th ser., vol. II. 1965.
- HAVINDEN, M. A. *Household and farm inventories in Oxfordshire, 1550-1590*. H.M.S.O. 1965 (i.e. Jan. 1966).
- HIGGS, J. W. Y. *English rural life in the Middle Ages*. Bodleian Library, Oxford. 1965.
- HILL, D. *The Peasants' Revolt: a collection of contemporary documents*. Cape.
- HOLLAND, D. *Warmsworth in the eighteenth century: population change, agriculture, and quarrying in a rural South Yorkshire community*. Museum & Art Gallery, Chequer Rd, Doncaster, Yorks. 1965.

- HORN, W. *The Barns of the Abbey of Beaulieu and its Granges of Great Coxwell and Beaulieu—St Leonards*. Berkeley, California U.P., London, Cambridge U.P. 1965.
- HOSKINS, W. G. *English Local History, the past and the future: an inaugural lecture*. Leic. U.P.
- HUDLESTON, C. R. (ed.). *Durham Recusants' Estates, 1717-1778, Pt. II*. Surtees Soc. Pubs, vol. CLXXV, 1965.
- HUGHES, H. *Cheshire and its Welsh border*. Dobson.
- HUNT, P. E. *Notes on Mediaeval Melton Mowbray, 1077-1507*. Palmers Print. & Pub. Co., 5 Swinegate, Grantham, Lincs. 1965.
- INTERNATIONAL COMPUTERS AND TABULATORS, LTD. *Bradenham Manor past and present*. Bradenham Manor, High Wycombe, Bucks. 1965.
- JENKINS, J. G. *Agricultural Transport in Wales*. Nat. Mus. of Wales. 1965.
- KING, H., and HARRIS, E. (eds.). *A Survey of the Manor of Settrington*. Yorks. Arch. Soc. Rec. Ser. vol. CXXVI. 1962.
- LEWIS, D. *The history of Llantrisant*. 12 Llantrisant Rd, Beddau, Nr Pontypridd, Glam.
- LEWIS, M. *Plaxtol: a short history*. P. Hilton, 19 Lonewood Way, Hadlow, Tonbridge, Kent. 1965.
- MANN, M. E. *Darfield village and church*. Stockwell, Ilfracombe.
- MASEFIELD, J. *Grace before ploughing*. Heinemann.
- MILES, W. D. *History of Deeping Fen and Pode Hole Pumping Station*. Deeping Fen, Spalding and Pinchbeck Drainage Board, Spalding, Lincs. 1965.
- MINISTRY OF AGRICULTURE. *Departmental Committee of Inquiry into Statutory Smallholdings provided by local authorities in England and Wales*. H.M.S.O.
- MINISTRY OF AGRICULTURE. *Animal Health—A Centenary, 1865-1965*. H.M.S.O. 1965.
- MORITZ, C. P. *Journeys of a German in England in 1782*. Trans. and ed. by Reginald Nettel. Cape. 1965.
- NAPOLITAN, L. *Centenary of the Agricultural Census, 1866-1966*. Ministry of Agriculture, Fisheries and Food, Whitehall Place, London, S.W.1.
- NELSON, L. H. *The Normans in South Wales, 1070-1171*. Austin, London (Texas U.P.).
- NICHOLLS, H. G. *Forest of Dean: an historical and descriptive account*. New edn. David & Charles, Dawlish.
- NOTTINGHAM UNIVERSITY, INST. OF ED., GEOG. ADVIS. COMM. *Outside the Geography Room: 15 Geographical Excursions in the East Midlands for Schools and Colleges*. Occasional papers, no. 4. 1965.
- OXFORDSHIRE COUNTY RECORD OFFICE. *Summary Catalogue of the privately-deposited records in the Oxfordshire County Record Office*, by J. R. Bolton; ed. M. Jones. County Hall, Oxford.
- PAGE, F. M. (ed.). *Wellingborough manorial accounts, A.D. 1258-1323: from the account rolls of Crowland Abbey*. Northants. Rec. Soc., vol. VIII, reprinted. 1965.
- PEACE, J. M. *Sweet vernal: a collection of country journeys*. Dent.
- PURSEHOUSE, E. *Waveney Valley studies: gleanings from local history*. Diss Pub. Co., Mere St, Diss, Norfolk.
- RALPH, E. *Swanscombe through the ages: a short history of Swanscombe, Kent*. Church Publishers, Ramsgate, Kent. 1965.
- RANDELL, A. R. *Sixty years a fenman*. Ed. Enid Porter. Routledge & Kegan Paul.
- ROBINSON, F. W., and B. A. *A history of Long Sutton (South Lincolnshire)*. F. W. & B. A. Robinson, Gedney Rd, Long Sutton. 1965.
- ROGERS, A. *The Making of Stamford*. Leic. U.P. 1965.
- ROPER, J. S. *Dudley probate inventories (second series): January 1605-April 1685; as listed by E. A. Fry in the 'Index to Worcestershire Wills'*. (Worc. Hist. Soc., 1904). Sixland, Woodsetton, nr Dudley, Worcs.
- ROPER, J. S. (ed.). *Dudley probate inventories: 1544-1603*. J. S. Roper, Sixland, Woodsetton, nr Dudley, Worcs. 1965.
- RUCK, R. J. *Hill farm story*. Faber.
- RUSSELL, E. J. *A History of agricultural*

- science in Great Britain, 1620-1954*. Allen & Unwin.
- RYAN, S. D. M. *A short history of Foremark*. S. D. M. Ryan, Foremark Hall, Milton, Derby. 1965.
- SHIRLAW, D. W. G. *An Agricultural Geography of Great Britain*. Pergamon Press.
- SPOKES, P. S. *Summary Catalogue of Manuscripts in the Bodleian Library relating to the City, County, and University of Oxford: accessions from 1916 to 1962*. Oxfordshire Hist. Soc., xvii. 1964.
- SPUFFORD, M. *A Cambridgeshire community: Chippenham from settlement to enclosure*. Leic. U.P. 1965.
- STANFORTH, T. *The Staniforth diary: a visit to Cornwall in 1800*. Ed. J. Hext. Barton, Truro, Cornwall. 1965.
- STEER, F. W. (ed.). *The Lavington Estate archives: a catalogue*. West Sussex County Records Office, County Hall, Chichester. 1964.
- TATE, W. E., and SINGLETON, F. B. *A history of Yorkshire, with maps and pictures*. Darwen Finlayson.
- THOMAS, S. *Pre-Roman Britain*. Studio Vista. 1965.
- THOMPSON, M. M. *Mallerstang: a Westmorland dale*. J. Whitehead & Son, Appleby, Westmorland. 1965.
- TRAVIS, SIR C. (ed.). *Early Yorkshire Charters* vol. 12: *The Tison Fee; based on the manuscripts of the late William Farrer*. Yorks. Arch. Soc., 10 Park Place, Leeds, 1. 1965.
- TUMA, E. H. *Twenty-six centuries of agrarian reform: a comparative analysis*. California U.P., Berkeley. 1965.
- URWIN, A. C. B. *Twickenham Park: an outline of the history of Twickenham Park and the St Margaret's Estate from Domesday to the present day*. Alan C. B. Urwin. 1965.
- UTTLEY, J. *The story of the Channel Islands*. Faber.
- Victoria History of the County of Gloucester*, vol. vi, ed. C. R. Eltringham. O.U.P. for Inst. of Hist. Research. 1965.
- Victoria History of the County of Essex*, vol v, ed. W. R. Powell. O.U.P.
- Victoria History of the County of Wiltshire*, vol. viii, O.U.P. 1965.
- WEST SUSSEX COUNTY RECORD OFFICE. *The Cowdray Archives*. West Sussex County Council, Chichester. 1964.
- WIGHTMAN, W. E. *The Lacy Family in England and Normandy, 1066-1194*. Clarendon Press.
- WRIGLEY, E. A. (ed.). *An Introduction to English Historical Demography from the Sixteenth to the Nineteenth Century*. Weidenfeld and Nicolson.
- ZEUNER, P. *A History of Domesticated Animals*. Hutchinson. 1963.

## ARTICLES

- BAKER, A. R. H. *Field Patterns in Seventeenth-Century Kent*. Geography, vol. L, 1, 1965, pp. 18-30.
- BAKER, A. R. H. *Field Systems in the vale of Holmesdale*. Agric. Hist. Rev., vol. XIV, 1, pp. 1-24.
- BAKER, A. R. H. *Some Fields and Farms in Medieval Kent*. Arch. Cant., vol. LXXX, pp. 152-74.
- BAKER, A. R. H. *The Kentish iugum: its relationship to soils at Gillingham*. Eng. Hist. Rev., vol. LXXXI, no. 318, pp. 74-9.
- BARLEY, M. W., and SUMMERS, N. *Averham Park Lodge and its Paintings*. Trans. Thoroton Soc. of Notts., vol. LXV, 1962, pp. 47-56.
- BARRATT, D. M. *Short Guides to Records: 13. Glebe Terriers*. History, vol. LI, no. 171, pp. 35-8.
- BEASTALL, T. W. *A South Yorkshire Estate in the Late Nineteenth Century*. Agric. Hist. Rev., vol. XIV, 2, pp. 40-4.
- BEAVINGTON, F. *Early Market Gardening in Bedfordshire*. Inst. Brit. Geographers Trans. & Papers, no. 37, 1965, pp. 91-100.
- BOOKER, J. M. L. *A Note on the Cataloguing of Title Deeds*. Jnl Soc. Archivists, vol. III, no. 3, pp. 135-7.

- BOURKE, P. M. A. *The Agricultural Statistics of the 1841 Census of Ireland—A Critical Review*. Econ. Hist. Rev., vol. XVIII, no. 2, 1965, pp. 376-91.
- BRIDGES, E. M. *Land-use limitations in the Area North of Derby*. East Midland Geographer, vol. IV, 1, pp. 39-45.
- BUTLIN, R. A. *Plot's Natural History of Staffordshire: An Appraisal*. N. Staffs. Jnl of Field Studies, vol. II, 1962, pp. 88-95.
- CAMPBELL, M. *Goat-Keeping in the Old Highland Economy—3*. Scottish Studies, vol. IX, 2, 1965, pp. 182-6.
- CANTOR, L. M. *The Medieval Deer-Parks of North Staffordshire—II*. N. Staffs. Jnl of Field Studies, vol. IV, 1964, pp. 6-66.
- CANTOR, L. M., and MOORE, J. S. *The Medieval Parks of the Earls of Stafford at Madeley*. N. Staffs. Jnl of Field Studies, vol. III, 1963, pp. 37-58.
- CANTOR, L. M., and WILSON, J. D. *The Medieval Deer Parks of Dorset, IV*. Proc. Dorset Nat. Hist. & Arch. Soc., vol. LXXXVI, 1965, pp. 164-78.
- CANTOR, L. M., and WILSON, J. D. *The Medieval Deer Parks of Dorset, V*. Dorset Nat. Hist. & Arch. Soc., vol. LXXXVII, pp. 223-33.
- CARR, A. D. *Some Edeyrnion and Dinmael Documents*. Bull. Board of Celtic Studies, vol. XXI, 3, 1965, pp. 242-9.
- CHAPLIN, R. E. *Animals in Archaeology*. Antiquity, vol. XXXIX, no. 155, 1965, pp. 204-11.
- CHAPMAN, V. *The Fields of Bolam*. Trans. Archit. & Arch. Soc. of Durham & Northumb., vol. XI, 5 and 6, pp. 445-54.
- CLARK, G. *Traffic in Stone Axe and Adze Blades*. Econ. Hist. Rev., 2nd ser., vol. XVIII, no. 1, 1965, pp. 1-28.
- CLARKSON, L. A. *The Leather Crafts in Tudor and Stuart England*. Agric. Hist. Rev., vol. XIV, 1, pp. 25-39.
- CLAYTON, A. K. *Platts Common, William Vizard, and the Hoyland Silkstone Colliery*. Trans. of the Hunter Arch. Soc., vol. IX, 1, 1964, pp. 27-37.
- COATES, B. E. *Park Landscapes of the East and West Ridings in the time of Humphry Repton*. Yorks. Arch. Jnl, 163, vol. XLI, 3, 1965, pp. 465-80.
- COLE, E. J. L. *Hereford Probate Records*. Radnorshire Soc. Trans., vol. XXXV, 1965, pp. 33-5.
- COLLINS, E. J. T. *Historical Farm Records*. Archives, vol. VII, no. 35, pp. 143-9.
- COULL, J. R. *Population Trends and Structures on Westray, Orkney*. Scottish Studies, vol. X, 1, pp. 69-77.
- COWLING, K., and METCALF, D. *An Analysis of the Determinants of Wage Inflation in Agriculture*. Manchester School of Econ. & Soc. Studies, XXXIII, 1965, pp. 179-204.
- COWLING, K. and METCALF, D. *Determinants of Wage Inflation in Scottish Agriculture, 1948-63*. Manchester School of Econ. and Soc. Studies, XXXIV, 2, 1966, pp. 189-93.
- COZENS-HARDY, B. *The Glaven Valley*. Norf. Arch., vol. XXXIII, 4, 1965, pp. 491-513.
- CRAY LOCAL HISTORY SOCIETY. *History of the Parish of Cray, 1851-1951. Part I*. Brycheiniog, vol. IX, 1963, pp. 109-31.
- DEWAR, H. S. L. *The Windmills, Watermills, and Horse-Mills of Dorset—New Evidence*. Proc. Dorset Nat. Hist. & Arch. Soc., vol. LXXXVI, 1965, pp. 179-81.
- DOUGLAS, D. *The Domesday Tenant of Hawling*. Bristol & Glos. Arch. Soc. Trans., vol. LXXXIV, pp. 28-30.
- FENTON, A. *Early and Traditional Cultivating Implements in Scotland*. Proc. Soc. Antiq. Scot., vol. xcvi, 1965, pp. 264-317.
- FERRIS, J. P. *The Gentry of Dorset on the Eve of the Civil War*. Genealogists' Mag., vol. xv, no. 3, 1965, pp. 104-16.
- FITCH, J. A. *Some Ancient Suffolk Parochial Libraries*. Proc. Suff. Inst. of Arch., vol. xxx, 1, pp. 44-87.
- FLETCHER, T. W. *The Agrarian Revolution in Arable Lancashire*. Trans. of the Lancs. & Chesh. Antiq. Soc., vol. LXXII, 1965, pp. 93-122.
- FLINN, M. W. *Agricultural Productivity and Economic Growth in England, 1700-1760: A Comment*. Jnl Econ. Hist., vol. xxvi, no. 1, pp. 93-8.
- FORSTER, A. M. C. *Durham Entries on the*

- Recusants' Roll. 1636-7.* Surtees Soc. Pubs, vol. CLXXV, 1965, pp. 123-202.
- FUSSELL, G. E. *Az agrártörténetírás Nagy-britanniában. (Agrarian history in Great Britain).* Agrártörténeti Szemle, 1965, 2-3, pp. 1-15.
- FUSSELL, G. E. *Mattishall in the 1780s.* Suffolk Rev., vol. III, no. 3, pp. 83-5.
- FUSSELL, G. E. *Ploughs and ploughing before 1800.* Agric. Hist., vol. XL, 3, pp. 177-86.
- FUSSELL, G. E., and KENNY, A. *L'équipement d'une ferme romaine.* Annales, Economies, Sociétés, Civilisations, Mars-avril, 1966, pp. 306-23.
- GILCHRIST, J. *Farm Economics: some notes on the Agricultural Economics Service after 35 years.* Farming Leader, vol. XVI, no. 230, 1965, pp. 12-15.
- GLASSCOCK, R. E. *The Distribution of Lay Wealth in Kent, Surrey, and Sussex, in the Early Fourteenth Century.* Arch. Cant., vol. LXXX, pp. 61-8.
- GLASSCOCK, R. E. *The Lay Subsidy of 1334 for Lincolnshire.* Lincs. Archit. & Arch. Soc., Reports & Papers, vol. x, 2, 1964, pp. 115-33.
- GRACE, M. *The Document and Manuscript Collection of the Norfolk and Norwich Record Office.* Genealogists' Mag., vol. xv, no. 6, pp. 200-7.
- GREENHILL, F. A. *Seven Leicestershire Wills.* Leics. Arch. & Hist. Soc. Trans., vol. XXXVIII, pp. 9-20.
- GRESHAM, C. A. *The Bolde Rental (Bangor MSS. 1939).* Caern. Hist. Soc. Trans., vol. XXVI, 1965, pp. 31-49.
- GUNSTONE, A. J. H. *Notes on some Staffordshire Prehistoric Implements.* N. Staffs. Jnl of Field Studies, vol. II, 1962, pp. 26-32.
- HABAKKUK, H. J. *Landowners and the Civil War,* Jnl Econ. Hist., 2nd ser., vol. XVIII, no. 1, 1965, pp. 130-51.
- HALL, S. A. *The Great Cattle Plague of 1865.* Agriculture, vol. LXXII, no. 10, pp. 482-4.
- HARLEY, J. B. *The Settlement Geography of Early Medieval Warwickshire.* Inst. Brit. Geographers Trans. & Papers, no. 34, 1964, pp. 115-30.
- HARRISON, J., MEAD, W. R., and PANNETT, D. J. *A Midland Ridge-and-Furrow Map.* Geog. Mag., vol. CXXXI, 3, 1965, pp. 366-9.
- HARVEY, B. F. *The Population Trend in England between 1300 and 1348.* Roy. Hist. Soc. Trans., vol. XVI, pp. 23-42.
- HARWOOD, H. W. *Booth Farm and the Midgleys.* Trans. Halifax Ant. Soc., 1964, pp. 17-29.
- HASTINGS, F. A. *Excavation of an Iron Age Farmstead at Hawk's Hill, Leatherhead.* Surrey Arch. Colls., vol. LXII, 1965, pp. 1-43.
- HEYS, F. G. *Excavations on a Medieval site at Breinton, Herefordshire.* Trans. Woolhope Nat. Field Club, Herefordshire, vol. XXXVII, 3, 1964, pp. 272-94.
- HOBSON, A. *The Royal Agricultural Society.* Jnl of the Chartered Land Agents' Soc., vol. LXIV, no. 7, 1965, pp. 268-70.
- HOGG, N. *Registration of Title to Land.* Genealogists' Mag., vol. xv, no. 6, pp. 212-21.
- HOLDEN, E. W. *Slate Roofing in Medieval Sussex,* Sussex Arch. Colls., vol. CIII, 1965, pp. 67-78.
- JACK, R. I. *Entail and descent: the Hastings inheritance, 1370 to 1436.* Bull. Inst. Hist. Res., vol. XXXVII, no. 97, 1965, pp. 1-19.
- JONES, E. L. *Hereford Cattle and Ryeland Sheep: Economic Aspects of Breed Changes, 1780-1870.* Trans. Woolhope Nat. Field Club, vol. XXXVIII, 1, 1965, pp. 36-48.
- JONES, E. L., and COLLINS, E. J. T. *The Collection and analysis of Farm Record Books.* Jnl Soc. of Archivists, vol. III, no. 2, 1965, pp. 86-9.
- JONES, H. R. *A Study of Rural Migration in Central Wales.* Inst. Brit. Geographers Trans. & Papers, no. 37, 1965, pp. 31-45.
- KEIL, I. *Farming on the Dorset Estates of Glastonbury Abbey in the Early Fourteenth Century.* Proc. Dorset Nat. Hist. & Arch. Soc., vol. LXXXVII, pp. 234-50.
- KELLETT-SMITH, S. K. *Restauld of Jethou.* Société Guernesaise Rep. & Trans., XVII, v, 1965, pp. 616-30.
- LEWARNE, J. G. W. *Cartographical Survey of the Area: The Fetcham Tythe Map of 1791.* Proc. of the Leatherhead and District Loc.

- Hist. Soc., vol. II, no. 9, 1965, pp. 257-9.
- LLANGATTOCK LOCAL HISTORY SOCIETY. *The Llangattock Parish Scrap-Book, 1851-1951*. Brycheiniog, vol. IX, 1963, pp. 133-53.
- LONDON, V. C. M. (ed.). *The Cartulary of Canonsleigh Abbey (Harleian MS. no. 3360)*. Dev. & Corn. Rec. Soc., vol. VIII, pp. i-xxxix, and pp. 1-143.
- LONG, W. HARWOOD. *Size of Farm in Britain*. District Bank Review, no. 155, 1965, pp. 45-63.
- LOWNDES, R. A. C. *Excavation of a Romano-British farmstead at Eller Beck*. Trans. Cumb. and Westm. Antiq. Soc., vol. LXIV, 1964, pp. 6-13.
- MACNAB, J. W. *British Strip Lynchets*. Antiquity, vol. XXXIX, no. 156, 1965, pp. 279-90.
- MARGARY, I. D. *The North Downs Trackway in Surrey*. Surrey Arch. Coll., vol. LXII, 1965, pp. 80-2.
- MARSHALL, M. *History of the Water Mills at Petit Bôt*. Société Guernesaise Rep. & Trans., XVII, v, 1965, pp. 583-96.
- MEREDITH, W. D. *Water Mills in North Staffordshire*. N. Staffs. Jnl of Field Studies, vol. IV, 1964, pp. 1-10.
- MILLS, D. *English villages in the Eighteenth and Nineteenth Centuries: A Sociological Approach. Part I: The concept of a sociological classification*. Amateur Historian, vol. VI, no. 8, 1965, pp. 271-8.
- MITCHISON, R. *The Movements of Scottish Corn Prices in the Seventeenth and Eighteenth Centuries*. Econ. Hist. Rev., 2nd ser., vol. XVIII, no. 2, 1965, pp. 278-91.
- MOISLEY, H. A. *The Deserted Hebrides*. Scottish Studies, vol. X, 1, pp. 44-68.
- MOORE, D. C. *The Corn Laws and High Farming*. Econ. Hist. Rev., vol. XVIII, no. 3, 1965, pp. 544-61.
- MURRAY, J. W. *The Origin of some Medieval Roofing Slates from Sussex*. Sussex Arch. Colls., vol. CIII, 1965, pp. 79-82.
- NEWMAN, C. W. (ed.). *Report on the Abbey Cwm Estate by Layton Cooke (1822)*. Radnorshire Soc. Trans., vol. XXXV, 1965, pp. 44-50.
- POWELL, A. D. *Abstracts from Miscellaneous Star Chamber cases of the Radnor-Hereford border*. Radnorshire Soc. Trans., vol. XXXV, 1965, pp. 36-42.
- POWELL, G. *History of the Parish of Cray, 1851-1951, Part II*. Brycheiniog, vol. IX, 1964, pp. 39-68.
- RADLEY, J. *A Deserted Mediaeval Farmstead at Compton Valence*. Proc. Dorset Nat. Hist. & Arch. Soc., vol. LXXXVII, pp. 88-90.
- RAFTIS, J. A. *Social Structures in Five East Midland Villages*. Econ. Hist. Rev., 2nd Ser., vol. XVIII, no. 1, 1965, pp. 83-100.
- RAZZELL, P. E. *Population Change in Eighteenth Century England. A Reinterpretation*. Econ. Hist. Rev., 2nd ser., vol. XVIII, no. 2, 1965, pp. 312-32.
- RICHARDS, M. *Gwynionydd is cerdin in 1564*. Ceredigion, vol. V, no. 2, 1965, pp. 229-33.
- ROBERTS, M. *Hard times in Bedfordshire*. Beds. Mag., vol. X, no. 74, 1965, pp. 80-2.
- RODEN, D., and BAKER, A. R. H. *Field Systems in the Chiltern Hills and Parts of Kent from the late Thirteenth to the Early Seventeenth Century*. Inst. Brit. Geographers Trans. & Papers, no. 38, pp. 73-88.
- SCOLA, P. M. *A Century of Agricultural Statistics*. Scottish Agriculture, vol. XLV, no. 4, pp. 165-8.
- SCOTT, R. *Derby Cheese*. Agriculture, vol. LXXII, no. 7, 1965, pp. 352-5.
- SCOTT, R. *Leicester Cheese*. Agriculture, vol. LXXII, no. 9, 1965, pp. 459-61.
- SMEDLEY, N. *Museum of Rural Life*. Suffolk Rev., vol. III, no. 3, pp. 91-3.
- SMITH, C. T. *Dutch Peat Digging and the Origin of the Norfolk Broads*. Geog. Jnl, vol. CXXXII, 1, pp. 69-72.
- SMITH, E. J. *Grandfather's silage boom—or it's all been done before*. Farmers Weekly, vol. LXIII, no. 27, 1965, pp. 44-6.
- SMITH, R. S. *A Woad Growing Project at Wollaton in the 1580s*. Trans. Thoroton Soc. of Notts., vol. LXV, 1962, pp. 27-46.
- SMOUT, T. C. *Goat-Keeping in the Old Highland Economy—4*. Scottish Studies, vol. IX, 2, 1965, pp. 186-9.

- STATHAM, M. P. *Local Record Societies*. Suffolk Rev., vol. III, no. 3, pp. 95-7.
- STILL, L. *Excavations at Low Grange Farm*. Trans. Archit. & Arch. Soc. of Durham & Northumb., vol. XI, 5 and 6, 1965, pp. 391-403.
- STYLES, P. *The Evolution of the Law of Settlement*. Univ. of Birm. Hist. Jnl, vol. IX, no. 1, 1963, pp. 64-91.
- TANN, J. *Some Problems of Water Power—a Study of Mill Siting in Gloucestershire*. Bristol & Glos. Arch. Soc. Trans., vol. LXXIV, pp. 53-77.
- TAYLOR, C. C. *The Pattern of Medieval Settlement in the Forest of Blackmoor*. Proc. Dorset Nat. Hist. & Arch. Soc., vol. LXXXVII, pp. 251-4.
- THIRSK, J. *The Origin of the Common Fields*. Past & Present, no. 33, pp. 142-7.
- THOMAS, E. *The June Returns One hundred years old*. Agriculture, vol. LXXIII, no. 6, pp. 245-9.
- THOMAS, S. *The Agricultural Labour Force in some South-west Carmarthenshire Parishes in the Mid-Nineteenth Century*. Welsh Hist. Rev., vol. III, no. 1, pp. 63-73.
- THRUPP, S. L. *The Problems of Replacement Rates in Late Medieval English Population*. Econ. Hist. Rev., 2nd ser., vol. XVIII, no. 1, 1965, pp. 101-19.
- TITOW, J. Z. *Medieval England and the Open-Field System*. Past & Present, no. 32, 1965, pp. 86-102.
- TROW-SMITH, R. *Not so much a pedigree: more a way of life*. Farmer & Stockbreeder, vol. LXXVIII, no. 3915, 1964, pp. 4-5.
- WAITES, B. *A Yorkshire Farmer in the Memoranda Rolls*. Yorks. Arch. Jnl, 163, vol. XLI, 3, 1965, pp. 445-8.
- WALKER, H. H. *Some Medieval desmesne boundaries in Torquay*. Devon Assoc. for Adv. of Sc., Lit., & Art, Rep. & Trans., vol. XCVII, 1965, pp. 194-211.
- WEBBER, R. *Famous Names, No. 3. 400 years of British seedsmanship*. The Grower, vol. LXV, no. 16, pp. 756-9.
- WEBSTER, G., and HOBLEY, B. *Aerial Excavation over the Warwickshire Avon*. Arch. Jnl, vol. CXXI, 1965, pp. 1-22.
- WHEELER, P. T. *Land-ownership and the Crofting system in Sutherland since 1800*. Agric. Hist. Rev., vol. XIV, 1, pp. 45-56.
- WHITLOCK, R. *Decline of the Corn Exchange*. Agricultural Merchant, vol. XLVI, no. 8, pp. 47-51.
- WHITTINGTON, G. *The Common Lands of Berkshire*. Inst. of Brit. Geog. Trans. & Papers, no. 35, 1964, pp. 129-48.
- WILKINSON, A. *Evolution of Horse*. Isle of Wight Nat. Hist. & Arch. Soc. Proc., vol. V, 8, 1965, p. 356.
- WILLIAMS, G. *The Dissolution of the Monasteries in Glamorgan*. Welsh Hist. Rev., vol. III, no. 1, pp. 23-43.
- WOOD, A. S. *A Terrier of the Lands and Possessions of the Rectory of Turnastone*. Trans. Woolhope Nat. Field Club, vol. XXXVII, 3, 1964, pp. 325-6.
- WOOD, A. S. *The Domesday More*. Trans. Woolhope Nat. Field Club, vol. XXXVII, 3, 1964, pp. 329-30.
- YOUNG, A. *Bledlow: I. Land Tenures and the Three-Field System*. Records of Bucks., vol. XVII, 4, 1964, pp. 266-85.

NOTES AND COMMENTS *continued from page 45*AN INTERNATIONAL BIBLIOGRAPHY  
OF AGRICULTURAL HISTORY

The Hungarian Museum for Agriculture publishes each year an international bibliography of books and articles on agricultural history, entitled *Bibliographia Historiae Rerum Rusticarum Internationalis*. The first volume, covering publications for the years

1960-1, appeared in 1964, the second for the years 1962-3 in 1965.

The price of each volume is \$5, and orders for these and future issues should be placed with the Publishing House of the Hungarian Academy of Sciences, Alkotmány Utca 21, Budapest V, Hungary.

## Book Reviews

J. D. CHAMBERS AND G. E. MINGAY, *The Agricultural Revolution, 1750-1880*. Batsford, 1966. vii+222 pp. 45s.

The 'Fabric of British History' is splendidly served by this volume, which abundantly confirms the early promise that this series not only marks Batsford's successful move out of the picture-book market, but also bids fair to set a new standard in university level, specialist, history books, which are so good that they are closer to monographs than textbooks. In this book Chambers and Mingay have produced a one-volume account of the most crucial period in British agricultural history, a period, moreover, of critical importance in world economic history, since Britain would never have been able to give modern industrialization to the world if her agriculture had not experienced its own revolution, and had not responded to the opportunities of the early Industrial Revolution, and to the challenges of demographic revolution, in such a way as to support and help to stimulate the surge down the runway to take-off and airborne economic growth. It is a book which is at once a synthesis of up-to-date contributions to the study of the highly complex problems of agricultural development in this period, and also an individual contribution in its own right, given its unity—largely, the preface tells us, at Mingay's hands—by its consistent focus on the economic factors in agrarian change and on the general economic context within which these changes occurred. In sheer literary elegance, and in moving descriptions of the picturesque, this volume does not rival Ernle's *English Farming Past and Present*, but in every other respect Ernle can now be regarded as at last superseded as the standard account covering this period, to linger on only in the hands of those External students who are so unfortunate as not to receive the news of Chambers and Mingay.

The authors show their mettle simply in entertaining the idea of such a general his-

tory. Not only does this act involve running the gauntlet of the misplaced but none the less standard criticism that the time is not yet ripe, that much fundamental research remains to be done, and is indeed in progress. It is true that research goes on; it is equally true that there is a great need for such a general statement as this book gives, and that it may conceivably be rendered out of date in the long run is no argument against making the attempt. But also the very conception runs against a view fashionable among some agrarian historians, that their subject is so complex, and so riddled with regional and local diversity, that general statements are ruled out on principle. The wrong-headedness of this view the authors expose by the success with which they execute their task, and the sureness with which they indicate the local peculiarities without permitting them to smudge the overall picture. There is a history of farms, and of farming regions, and the internal competition between farming regions is rightly stressed by the authors as a far more potent factor in agricultural developments than was import competition, in any period before the 1850's: but there is also a history of agriculture.

The energetic virility of the authors is magnificently, if inadvertently, demonstrated near the beginning of the book, when in discussing the antecedent changes in methods and organization which prepared the soil for the eighteenth-century revolution, they remark that "the emergence of a yeoman class from among the village population . . . is one of the outstanding achievements of post-war agrarian historians." Few historians can have had such tributes paid to their creative, or procreative, powers. Chambers and Mingay, of course, have neither invented nor sired the agricultural revolution: but their book establishes it firmly as a post-war historians' concept, child not of the hero-figures of old, Tull, Turnip Townshend, or Arthur Young, but of markets, prices, costs, and techniques. Their

heroes, if they have any at all, are the anonymous tenant farmers who were mainly responsible for the commercial application of new methods, and for empirically based improvements in them; next to the farmers themselves, the publicists, Arthur Young at their head, come in for most praise; innovating landlords, though the progressive exceptions are noted, are quite rightly placed at the bottom of the class in apportioning the credit for diffusion of new techniques. But although they make use of the authentic jargon, they seem in some doubt as to whether invention and innovation are interchangeable terms.

It would be possible to make many detailed criticisms—for instance, the bones, whose import rose so markedly between 1823 and 1837 were scarcely destined for superphosphate, as here stated, since no one knew how to make superphosphate until 1840: the half-page devoted to discussing nineteenth-century "free trade in land" will hardly be considered adequate by those who seem to imagine this was an important issue in economic as well as political history: the allegedly rapid expansion of the rail-borne trade in liquid milk is not adequately dated, and its effects in decreasing home production of butter and cheese are not documented: the reliability of the index becomes suspect when the page headed 'The London Market', and containing a discussion of its importance to British agriculture as a whole in the early eighteenth century, is not referred to under the index heading 'London'. But these are minor matters. A more important criticism might concern the generally optimistic, not to say complacent, tone which tends to regard change as good in itself. Certainly some historians—though this reviewer is not among them—will be upset because the plight of the lower orders receives rather short shrift. There is an excellent chapter on enclosures, cutting them down to size as a cause with profound consequences, either technical or social. But although both the position and the condition of the landless labourers are discussed, some may feel that the entire blame for poverty and distress is shifted a

little too easily on to the impersonal factors of population growth and poor harvests. It seems possible that the employers of labour had something to do with the matter.

A much more fundamental question does, however, arise. Have the authors made out their case for regarding the entire period 1750–1880 as occupied by 'The Agricultural Revolution'? To be sure, 'The Industrial Revolution', after many vicissitudes, has lately been moving forward from its old chronological limits, but at the latest count had not encroached on territory beyond the frontier of 1850. If one single agricultural revolution is to be allowed to occupy all the ground between 1750 and the Great Depression, its right to do so must be clearly demonstrated. This, it must be confessed, Chambers and Mingay have not done. In their preface they show awareness of the pitfalls in the way of economic historians using the terminology of revolutions, but claim for their period that "the changes which they describe were on such a scale and of such a character as to be justly called a revolution, since they involved a social as well as an economic transformation. . ." The substance of their book, however, is devoted to showing the economic and technical nature of the changes which constitute their revolution. If this is the basis of periodization, there is a strong case for saying that the rotational, manuring, and breeding changes of the eighteenth-century agricultural revolution did not sweep without pause, and inexorably, into nineteenth-century high farming, whose major economic characteristic was the purchasing of inputs on a large scale, and the penetration of farming by the concept of processing raw materials into marketable produce. The great divide, if there was one, came about 1815. Of course economic history cannot escape from the 'seamless web' argument of general history, and one thing does lead to another, after 1815 as before. But in that case the things that led to the mid-eighteenth century agricultural revolution were the sixteenth-century rise of the yeomen, and such-like matters, and there is equally no case for starting in 1750. The title

of the present work is of course an attractive selling point, and the period 1750-1880 badly needed to be covered. We have here an excellent history of British agriculture for that period, and let us not quibble that we do not also have a rigorous defence of the idea of a single Agricultural Revolution.

F. M. L. THOMPSON

DAVID GRIGG, *The Agricultural Revolution in South Lincolnshire*. Cambridge University Press, 1966. xiv + 219 pp. 50s.

Since the rural landscape is always changing, it may seem arbitrary to select one phase in the history of its development and term it a revolution. But the rebuilding of farms, the enclosure of open fields, the planting of hedgerows, the laying out of roads during the late eighteenth century and in the following hundred years transformed the outward appearance of the countryside. That transformation created a landscape that most people still regard as typically English, one that looks modern by comparison with landscapes of open fields, bare commons, unimproved sheepwalks, undrained marshes. It is now also the traditional landscape, tamed and familiar, that evokes nostalgia when threatened with destruction. Judged by the extent of their visible effects the agricultural changes made between 1760 and 1860 may justly be described as revolutionary, but historians and geographers, trying to understand and account for those changes, find it difficult to say precisely how, when, and where, a revolution began and how it ended.

David Grigg has written a challenging book making two valuable contributions to the further discussion of the subject. His first line of attack will come as no surprise to local historians and historical geographers, who may expect a geographer to lecture them on the necessity of approaching any study of the impact of economic and technical change on agriculture from a regional standpoint. The first chapter in the book is devoted to describing in detail the differences in soil and drainage conditions that distinguish one district of south Lincolnshire from another. Later chap-

ters treat regional variations in farm size, tenure, rentals, farming methods, and productivity, illustrating these aspects of the rural economy with a wealth of maps and statistical tables. The area studied, comprising the Parts of Kesteven and Holland, is divided into no fewer than seventeen agricultural regions and sub-regions on the basis of their arable/grass ratios and crop combinations in 1801. The changing characteristics of land use and farming are traced through the first half of the nineteenth century and the new agricultural geography at mid-century is compared with that of 1801. It is clear that certain regions were converted to the new husbandry long before others. At the beginning of the nineteenth century Arthur Young declared: "They are awake and moving on turnip land; but on bean soils are still fast asleep." By 1850 the heavy soils had awoken and wheat was everywhere the dominant crop. To the last page of the book we are reminded that "national change is no more than the sum of a number of regional changes; and before the whole can be comprehended, the parts must be analysed."

As the spread of improvement is followed from one region to another, a second theme begins to emerge. It is that changes in farming practice occurred in only a few regions until after 1815. The questions posed in the introduction to this book (pp. 5-6) lead us to expect a lengthy examination of the agricultural history of the area during the eighteenth century, taking up the story where H. E. Hallam and Joan Thirsk left off. In fact, the early phases of parliamentary enclosure, the introduction of clover, sainfoin, turnips, and carrots, the application of marl are dealt with lightly. Most of the literary evidence and almost all the quantitative information are drawn from nineteenth-century sources and from these are derived a very clear picture of the major episodes of land reclamation and of the remarkable conversion of permanent grass to arable land during the 1820's and 1830's. David Grigg's explanation of this belated revolution is that "on an acre of arable fodder crops could be grown which would

feed nearly as many animals as the acre of grass, whilst in addition the cereals grown in rotation provided a cash crop." In other words, it was not until the prices of wool and cereals fell that Lincolnshire farmers began to exploit their land more intensively, to make each acre produce larger quantities of wheat and mutton. Costly new techniques for draining land—steam pumps in the fens, tile drains in the claylands—and new manures, such as bones and guano, were introduced and applied to great advantage, but clearly there must have been considerable scope for profitable improvement without the aid of these expensive innovations. The increases in yields after 1815 are very striking, average wheat yields doubling in thirty years. It seems that for many farmers necessity was the mother of invention. In 1850 James Caird observed that the transition had been "very rapid and striking, perhaps more so than in any other county in England." This agricultural transition in south Lincolnshire is seen by David Grigg as part of a succession of changes that affected different parts of England at different times. In some localities revolutionary changes had already taken place before the death of Queen Anne, in others they were deferred until the age of High Farming at the beginning of Queen Victoria's reign. Over much of south Lincolnshire, however, the revolution occurred in the post-Napoleonic period, "exactly when it should *not* have happened . . . if the experience of other parts of England at this time is to be any guide."

HUGH PRINCE

SIR E. JOHN RUSSELL, *A History of Agricultural Science in Great Britain*. Allen and Unwin, 1966. 494 pp. illustrated. 63s.

It is a melancholy thought that the man who did so much to establish agriculture as a science in its own right, and who has inspired so many people the world over to use the scientific approach in agriculture, should have died, but it is some consolation to remember that he was able to complete his account of the subject beforehand.

When an eminent scientist, successful in

some particular field, turns to another, we are apt to become a trifle nervous as to the results. Soddy on economics, even Newton on the chronology of the Bible, are not inspiring writers, but we need have no such fears in the case of the book under review because of the lively interest Sir John always had in the subject.

Agriculture was "depressed" at the turn of the century and agricultural science was almost non-existent, as may be seen by the fact that when the young Russell resigned his post of demonstrator in pure chemistry at Manchester on New Year's Day, 1901, his professor was aghast at his foolishness: it is fortunate for world agriculture that Russell persisted in his course of action.

Naturally in a book of this kind the author writes at greater length and with greater interest of the later period of agricultural science, the period in which he played such an important part. Obviously it is much better known and documented. Nevertheless he very admirably follows the advice the White King gave to Alice: "Start at the beginning, go on till you reach the end, then stop." The beginning, for Sir John, is Francis Bacon, and the *Novum Organum*, the end an examination of the present administration of agricultural research, which the late Sir John finds to be good; in one respect to be particularly good, namely that research workers in government service are not subject to pressure "to produce results for the adornment of a minister's speech," but are allowed to be Baconian scientists, uncovering the secrets of nature.

It is, of course, a fascinating story that Sir John tells, one closely linked to the development of chemistry and botany, an account of the putting-up of theories and the subsequent knocking-down of idols. Sir John once said to me, shortly before his death, "You start off as a terrible iconoclast and you end up as an old buffer like me." The book covers all these important steps, for instance, Woodward's experiment (1699) which knocked down Boyle's, and van Helmont's contention that plants were merely composed of congealed water, a debunking done by means of the

famous comparison of growth in distilled water and in the water from the "Hyde Park Conduit." In passing one wonders if people drank this water, for it gave four times as much plant growth as did distilled water and thus sounds as if it became considerably contaminated in its progress through the park.

The agricultural historian may not always see eye to eye with the author in this part of the book. For instance, the first field trial the author found was in Blith's *The English Improver Improved* (1652), whereas Charles Singer has Nicholas of Cusa as a conductor of field trials.

Then Sir John seems to accept the one time current idea of Richard Bradley as a rogue, believed by many to be a *canard* put about by his successor at Cambridge, and, indeed, a fact difficult for anyone to believe who has actually read Bradley.

The author naturally relies greatly on modern historians for his early material: he has no bibliography, apart from footnotes, and makes no acknowledgement to many of them, which is unfortunate; however, it is easy to forgive him, for Sir John knew he did not have long in which to finish his book. He wrote to Sir Bernard Keen in 1965, "It is now a race against Time, with the odds in favour of Time, but I stick to it." Had he been more meticulous we might well have lacked the detail of his own period.

This period is the most interesting of all for it is the first-hand account by the man on the spot. The state started to aid agricultural science in 1910, when Lloyd George broke the *laissez-faire* approach to it, and made £3 million available for expanding the resources of the countryside. This approach, and the able men who ran the schemes—Daniel Hall and John Russell—did much to enable Britain to stand up to the blockade of the First World War. That research results could be used by farmers was largely due to agricultural education having been encouraged by the "whiskey money," the tax for the extinction of liquor licences that no government in the end dared pay over to the already wealthy brewers, and which A. H. D. Acland, in a

casual moment, suggested be given to technical education. Nothing could have been more fortunate for us. Neither Lloyd George's scheme without the "whiskey money," nor the "whiskey money" without the scheme would have been of much real use, but both together enabled us as a nation to become the leaders of agricultural research on the one hand and to achieve high production on the other.

In his modest, easy, flowing style, Sir John carries the story on through the different laboratories and experimental stations and cannot resist some then-and-now comparisons; Rothamsted, for instance, in Sir John's early days, was rather proud of its £15 microscope; recently, the research station bought a £10,000 electron microscope as a matter of course.

One of the most important and far-reaching results to come out of this research was the application of statistics to field experiments. It was the author who appointed R. A. Fisher to do this work and it was Fisher who showed over the years just what an experiment could or could not prove.

The work ends with a summarizing chapter on trends in agricultural science. Ever aware of the problems, the author pinpoints one of today's most important—the vast volume of scientific information and papers now appearing and the impossibility of reading it all. He points out how valuable are the Commonwealth Agricultural Bureaux for publishing the regular summaries of such work from the whole world.

There are some gaps in the story: for instance, one would like to know how it was that the Rothamsted and ICI discovery of MCPA and 2, 4-D weedkillers became patents owned by Americans, so that British firms had to pay a royalty on their own invention, a gap it is hoped some historian will fill one day. But these are only minor points: all in all the work is a fascinating and detailed account of the subject for the last hundred years and a quite adequate summary of the previous three hundred. It is a fitting monument to a remarkable man.

GEORGE ORDISH

DR ALBERT NIEMANN (ed.), *Die Landwirtschaft Niedersachsens, 1914-1964*. Albrecht Thaer-Gesellschaft, Celle, 1964. 788 pp. No price stated.

This commemorative volume celebrates the foundation of the 'Königlich Groß-Britannische und Kurfürstlich Braunschweigisch - Lüneburgische Landwirtschafts-Gesellschaft' (K.L.G. for short) in 1764, the year of the foundation in England of the 'Society for the Encouragement of Art, Manufactures, and Commerce'. A careful study of this book dealing with an area of which part, for a long while, was linked politically with Great Britain, and is climatically not markedly different, allows a comparison year by year of agricultural developments. Hanover is a smaller area than the Lower Saxony with which this book deals. Reformers at one time, impatient of absentee sovereigns, described it as the agricultural hinterland of Great Britain.

At the end of the eighteenth century this agricultural society stood for progress with limited social change. Its most distinguished member, Albrecht Thaer, after whom the society, rendered impotent by the *Reichsnährstand* in 1933, was named when it was revived in 1952 to cover Lower Saxony, became a member in 1780. His attitudes and enthusiasms were much like those of Arthur Young. The progressives favoured enclosure of common land and consolidation in blocks, the end of compulsory rotations and of fallows, the increase of planted fodder crops, of stock, and manure, and, in 1771-3, the introduction of the potato.

These changes could not begin here as early as in Britain, and when they were initiated, they could not become universal so soon, because of the servile status of the peasants. In 1764 the peasant was bound to the land, but personally free: he performed few services, but he paid heavily in money and kind. The knight with his estate was untaxed. A superior tenure was held by the *Meier*, but lower there were *Köter*, with common rights, *Brinksitzer*, with no common rights, and *Häuslinge* or labourers. When they were

freed, when common land was enclosed and *Verkoppelung* led to consolidation of land, mainly the work of C. B. Stüve and the laws of 1831 and 1833 (for the French Revolution had produced few permanent effects), the new system made no decisive break with an earlier state of affairs. The free farmers, however, were able to buy their rights, a contrast with Prussia where they had to surrender land. The large estate owners now had to farm for a living and employed mainly farm workers living in. The *Häusling* tended to become a labourer. The other groups obtained farms of various sizes, quite a number being of a healthy size. Even then, in 1890, 641 estates held as much land as 60 per cent of all farmers, a picture to compare with that in Great Britain.

The agricultural improvements brought increases in yields, and in the annual increment of animals. Lower Saxony long remained predominantly agricultural, for it had few resources that were of value before the twentieth century (iron ore, potash, petroleum, natural gas). Yet industry grew, and today a very great proportion of the population is involved in it. It is an area of agricultural surplus, occupying therefore a very important rôle in the Germany of today, for it is possible to exaggerate the former rôle of the parts of Germany now in Poland as a food provider. While in the past it was caught between the Ruhr and Berlin, it is now to be viewed as a zone lying between the North Sea Ports and the south.

The earlier chapters up to p. 108 and written by distinguished authorities outline these changes and will interest the historian of agriculture. The remainder of the book is less closely integrated and deals especially with present-day conditions but also with the history of the last fifty years, for a similar *Festschrift* was published fifty years ago. It is full of statistics, well discussed, the latest dating from 1960. In it one can read of the rise of the potato, the coming of sugar beet (first sugar factory at Ülzen, 1884), the decline of sheep, and the use of local basic slag (from Ilseder Hütte, 1882) and potash from local sources as

fertilizers, the many developments in rotations, the agricultural crafts, inheritance laws, the steam plough, the attempts at drainage and irrigation, the yields of grain and milk. There are good articles on houses and machines. In fact no realm of agriculture is neglected. There are articles for the bee-keeper, the insurer against hail, and the artificial inseminator. But this latter section is for selective reading.

Large-scale maps at the end of the book reveal a weakness; too strong reliance is placed upon administrative boundaries as a framework for statistics and comment. One of these maps, on a scale of 1:1,000,000, deals, by parishes, with the value of land according to its ability to support crops or grass. There are two areas of excellent land, the sea and river marsh in the north and the loess-covered Börde in the south. Between these lies the moor and the heath, land ameliorated only in modern times. The whole book would have been much more valuable if more emphasis had been laid on these geographical regions and the problems peculiar to them: drainage, the improvement of peat bog, the fertilization of the heath, the lightness of soil in the Börde exposed to the wind. One can indeed place this emphasis for oneself for the statistics are here, but the local writer could more easily point to local exceptions, failures, and successes.

This volume however is of great value, first for the abundance of its accurate information, baldly stated, and second as an excellent agricultural history. The writers glance over their shoulder at Britain thus avoiding an account in isolation, and by describing parallel industrial developments, they escape too great an emphasis on rural matters. Here and there the style exhibits the authentic touch of the *Aufklärung*, in the spirit of which the K.L.G. was founded.

D. J. DAVIS

CLAUDIO ROTELLI. *La Distribuzione della Proprietà Terriera e della Coltura ad Imola nel XVII e XVIII Secolo*. No. 3 of a series issued by Institute of Economic and Social History, Bologna, Milan, 1966. xviii+155 pp. 1,800 Lire.

Imola is on the modern railway and motor road between Bologna and Rimini, but somewhat nearer to Bologna, a city always in the forefront of advanced Italian agriculture. But in spite of being close to such a city Imola was not the venue of any startling changes before the eighteenth century. This study is concerned with land use from the point of view of cropping although it supplies no details of the methods employed to produce the crops. Another factor of economic history that is carefully examined is the size of holdings and the classes of occupiers at the dates of the different surveys of the lands of Imola, carried out during the seventeenth and eighteenth centuries.

From my point of view and I must ask Dr Rotelli's forgiveness for the difference in our approaches to the subject, the most important, or at least a very important part of the book, is the appendices, which supply details of the crops grown on the lands of the city in 1637 and 1778. Unfortunately, this sort of information supplies no details of the techniques employed although a cursory examination of the figures seems to reveal that there were at least similarities to the processes of cultivation under the Roman Empire and in the later centuries. For example, I gather by inference that some of the lands of Imola were cultivated almost in the same way: arboriculture, used to support vines, was commonly to be seen with cereal crops growing in their shade, a procedure that only a Mediterranean climate could demand.

Certain steps were taken to control flooding by the fast flowing rivers from the mountains, and to drain the marshes by cutting canals, but the Imolese, thanks to those public works, did not concern themselves with the expansion of the valley lands, presumably because they had no need, since during the whole period about 76 per cent of the population lived in the plain and about 24 per cent in the mountains. Their total number only increased by approximately 1,000 between 1586 and 1783.

The land-use classification given in the numerous tables is broad, and not detailed,

so that it is impossible to judge whether any novel crops were introduced. The general terms used indicate that besides vines and grain, there were olive groves and pastures, orchards, and gardens, but this supplies only a very rough idea of the current farming methods which appear to have been firmly traditional.

G. E. FUSSELL

M. C. URQUHART and K. A. H. BUCKLEY, *Historical Statistics of Canada*. Cambridge University Press, 1965. xv+671 pp. £5 15s.; EDWIN C. GUILLET, *Pioneer Days in Upper Canada*. Oxford University Press, (Canadian University Paperbooks), 1965. 216 pp. 16s.; GRANT MACEWAN, *Between the Red and the Rockies*. Oxford University Press, 1952, reissued 1964. x+300 pp. 18s.; GEORGE SHEPHERD, *West of Yesterday*. McClelland and Stewart, Canada, and Bailey Bros. & Swinfen, 1965. x+158 pp. £2 15s.; HEATHER GILBERT, *Awakening Continent. The Life of Lord Mount Stephen, Vol. I*. Aberdeen University Press, 1965. xiii+314 pp. £2.

This group of books covers a very large part of Canada's agricultural history. *Historical Statistics of Canada* is a co-operative project. A group of scholars, each outstanding in his field, has, after a comprehensive study of sources, collated under 21 headings statistical series concerning Canada's development, which reach back in some cases, notably in the section on Agriculture, into pre-Confederation times. Students of Canadian history will find this volume invaluable and essential. Canada has been fortunate in its statistical information, thanks largely to the work of the Dominion Bureau of Statistics. This authoritative volume provides a coherent background, perspective, and an illuminating commentary for those who are concerned with the quantitative analysis of Canadian experience. Agricultural historians will find much to interest them specifically, not only in the agricultural section but also in other sections, such as those on lands and forests (for example the figures on home-

stead entries); on the balance of international payments (agricultural exports); on population (shifts in the rural-urban distribution of the population); on labour force; on national income; and on price indexes.

The other four books add flesh and blood to three important sectors of this quantitative skeleton. Each is of great interest to agricultural historians. The welcome reprint of Section III of Edwin C. Guillet's classic of 1933, *Early Life in Upper Canada*, recreates from contemporary documents of the late eighteenth century and early nineteenth century the conditions of life of the pioneer settlers, vividly portraying their arduous existence, their homes, their social activities, and their herculean labours in establishing farms and homes in the forests of what is now Ontario. Famine conditions in the "Hungry Year" and the time-consuming drudgery of grinding grain by hand are reminiscent of problems faced today by rural peoples in newly developing countries.

*Between the Red and the Rockies*, also a paperback reprint by the University of Toronto Press, takes up the story with settlement west of the Great Lakes. It sketches briefly the wilderness setting in the fur-trade era with only one island of settlement in the whole huge sweep of country from Lake Superior to the Pacific—Lord Selkirk's colony at Red River where Winnipeg now stands. In a racy style, enlivened with some good western tall stories, the author traces the coming of the settlers, the emergence of the dominant one-crop wheat farming, and the minority one-crop cattle raising, followed by the struggle for diversification. He appraises the climatic and other geographic problems, with a discerning commentary on such developments in agricultural techniques as new strains of grain, "dry farming" methods such as summer fallow and strip farming, and wholesale mechanization. His account of the cowboy as a dedicated professional, working at an exacting job, is a masterpiece. As an introduction to the history of agriculture in western Canada this book can be recommended; it is written from wide and deep

personal experience. Grant MacEwan, lately Mayor of Calgary, is now Lieut.-Governor of Alberta. His father homesteaded near Brandon, Manitoba, where he was born. He graduated from the Ontario Agricultural College at Guelph and was professor of animal husbandry and director of the school of agriculture at the University of Saskatchewan, and afterwards dean of agriculture at Manitoba, later going to Calgary as manager of the Council of Canadian Beef Producers, Western Section. There is evidence of first-hand knowledge of agricultural conditions of farmers and ranchers throughout the book.

George Shepherd's book is based even more directly on personal experience. It is the tale of his family's migration from Kent to Canada and what befell them there. *West of Yesterday* is a case history of one of the thousands of immigrant families that transformed the Canadian West from an unpeopled wilderness into one of the great grain-growing regions of the world; one of the families which survived the ravages of drought and depression in the "dirty thirties" and has made for itself a special place in western Canadian agricultural history through Mr Shepherd's fascinating work with "Pionera" and the Western Development Museum in Saskatoon, which houses a collection of farm implements and home equipment illustrating the evolution of western farming from the earliest days. The tale is told with charm as well as insight into its social and historical significance, while the editorial comments by John Archer, formerly Provincial Archivist for Saskatchewan, add much to its interest.

*Awakening Continent* is concerned with the building of the Canadian Pacific Railway, the courageous and hazardous enterprise, which opened the Canadian West to such immigrants as the Shepherds and the markets of the world to the wheat they grew. Lord Mount Stephen, the son of a Scottish carpenter, was by his courage, persistence, and financial genius, destined to play a decisive rôle in the construction of this railway from the settlements of the St Lawrence-Great Lakes valley

across the seemingly insurmountable barrier of the rock and muskeg of the wilderness north of Lake Superior to the plains of the west, and from those plains to the Pacific, across the formidable series of mountain ranges of the Cordilleras. It is astonishing that his biography has not been written before this; Mrs Gilbert has admirably filled the gap. Her story is based on comprehensive study of first-hand materials. She finds her way through the complexities of financial manoeuvres and railroad interconnections with quiet skill. One of the most interesting aspects of the whole intricate project was the rôle of the land grant to the railway and the question whether the lands of the southern prairies were "fairly fit for settlement." Controversy raged as to the location of the main line across the plains; the prospects for agriculture and settlement affected the ability of the CPR to raise the capital it needed to construct the railroad and, in turn, its future prospects depended on the progress of settlement and the prosperity of the settlers. The story of the CPR, here told in terms of the experience of its great architect, is one of a close, though sometimes uneasy partnership between railroading and agriculture.

IRENE M. SPRY

RENÉ DUMONT, *Lands Alive (Terres Vivantes)*.

Merlin Press, 1965. 248 pp. 35s.

This is an angry, urgent book written for a wide public. Its author, René Dumont, is a distinguished French agronomist, who is no novice to the harsh realities of the current race between the world's population and its food supplies. Keenly aware of the need to avoid "the most terrible of wars . . . not that which is declared against hunger, but that which will be waged by the hungry themselves in revolt, weary of their suffering," Dumont lambasts human exploitation, corruption, stupidity, and laziness wherever he found them (he found plenty of each) during his recent study of agriculture in fourteen widely varied countries.

The book is Dumont's personal account of what he saw, said, heard, and felt during these

visits, which apparently cover a period of ten years or so. He is an acute observer, very knowledgeable in both agricultural and economic affairs, and a hard worker. The author practises what he preaches—this book is campaign literature in the war against hunger—for its main theme, after stressing the importance and priority of agriculture in economic development, is that people must have “the necessary respect for work on the land and for work itself.” The author quotes with approval the Chinese emperor who used to drive a plough himself (just as President Kaunda of Zambia did recently).

The book contains some vivid and intensely interesting accounts of the problems and people he met during his extensive travels to such countries as Colombia, Venezuela, Brazil, India, Cuba, Morocco, Israel, and Madagascar. Although M. Dumont says nothing really new, and although his suggestions to meet the challenge of hunger and to slow down population growth are not very original, his personal account brings us down to reality. FAO’s “Freedom from Hunger” Campaign has largely succeeded in jolting the well-fed western people into realizing that hunger, mal- and under-nutrition are among the world’s great problems. Technical and institutional measures required to raise agricultural productivity in the densely populated poor countries are now fairly well established. But it is M. Dumont’s achievement to explain in simple and moving terms what hunger, poverty, and exploitation mean to the individual peasant and his family.

A recent study by the United States Department of Agriculture of factors affecting different rates of agricultural growth in 26 developing countries concluded that “to maintain high rates of increase in agricultural output and productivity, most of the [26] countries need to improve their educational and research foundations, agricultural credit institutions, and transport, communication, and marketing facilities. They also need to improve their available sources of fertilizers, seeds, pesticides, farm implements, and other production requisites.”

Governmental and private sectors can also contribute to improvement of production incentives. Governmental sectors have most frequently made this effort through price support and price stabilization programmes. In countries with large landed monopolies, the improvement of production incentives can also be done through changes in land tenure, through the betterment of supply conditions, and through breaking down physical and institutional barriers to trade and communication.

René Dumont would, no doubt, agree with all this. But his own inquiries lead him to emphasize continuously the need for more human effort—physical and intellectual—and for simple, cheap improvements which give quick results: for example, the substitution of a collar for a yoke. In Bengal (in 1960) the author noted that no plot out of 11,000 hectares of rice fields was levelled horizontally or “contained the slightest hint of a dam to retain some sort of water reserves.” Thus less than 15 per cent of this land was double-cropped. Yet, work involved to improve the land would have taken only ten to fifteen working days per year per hectare to build up small dams, and less than two months for the levelling when there were “20 arms available per hectare.”

Improvement methods must be adapted to local conditions, too. India’s wholesale adoption of the Japanese method of rice growing is castigated by Dumont, because “rice, a real thing, has to be grown realistically, in terms of real conditions which vary, and which logically impose this or that cultural method.”

Targets for Dumont’s wrath include: (1) the appalling misuse of many fertile plains and valleys in Colombia because the land tenure system forces poor peasants to over-cultivate the “lean slopes,” while large land-owners grossly under-utilize the rich lowlands; (2) the exploitative tenancy structure of the Brazilian North-East, which enslaves the peasant through hunger; (3) the barbaric relationship between masters and men in some parts of Chilean agriculture. The death of an Indian peasant shot by his landlord was

apparently reported in a local newspaper under the heading "General News in Brief," without "the shadow of comment to indicate any difference in degree between the murder of a peasant and a stroke of the riding-crop to a nervous horse;" (4) the inefficient bureaucratic handling of Cuba's recent land reform; (5) the sham and waste of some of India's "Community Development" projects; (6) the caste system in India, with its "complex chain of parasites who simultaneously exploit those beneath themselves while being exploited by those above."

Dumont's tenacious efforts to get to the roots of a problem lead, however, to a major defect in this book—its needless detail. Readers and author would have benefited immensely if the manuscript had been submitted to a ruthless editor; whilst some tables and charts would have much improved the text. Nevertheless it is a book written for a wide public which should be widely read. Skip the details where possible!

Dumont raises an interesting point in contrasting Indian agricultural methods rather unfavourably with those of the Chinese. But India has not yet met the challenge of intensifying its agricultural methods sufficiently in response to population pressure. This failure on India's part has historical roots, for "China's assets and liabilities were not the same as those of ancient India. For a long time India was under-populated; for a long time she was able to obtain a great deal from the ground, without very much work: a huge forest surface, almost infinite fertile plains and nearly flat plateaux—all these clearly invited an easy pastoral life of the kind that encourages contemplative vocations and is more conducive to gazing at the sky than to

watching the earth. Men used therefore to follow their flocks; and it would have been very difficult for them to understand that part of their work, part of their wealth, should have been given to the cultivation and maintenance of the soil." Dumont's thesis is in direct opposition to one recently advanced by Mrs Ester Boserup, a U.N. economist, who asserts that population is an independent variable, its density being a determinant of farming systems and farming technology.

The author asks many pertinent and controversial questions. In connection with India's food crisis he asks: "Are we wasting our words? Is the Indian peasant really deeply, passionately decided to shake away his agony? Are surging forces really living in him, only restrained, crushed down by exploiters, sterilized by an incompetent administration? Or is there perhaps a tendency, ingrained over thousands of years, to accept, to become resigned?" Is the Indian food crisis, in fact, "a result of an immutable 'indianity' of special disconcerting traits of national character, only tenuously related to any concrete data?"

*Lands Alive* will, no doubt, infuriate some with its frankness; but this is no great loss. It ends with a plea for much more financial and technical support from the richer countries for the poorer countries in their attempts to improve their agriculture, and for a world plan of agricultural development. It seems appropriate that FAO, to whom René Dumont has rendered valuable services as consultant, should just have launched its Indicative World Plan (I.W.P.)—the embryo, one hopes, of better things to come in the field of world agricultural development.

J. A. MOLLETT

*Photo-reprint by The Broadwater Press Limited, Welwyn Garden City,  
Hertfordshire, England.*

# *The* AGRICULTURAL HISTORY REVIEW



VOLUME XV 1967

PART II

\*

## PRINCIPAL CONTENTS

Sectoral Advance in English Agriculture, 1850-80

by E. J. T. COLLINS and E. L. JONES

\*

The Agricultural Revolution on the English Clays: a Rejoinder

by R. W. STURGESS

\*

English and Scottish Farmers in Poland in the First Half of the Nineteenth Century

by JULIAN BARTYŚ

\*

Towards a Terminology for Strip Lynchets

by G. WHITTINGTON

\*

The Remodelling of a Common-field System

by IAN BECKWITH

PUBLISHED BY  
**THE BRITISH AGRICULTURAL HISTORY SOCIETY**

# THE AGRICULTURAL HISTORY REVIEW

VOLUME XV PART II · 1967

## CONTENTS

|                                                                                                             | page                                           |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Sectoral Advance in English Agriculture,<br>1850-80                                                         | <i>E. J. T. Collins and<br/>E. L. Jones</i> 65 |
| The Agricultural Revolution on the English<br>Clays: a Rejoinder                                            | <i>R. W. Sturgess</i> 82                       |
| English and Scottish Farmers in Poland in the<br>First Half of the Nineteenth Century                       | <i>Julian Bartys</i> 88                        |
| Towards a Terminology for Strip Lynchets                                                                    | <i>G. Whittington</i> 103                      |
| The Remodelling of a Common-field System                                                                    | <i>Ian Beckwith</i> 108                        |
| Work in Progress                                                                                            | <i>Alan Everitt</i> 113                        |
| Reviews:                                                                                                    |                                                |
| <i>The Making of Stamford</i> , ed. by Alan Rogers                                                          | <i>J. D. Chambers</i> 127                      |
| <i>Loughborough Markets and Fairs</i> , by G. H. and M. W.<br>Green                                         | <i>Alan Everitt</i> 128                        |
| <i>Georgian Lincoln</i> , by Sir Francis Hill                                                               | <i>H. J. Dyos</i> 129                          |
| <i>Household and Farm Inventories in Oxfordshire,<br/>1550-1590</i> , by M. A. Havinden                     | <i>F. V. Emery</i> 131                         |
| <i>The Community of Kent and the Great Rebellion,<br/>1640-1660</i> , by A. M. Everitt                      | <i>D. H. Pennington</i> 132                    |
| <i>Estate Villages: a Study of the Berkshire Villages of<br/>Ardington and Lockinge</i> , by M. A. Havinden | <i>G. E. Mingay</i> 135                        |
| <i>The Disappearance of the Small Landowner</i> , by A. H.<br>Johnson (2nd edition)                         | <i>J. D. Chambers</i> 136                      |
| <i>English Local History: the Past and the Future</i> , by<br>W. G. Hoskins                                 | <i>P. D. Whitting</i> 137                      |
| <i>Die Geschichte der Landwirtschafts-Wissenschaft in<br/>Schlesien</i> , by Wilhelm Zorn                   | <i>D. J. Davis</i> 138                         |
| Notes and Comments                                                                                          | 112 and 139                                    |
| Notes on Contributors                                                                                       | 139                                            |
| Books Received                                                                                              | 140                                            |

# Sectoral Advance in English Agriculture, 1850-80

By E. J. T. COLLINS and E. L. JONES

"I wish to bring the whole discussion to bear on the present condition of the dairy farms of the Vale district of Gloucestershire, which have generally, I believe, been as stationary in their produce as the hill farms have been progressive."—J. C. Morton to the Kingscote Farmers' Club, c. 1863.

"The high price of mutton and wool for several years has given such a stimulus to light land farming, that the strong wheat lands have receded in public estimation, and are at present in most need of improvement."—*Presidential address to the Royal Agricultural Society, 1867.*

THE more precise economic history of nineteenth-century agriculture which is gradually appearing has understandably so far dealt mainly with national aggregates of inputs and output.<sup>1</sup> We have advanced less far with understanding the machinery whereby the one was processed into the other. Recently, however, Dr R. W. Sturgess in this REVIEW<sup>2</sup> has attempted to distinguish divergent trends within nineteenth-century farming between light soil and clayland agriculture. We wish to dissent from his optimistic view of the progress of the clayland sector between 1850 and 1880.<sup>3</sup>

Appropriate units of study, in our view, need to be of sufficiently broad scope to rescue discussion from a chaos of minutiae. The order is such a tall one where so many farming systems, in a constant state of change over time, shade into one another that it is more than reasonable first to be sure what the units refer to. Leaving aside fine pedological definitions, the 'clays' do not represent a type of farming defined as a single enterprise-mix. Nor are they a discrete region in the conventional geographical sense of a single block of land. Rather, we are dealing with the responses to changes in prices and technology of at least three linked ecosystems—clayland dairying, clayland

<sup>1</sup> See especially J. R. Bellerby, *Agriculture and Industry: Relative Income*, 1956; E. M. Ojala, *Agriculture and Economic Progress*, 1952; M. J. R. Healy and E. L. Jones, 'Wheat Yields in England, 1815-59', *Jnl Roy. Statistical Soc.*, ser. A, cxxv, 1962, pp. 574-9.

<sup>2</sup> 'The Agricultural Revolution on the English Clays', *A.H.R.*, xiv, 1966, pp. 104-21.

<sup>3</sup> It is only fair to note that the bulk of Dr Sturgess's paper deals with the technical problems of increasing production on the clays during the first half of the nineteenth century. We are by no means at odds with him over this. Where we dissent is that the technical developments of the mid-century swiftly and conclusively improved matters. C. S. Orwin and E. H. Whetnam, *History of British Agriculture 1846-1914*, 1964, p. 5, also appear to believe that tile drains were to do for the clays what the turnip had done for light land.

fattening, and clay wheat-and-bean husbandry, the last named distinctly more convertible to grass in the Midlands than in the south and east. Ecosystems are sections of the earth's surface occupied by well-defined systems of interacting living organisms and physical environment. Their deeper basis in the natural world makes them more suitable for long-term historical study than more transient, price-formed types of farming, where there may be subtle, short-term changes of emphasis on one product or another, and it seems perfectly legitimate to trace their economic history. Indeed, Victorian analyses were so much in terms of groupings like 'claylands' that, given our sources, it would be like throwing out the baby with the bathwater entirely to disregard contemporary nomenclature. In this paper we shall therefore be partly concerned with assessing the comparative production record of two sets of ecosystems: the clay or heavy land as against the free-draining or light land set. This latter comprised the mixed farming of the chalk, limestone, sandlands, and friable loams. Since, however, Dr Sturgess has made some bold pronouncements about the clayland category, it is with that former group that we shall be mainly concerned.

For all the definitional difficulties, the dichotomy between light land and clayland does seem central to understanding the secular redistribution of farming systems and agricultural prosperity throughout the period of so-called 'agricultural revolution' from the seventeenth to the nineteenth centuries. Through these years the lighter lands were brought into cultivation under unfamiliar rotations, whereas the heavy land which had once been one of the 'granaries' of the country began to feel competitive disadvantage. The division helps towards explaining the asymmetrical progress of powerful new husbandry régimes (in the light land sector) and the special incidence of agrarian distress among the farmers of the heavy land sector whenever there was a severe fall in the price of their chief crop, wheat. The dynamism of the light land sector has been described elsewhere.<sup>1</sup> By the middle of the nineteenth century the system was actually accused of overproducing fodder and bedding and the insistence of tradition-bound landowners that straw should not be sold off upland farms was thought a great nuisance.<sup>2</sup>

This was in bitter contrast with the difficulties of the clays, accounts of which are also starting to filter from the primary sources into our secondary texts.<sup>3</sup> It is not in issue that the claylands remained a laggard sector from

<sup>1</sup> E. L. Jones, 'Agriculture and Economic Growth in England, 1660-1750: Agricultural Change', *Jnl Econ. Hist.*, xxv, 1965, pp. 1-18.

<sup>2</sup> Clement Cadle, *On the Management of a Breeding Herd of Cattle, on an Arable Farm . . .*, 1863, pp. 3-4.

<sup>3</sup> E.g. in David Grigg, *The Agricultural Revolution in South Lincolnshire*, 1966.

1815 until mid-century. Under arable their disabilities stemmed from the clinging moisture-retentiveness of the soil, which compressed the working season from either end, made traction costs very high, and rendered it virtually out of the question to grow fodder crops (especially turnips) for feeding stock through the winter, or at least to put on stock to feed them off. Consequently, in a time notable for falling prices for the main clayland cash product, wheat, farm incomes on heavy land were squeezed between feeble receipts and high, seemingly irreducible costs. Yet at least corn-growing regularly brought in some ready cash, though seldom enough to float clayland farmers out of the morass, and into mixed farming. Their landlords were imprisoned in the same cage, and usually unwilling to step in or unable to help for long. All this was noisily remarked in each and every public expression of agricultural distress.

Clayland farmers were thus treading in a vicious circle, epitomized in the good old saying, "No food, no stock; no stock, no dung; no dung, no corn."<sup>1</sup> Their situation contrasted with the 'virtuous circle' on the light lands—more feed; more stock; more dung; more fodder crops and more grain in the next round; still more stock and so forth. The light lands had reaped these benefits ever since leguminous, grass, and root crops began to pump extra fodder into them from the middle of the seventeenth century. This was the mutually dependent, upward spiral which Adam Smith analysed in *The Wealth of Nations*<sup>2</sup> in the eighteenth century, and which J. J. Mechi in the mid-nineteenth century was to dub the "expanding circle."<sup>3</sup> For this gradually progressive system the light lands had the advantage: they were free-draining so that traction costs were low, while their working season was relatively long. The key question is, were the heavy lands ever enabled to catch up?

Commentators during the second quarter of the nineteenth century ardently hoped that pipe drainage would begin to turn the same productive wheel on the clays by permitting turnips to be grown on their bare fallows and fed off. "If, by any process, the clay soils of England can be rendered sufficiently dry and friable to admit of the union upon them of stock husbandry with tillage," wrote one of them, "another agricultural revolution will be effected."<sup>4</sup> Hopes that such a 'revolution' might take place, especially

<sup>1</sup> C. S. Read, 'Report on the Farming in Buckinghamshire', *Journal of the Royal Agricultural Society of England* [henceforth *J.R.A.S.E.*], xvi, 1855, p. 320. See also his 'Farming of Oxfordshire', *J.R.A.S.E.*, xv, 1854, p. 256, for the built-in defects of clayland farming.

<sup>2</sup> Adam Smith, *The Wealth of Nations*, ed. Edwin Cannan, 1937 (1st edn, 1776), bk I, ch. XI, pp. 219-28.

<sup>3</sup> J. A. S. Watson and M. E. Hobbs, *Great Farmers*, 1951, p. 90.

<sup>4</sup> J. Trimmer, *On the Improvement of Land as an Investment for Capital . . .*, 1847, p. 11.

if it involved growing turnips on the clays, were misjudged. Had they not been, the light land sector would still have held the lead, for as Ruegg commented of the Dorset chalklands, the subsoil of the light lands was an interest-free drainage system, and "the time and capital required in draining stiff soils have been released in this locality and applied in other improvements."<sup>1</sup> Small wonder that in the third quarter-century, "every farmer who has capital enough to manage a clay farm in a capital way goes travelling about in search of a 'sheep and turnip' farm."<sup>2</sup>

Dr Sturgess's recent suggestion is, however, that there was a 'revolution' on the English clays during the third quarter of the nineteenth century which enabled them to meet the 'Great Depression' with confidence. The substance of the change was the widespread adoption of improved drainage techniques and the increased use of oilcake, artificial fertilizers, and grain for feeding to stock in the 1850's and '60's. He urges that these technical developments broke the clayland bottleneck of insufficient fodder, partly by enabling vetches and mangolds to be grown and partly by enabling grassland formerly reserved for mowing to be summer grazed. This led, he claims, to reports of a significant increase in the physical output of livestock and livestock products from clayland farms between 1850 and 1880.

We dispute that the extent of the changes was especially significant and feel that such advance in clayland agriculture as was made at this period requires economic, not merely technical, explanation. Admittedly, to evaluate the record of any one farm sector at the brink of the period of pre-digested agricultural statistics is tricky. We are thrown back on the historian's customary assemblage of partial sets of figures and assessments of literary evidence. There is a strong risk that the difference of interpretation, fed by instance and counter-instance, will reach an impasse. The anecdotal evidence in the farming journals of the period is large; available concepts of farming systems grade into one another and are seldom closely defined; national price and cost trends fluctuated constantly; and the varieties of local responses to them were enormous. It may well be that the materials at present available will permit us only to distinguish in broad outline between the contributions of different sectors.<sup>3</sup> Yet some reply to Dr Sturgess's case is important, since to

See also Philip Pusey who likewise optimistically used the term 'revolution' in 'Some Introductory Remarks on the Present State of Agriculture as a Science in England', *J.R.A.S.E.*, 1, 1840, p. 6.

<sup>1</sup> L. H. Ruegg, 'Farming of Dorsetshire', *J.R.A.S.E.*, xv, 1854, p. 425.

<sup>2</sup> [C. W. Hoskyns], 'The Progress of English Agriculture . . .', *The Farmer's Magazine* [henceforth *F.M.*], 3rd ser., ix, 1856, p. 348.

<sup>3</sup> Probably the ideal approach would be through a massive reconstitution of estate and farm account data and through the much rarer records of agricultural merchants.

accept it would mean completely revising conceptions of the distribution of productivity increase and agricultural prosperity during the so-called 'Golden Age'.

Caird's Tour of 1850-1<sup>1</sup> established categorically that clayland farmers as a class were still deficient in capital and enterprise, and that relative to those on freer-working soils their businesses were unproductive and unprofitable. If we argue that the gap was narrowed during the next quarter-century, it is tantamount to saying that the clayland sector became in investment and output the leading growth sector of English agriculture. We hope to be able to demonstrate the contrary hypothesis—that the clays made comparatively little net advance in production in the 1850-80 period and that this progress was less a 'revolution' than a natural adaptation to market trends.

## I

Productive investment patterns in the light land and clayland sectors were quite distinct. By its very nature, an expansion of output could be secured within the 'virtuous circle' of the former camp by piecemeal additions to occupiers' working capital from current earnings. Any injection of investment could produce fruitful linked effects. In distinct contrast, on the clays a big fixed investment in field drainage had to precede other inputs. The requisite initial burst of investment was plainly beyond the means of clayland occupiers at mid-century. It was Peel's intention to provide some of it as a sweetener to the pill of Repeal, in the form of state loans for drainage and other land improvements—the Public Money Drainage Act of 1846.

Although landlords accepted responsibility for drainage in principle, rather few discharged it in practice. The sum total of land drained during the period, relative to responsible estimates of the need, was small. The foremost expert, Bailey Denton, estimated that by 1880 only 16 per cent of land requiring drainage had been properly dealt with, a figure which the more optimistic Caird was willing to advance by only a few per cent.<sup>2</sup> This must be set against wide agreement that half of all cultivated land in England was 'heavy' and possibly one quarter was 'cold clay'.<sup>3</sup> There thus remained a huge gap of untreated clayland. An official enquiry of 1870 discovered that in 11 out of 42 English counties drainage activity had been negligible and in

<sup>1</sup> James Caird, *English Agriculture in 1850-51*, 1852.

<sup>2</sup> *R.C. Agriculture, 1880-82: Minutes of Evidence*: vol. 1, pp. 164-5. Denton estimated that only 3 million acres of some 18,455,000 acres requiring drainage had been efficiently drained.—Caird in the *Report of the Select Committee of the House of Lords on the Improvement of Land*, 1873, pp. 343-4.

<sup>3</sup> Sturgess, *loc. cit.*, p. 104.

only six was it completed or not required.<sup>1</sup> The inertia was confirmed by the Richmond Commission, before which Shaw-Lefevre, for one, insisted that a very large part of the country had suffered severely for want of drainage, while other witnesses reported that where drainage had been carried out it had many times failed.<sup>2</sup>

Why, when men at mid-century so obviously set store by drainage as the complete answer to both landlords' and tenants' difficulties, was so little done? Presumably landlords were soon aware how poorly drainage usually paid. Those with slender non-agricultural resources or no special hobby interests in estate administration must have stood aside. Their scepticism was clearly not unreasonable. *The Report of the Committee of the House of Lords on the Improvement of Land* in 1873 admitted the "speculative element" in drainage, the return depending upon "the attention, the skill and the good fortune of the investor."<sup>3</sup> Even where tenants agreed a 7 per cent increase in rent to cover interest and repayment of the sinking fund a landlord customarily expected to wait 25 years to recover his outlay.<sup>4</sup>

Much of the work actually carried out fell short of expectations. Where the tenants were left to carry out the task, the planning, perhaps involving several farms, was often ill done.<sup>5</sup> Where operations had been supervised by representatives of the Inclosure Commissioners, who were inclined to be fussy and expensive overseers, mistakes had still sometimes been made. Druce noted in his Eastern District that much land had been drained too deeply for surface water to run off fast enough and that many outfalls were choked with weeds and brambles.<sup>6</sup>

Poor returns on drainage resulted even more often from the inadequacy of subsequent investment. In 1851 Donald had warned that, "there are numerous other improvements after drainage which ought to be gradually going forward until complete. . . It may require years to enable a tenant to supersede the kind of management to which he is accustomed; and he may not, and probably will not, be able to commence the process of improvement

<sup>1</sup> *Agricultural Returns for Great Britain*, 1870, pp. 16-17.

<sup>2</sup> *R.C. Agriculture, 1880-82: Minutes of Evidence*: vol. III, p. 235.

<sup>3</sup> Select Committee on the Improvement of Land, *op. cit.*, xv. For substantial evidence of unrewarding or only marginally profitable landlord investment in drainage, see F. M. L. Thompson, *English Landed Society in the Nineteenth Century*, 1963, pp. 245-54.

<sup>4</sup> Select Committee on the Improvement of Land, *op. cit.*, pp. iii-iv. Some landlords borrowed for drainage at 6½ per cent and charged tenants only 5 per cent.—J. Caird, 'British Agriculture', *J.R.A.S.E.*, 1878, 2nd ser., XIV, p. 43.

<sup>5</sup> E.g. Caird, 'English Agriculture', *op. cit.*, pp. 75, 217.

<sup>6</sup> *R.C. Agriculture, 1880-82, Reports of the Assistant Commissioners*, Mr Druce's Report, p. 101.

until he receives due encouragement."<sup>1</sup> Tenants had to learn to keep new drainage systems flowing freely; they had to afford to buy lean stock to consume the fodder they were now expecting to grow, and to apply properly the additional manure thus obtained. Perhaps landowners gave insufficient encouragement by way of technical advice, housing for livestock, or liberal tenant-right, but it is equally true that many may reasonably have doubted the ability of clayland tenants to supply the necessary extra working capital to expand their enterprises or to reorganize their farming on progressive lines. We shall attempt below to demonstrate that their doubt was substantially justified.

Mechi, whose strong inclination was to minimize clayland disabilities, may have been right in insisting that stiff clays could not be improved effectively for less than £25 per acre, which included a £12 outlay by the tenant in chalk and manure, and which overall might represent a £2-£3 per acre addition to rent.<sup>2</sup> In 1873 Keary said of the West Midland grass farms that many were worth little more after drainage than before, largely because the improvement had not been followed by a system of manuring which would cost a further £4-£5 per acre.<sup>3</sup> Drainage, plus generous tenant-right for cake and manures on the Duke of Bedford's Tavistock estate resulted in no substantial improvement in the tenants' finances and Little suspected that many "certainly showed no surplus" for their efforts over the 'Golden Age'.<sup>4</sup> Numerous farmers too clearly lacked adequate reserves of capital or the ability to accumulate it (except briefly during the Crimean War) where wheat, bean, and bare fallow systems persisted. Small clayland livestock farms did little better. In 1845 it was estimated that £10 per acre was the necessary occupier's capital for an effective improvement of stiff clays,<sup>5</sup> but the average was still below this point during the price inflation of the early '70's. The Richmond Commission was in little doubt that occupiers' capital was inadequate in terms of the price levels prevailing even before the depression began. In 1870 the Earl of Lichfield was asserting strongly that the want of adequate tenant capital was the major inhibition to a stepping-up of landlords' investment.<sup>6</sup> Where landowners made unremunerative outlays in drainage it was usually the result of over-optimistic calculations of the extent

<sup>1</sup> James Donald, *Land Drainage*, 1851, p. 82.

<sup>2</sup> J. J. Mechi, *How to Farm Profitably*, n.d., p. 15.

<sup>3</sup> Select Committee on the Improvement of Land, *op. cit.*, pp. 158, 176, 177.

<sup>4</sup> R.C. Agriculture, 1880-82, *Reports of the Assistant Commissioners*, Mr Little's Report, p. 16.

<sup>5</sup> Select Committee on the Charging of Entailed Estates for Drainage, 1845, *Minutes of Evidence*, p. 29.

<sup>6</sup> F.M., July 1870, p. 33.

to which tenants would respond. A failing of the government drainage scheme was that its promise to landowners was based largely on the increased rents which tenants 'ought' to pay and the increased livestock they 'ought' to keep once the improvement had taken place.

A further element was the unrealized belief that drainage could introduce the turnip husbandry to clayland farms. On the stiff plastic clays neither large root breaks nor the extensive overwintering of stock in the fields became possible. Nor was draining a panacea for wet seasons. 'Capitalists' attracted by rents of ten shillings or less per acre on the Wealden clays soon abandoned root growing and their new homesteads when seasons became less favourable.<sup>1</sup> Bare fallows remained stubbornly the answer for foul land and prolific weed growth, and significantly in the early '70's even the 'Leviathan' heavy land farmer, Middleditch, was driven back to them after an extravagant investment in thorough drainage and the improvements to back it.<sup>2</sup> About the same time Mechi's profits shrank away, although he does seem to have shown that improvements could pay given lavish enough expenditure in the early phases.<sup>3</sup> No doubt many landowners perfectly well believed this, but knew that few tenants on cheaply rented farms would be able to bear sudden rent increases of 30 per cent or more. Not surprisingly, when the drainage on a North Devon estate failed after twenty years with rents advanced from five shillings to eight shillings per acre the original debt was still undischarged.<sup>4</sup>

By the eighteen-sixties advanced agriculturists had forsaken the guiding light of drainage for the steam plough. The rise of this novelty was as swift as its impact was slender. Figures are fragmentary: in 1863 approximately 600 sets of steam ploughing tackle were thought to be in use; in 1866 between 800 and 1,000 sets were regularly cultivating under 200,000 acres. In 1867 it was estimated that at least 900 Fowler rigs alone were at work in England.<sup>5</sup> But the very high capital cost limited steam ploughing to landowners and privileged farmers—who could reorganize their holdings to accommodate it, although clayland fields were often simply too small. Clarke was obliged to observe that such farmers as went in for the steam plough were sometimes

<sup>1</sup> H. Evershed, 'Report on the Farming of Kent, Sussex, and Surrey', *Journal of the Bath and West of England Soc.*, 3rd ser., III, 1871, p. 29.

<sup>2</sup> 'Report on Messrs. Prout and Middleditch's Continuous Corn Growing', *J.R.A.S.E.*, 1875, 2nd ser., XI, p. 57.

<sup>3</sup> Orwin and Whetham, *op. cit.*, pp. 126-9.

<sup>4</sup> *R.C. Agriculture, 1880-82*, Mr Little's Report, *op. cit.*, p. 16.

<sup>5</sup> C. C. Spence, *God Speed the Plow—the coming of Steam Cultivation to Great Britain*, 1959, p. 105. Contemporary published figures of the output of agricultural implement makers do not distinguish the sizeable export component.

"sinking men . . . making desperate ventures upon a costly machine that was to retrieve the condition of their farms. Hoping that it would do everything, not only cheapening labour and increasing efficiency but stöcking and manuring land as well,"<sup>1</sup> a comment which throws a sidelight on the real shortage of working capital. By the early 'seventies improving landowners were hardly to be encouraged by comments like one from Suffolk that clayland farmers were still "waiting till something wonderful turned up."<sup>2</sup> Scanty improvement on the clays and the low profits accruing to them were reflected in the utter failure of the worst of them to rise in value between 1857 and 1875, whereas the average price per acre for all farms (based on five-year moving averages) rose from £39 in 1857-61 to £54 in 1873-7.<sup>3</sup> The Penrith Farmers' Club debated the future of these poorest clays and decided that if it could make them pay even as grassland at 15 shillings per acre it would shortly expect landowners to present the club with a piece of plate "for having discovered for them the secret."<sup>4</sup>

In the clayland sector as a whole the fact that drainage costs rose faster than either rents or farm incomes dissuaded massive investment.<sup>5</sup> The exceptions were the more fertile and easier worked medium clays and loams of districts such as Holderness, the Vale of Pewsey, the Isle of Thanet, and the Cheshire Plain. Where soils were 'mixed' only part of any given farm required draining and this was more feasible financially. It also helped to extend root breaks and stock keeping which were already present in the structure of farm enterprises. In such cases rents were already high enough to attract landlords' capital and tenants were more likely to match landowners' provision of tile drains with the labour of their employees.

Generally, however, the heavy lands failed to attract big capital, and their handful of entrepreneurs on the scale of Mechi, Middleditch, or Prout were few enough, as Richard Jefferies once remarked, to "set every agricultural tongue wagging within a radius of twenty miles."<sup>6</sup> Most crucially, too little had been drained and some of that ineptly. The third quarter of the nineteenth century naturally saw no miraculous complement of increased 'con-

<sup>1</sup> J. A. Clarke, 'Report on Steam Cultivation', *J.R.A.S.E.*, 2nd ser., III, 1867, p. 198.

<sup>2</sup> *Agricultural Gazette*, 11 June 1873, p. 55.

<sup>3</sup> Caird, 'British Agriculture', 1878, *loc. cit.*, p. 315; J. T. Ward, 'Farm Sale Prices over a Hundred Years', Centenary Supplement to the *Estates Gazette*, 3 May 1958, p. 49.

<sup>4</sup> *F.M.*, Jan. 1864, pp. 33-8.

<sup>5</sup> Drainage costs rose from £4-£5 (c. 1843) to £7-£10 per acre in 1873.—Select Committee on the Improvement of Land, *op. cit.*, p. xvi. According to the income tax assessments, there may have been a fall in real rent on the poor clays between 1851-2 and 1878-9. See J. H. Clapham, *An Economic History of Modern Britain*, II, pp. 278-9; Caird, 1878, *loc. cit.*, p. 315.

<sup>6</sup> Richard Jefferies, *Hodge and His Masters*, Uniform edn, 1949, p. 35.

ventional inputs' (oilcakes or fertilizer) since the clayland tenantry were notoriously impoverished when it began. Where green crop acreages were low, intensive winter feeding was not possible unless large quantities of cake and grain were brought on to the farm. But green crop values, though rising to a degree, remained essentially low on the clays. Mangolds made some headway, but in the late 1870's extensive root cropping was still as rare on most true clays as bare fallowing was frequent.<sup>1</sup> The general deficiency was not made up by artificial feeding.

Morton concluded his survey of dairy farming in 1878 with the opinion "that on ordinary dairy farms . . . the cows graze in the cow pastures during summer, and as a general rule get nothing else, except perhaps a help with cabbages and clover or vetches brought to them when the grass is short. In winter they get mangolds and hay and perhaps some grains . . . or where they are treated better they may receive decorticated cotton cake and meal, in addition. . ."<sup>2</sup> Other sources suggest that liberal feeding was indeed exceptional; for example, Carrington provides much indirect evidence that the bulk of corn and cake fed was on mixed rather than pure grassland farms. Sheep were perhaps better cared for than cattle; but on low-lying grass farms where these were overwintered, they often received no supplementary feed until lambing, whereas on light land arable farms abundant root and green crops were fed throughout the winter and ewes received rape, chaff, and cotton cake on the autumn stubbles.<sup>3</sup> On mixed arable farms high feeding was spurred by the aim of securing plenty of dung. Pasture farmers felt no such compulsion. In 1872 Thompson considered that grassland management was highly unsatisfactory, with little manuring practised. The standards of grass farming achieved in some parts of Leicestershire, Northamptonshire, Gloucestershire, and Somerset were adjudged "quite exceptional."<sup>4</sup>

There is less evidence about the input of artificial fertilizers. But it was apparently very low on the clays. In North Wiltshire at least they were little used.<sup>5</sup> Contemporary farm accounts indicate that only on highly cultivated mixed farms were artificials bought regularly or in quantity. Superphosphate

<sup>1</sup> For examples, see J. A. Clarke, 'Practical Agriculture', *J.R.A.S.E.*, 2nd ser., xiv, 1878, pp. 582-620.

<sup>2</sup> J. C. Morton, 'Dairy Farming', *J.R.A.S.E.*, 2nd ser., xiv, 1878, p. 673.

<sup>3</sup> W. T. Carrington, 'Pastoral Husbandry', *J.R.A.S.E.*, 2nd ser., xiv, 1878, pp. 701-18.

<sup>4</sup> H. S. Thompson, 'On the Management of Grassland', *Journal of the Bath and West of England Soc.*, 3rd ser., iv, 1872, p. 121. 'First class grassland' was defined as capable of producing 20 stone of meat per acre per year without additional feed. Second class grassland was expected to produce the same quantity with the help of additional feeding stuffs. Thompson indicates clearly that grassland on strong clays fell into neither category (p. 124). An Essex farmer doubted whether any acre of meadow in his county "would fatten a bullock."—*F.M.*, Jan. 1876, pp. 70-1.

<sup>5</sup> *F.M.*, April 1860, p. 292.

and bone meal, which probably comprised the bulk of artificials applied, were most useful for roots—which of course were least grown on the clays. Nitrogenous fertilizers seldom proved valuable on acidic clays unless these had been well limed and chalked. In Surrey at least, chalking and liming had largely died out by 1870 because labour costs were thought prohibitive, while elsewhere chalking was carried out extensively only in areas within easy carting distance of chalk deposits.<sup>1</sup> Nitrate of soda, continuously applied, led to the formation of 'sodium clay' on heavy soils, producing stickiness and lack of tilth. For these reasons the few energetic intensive farmers on the clays preferred cake and feeding grains to produce organic manures rather than applying artificials.

If these inputs remained low on the clays it follows that we need anticipate no dramatic rise in output. It would be wrong to pretend that there was no rise in output where drainage had allowed green crops and roots on to the fallows and where serious efforts had been made to increase livestock production by higher feeding. Writing in 1867, E. P. Squarey duly noted some increase in clayland livestock output, but was forced to admit that in the strong wheat lands neither method nor yield were any improvement on sixty years previously.<sup>2</sup> Such evidence as is available suggests that eye-catching progress was exceptional. Even where drainage had been effected the subsequent consolidation was often poor. And drainage, which all agreed was a *sine qua non*, had hardly begun to improve clayland agriculture.

## II

Even in the 1870's both arable and pastoral claylands were much less intensively farmed than light or mixed soils. Table I compares land use and stocking densities on the heavy clays of East Essex with the medium loams of the Tendring area in the north-east of the county in 1874.

TABLE I<sup>3</sup>

|                                    | Percentage of total cultivated area under |       |             |                 | Per 100 acres |        |
|------------------------------------|-------------------------------------------|-------|-------------|-----------------|---------------|--------|
|                                    | Corn crops                                | Roots | Bare fallow | Permanent grass | Sheep         | Cattle |
| East Essex Clays<br>(23,100 acres) | 53.7                                      | 2.4   | 9.7         | 20.2            | 32.1          | 5.1    |
| Tendring loams<br>(25,800 acres)   | 59.4                                      | 12.8  | 1.8         | 10.9            | 49.5          | 5.1    |

<sup>1</sup> Evershed, *loc. cit.*, p. 4; Clarke, 'Practical Agriculture', *loc. cit.*, p. 625.

<sup>2</sup> 'On the Farming of the Southern Counties', *Journal of Agriculture*, 3rd ser., III, 1867, p. 57.

<sup>3</sup> Parish Agricultural Returns, P.R.C., MAF/68/354.

The clays score low on roots and high on bare fallow, while the total stocking density is higher on the loams notwithstanding that agricultural statistics collected in the summer would favour the specialized summer grazing in the marshes and saltings of the clays against the winter fattening of the loams. Table II compares for 1879 the pastoral clays of the Melksham Union in 'cheese' Wiltshire with the light land arable farming of the Amesbury Union in the chalk country.

TABLE II<sup>1</sup>

|                | <i>Percentage of total cultivated area under</i> |                    | <i>Per 100 acres</i> |              |
|----------------|--------------------------------------------------|--------------------|----------------------|--------------|
|                | <i>Permanent pasture</i>                         | <i>Green crops</i> | <i>Cattle</i>        | <i>Sheep</i> |
| Melksham Union | 86.73                                            | 2.57               | 30.25                | 8.92         |
| Amesbury Union | 31.06                                            | 18.59              | 18.0                 | 132.01       |

Despite a high proportion of pasture, livestock numbers on the Melksham clays, expressed as sheep equivalents, were lower than on the chalk—181 compared with 202 per 100 acres. Some indication of the relative output of cattle from the various farming regions is provided by the breakdown of sales at the London market, 1868–70, given in Table III.

TABLE III<sup>2</sup>

NUMBERS OF CATTLE SOLD IN THE METROPOLITAN MARKET 1868–70 (BY DISTRICT)

|                                    | <i>Jan.–Mar.</i> | <i>April–June</i> | <i>July–Sept.</i> | <i>Oct.–Dec.</i> | <i>Totals</i> |
|------------------------------------|------------------|-------------------|-------------------|------------------|---------------|
| Essex, Cambs.,<br>Norfolk, Suffolk | 51,130           | 61,721            | 3,200             | —                | 116,051       |
| Leics., Lincs.,<br>Northants.      | 4,400            | 370               | 74,750            | 68,070           | 147,590       |

These show the falling-off of grassland cattle from the more pastoral East Midlands in the later winter months in favour of the predominantly arable districts of East Anglia. The scale of winter feeding in arable districts is not indicated in the Agricultural Returns, since they were taken in midsummer when arable livestock numbers were at their lowest. On at least some Norfolk

<sup>1</sup> *R.C. Agriculture, 1880–82, Reports of the Assistant Commissioners*, vol. 1, p. 416. The sheep equivalents used are those suggested in C. S. Orwin and S. J. Upfold, 'Farming Equipment and Finance', *J.R.A.S.E.*, LXXXII, 1921, p. 135.

<sup>2</sup> Monthly Cattle Trade Reports, *F.M.*, 1868–70.

farms cattle numbers in December were four times those in June. In 1877, 86,000 store beasts were brought into the county by rail alone.<sup>1</sup>

Few directly comparable estimates of output survive, but even these indicate a pattern. A comparison of Caird's wheat yield estimates for 1850-1 with Clarke's for 1878 suggest, without being conclusive, that the most spectacular advances were made in the predominantly light land counties. Surrey and Hertfordshire yields rose by more than 20 per cent, and in Dorset by almost 40 per cent.<sup>2</sup> No substantial rise in wheat yields seems to have occurred on the heavy lands of Lincolnshire between 1850 and 1880.<sup>3</sup> Morton was quite clear that any advance in Gloucestershire had come on the light arable lands: "it is these whose rents have increased—*they* have given the labourer his wages, and *they* have fed the population. I believe if any one will inquire into the circumstances of the dairy farms of the Vale, they will find no more cheese or butter made per acre now, than was made 40 years ago." Figures from 13 dairy farms in Tortworth and Wickwar parishes collected by his father in 1830 indicated stocking at 23 cows per 100 acres, and he found no more in the 'sixties.<sup>4</sup> Cheese yields in the Vale of Gloucester in fact remained a stable 3½ cwt per cow over the period 1850-78.<sup>5</sup> Even in progressive Cheshire the gains are not really established: Caird in 1850 stated that on moderate land cheese yields averaged 3-3½ cwt and on good land up to 4½ cwt, while Morton in 1878 thought 3¾-4 cwt possible only on good farms.<sup>6</sup>

Conversely, the evidence points to a continuing expansion of output on the lighter soils. The process of reclamation still went ahead. In Sussex gorse-covered land was pared and burnt at £2-£3 per acre.<sup>7</sup> Much chalk downland had been converted to tillage in Dorset during and after the 1850's: "Not many people care to let an old down piece stand, if good for anything, as by proper management it may be made to produce more feed."<sup>8</sup> Similar

<sup>1</sup> Clarke, 'Practical Agriculture', *loc. cit.*, p. 465. While the categories are somewhat inappropriate, the implication is certainly that the total physical output (i.e. including cereals) of the mixed farming counties was considerably higher than in the more pastoral clayland regions.

<sup>2</sup> *Ibid.*, pp. 461-2; Caird, 'English Agriculture', *op. cit.*, p. 474.

<sup>3</sup> Grigg, *op. cit.*, pp. 189, 192.

<sup>4</sup> J. C. Morton, 'A Lifetime on the Cotswolds', *Gardeners' Chronicle and Agricultural Gazette*, offprint, c. 1863, p. 7.

<sup>5</sup> Caird, 'British Agriculture', *op. cit.*, p. 44; Morton, 'Dairy Farming', *loc. cit.*, p. 412.

<sup>6</sup> Caird, *op. cit.*, p. 218; Morton, *loc. cit.*, p. 411. R. Trow-Smith concluded that no real improvement in average milk yields per cow took place between the late eighteenth and late nineteenth centuries.—*A History of British Livestock Farming, 1700-1900*, 1959, p. 306.

<sup>7</sup> Evershed, *loc. cit.*, p. 16.

<sup>8</sup> Joseph Darby, 'The Farming of Dorset', *Journal of the Bath and West of England Soc.*, 3rd ser., IV, 1872, p. 7; see also pp. 6, 14, 34.

if less spectacular activity was reported from Wiltshire, Hampshire, and Berkshire.<sup>1</sup> Reclamation associated with enclosure was carried out over 614,000 acres of the country between 1845 and 1869.<sup>2</sup>

Husbandry systems on the light lands were intensified and diversified by heavier and more varied fodder cropping assisted by big inputs of artificials and feedingstuffs. This may have been most marked in the hinterland of the east coast ports of entry for bones and oilcake, but it was impressive as far west as Dorset. By 1870 high feeding and heavy artificial manuring had become general on large farms in the centre of that county. By then sheep were being fattened on oilcake rather than sold off lean, while in one district it was estimated that sheep numbers had doubled since 1850. Cattle numbers had risen 50 per cent since the mid-1850's.<sup>3</sup> Similar progress was achieved in Berkshire between 1850 and 1860: "Comparatively barren chalk hills, that within the last ten years would hardly produce a turnip larger than an apple, have become, by the application of judicious fertilizers, highly cultivated stock- and corn-producing districts."<sup>4</sup> On light land farms such increases in output were not secured at the expense of grain producers, quite the contrary. Changes in the same direction, increasing livestock output, were slighter on the clays and more obviously cancelled by losses on the arable side.

### III

The price trends of the third quarter of the nineteenth century prompted a greater emphasis on livestock products. Although we believe that this was mainly secured by a changing balance within established mixed farming systems, there were certainly switches into purely grassland farming on the clays. They were nevertheless hardly 'revolutionary' and such as they were, they need explanation not simply in technical terms, on account of drainage plus oilcake and artificials, but in the context of price and cost movements. Gently following the swing of these cannot in this case be said to constitute 'revolution', however one defines that overworked noun.

The demand factor at work was the rise in prices for livestock products relative to cereals. (Table IV.)

The supply factor was the rise in labour costs which up to the Labourers' Revolt was especially marked in the high wage northern and midland counties. (Table V.)

<sup>1</sup> R. Molland, 'Agriculture c. 1793-c. 1870', *V.C.H. Wilts*, iv, 1959, pp. 65-6; *F.M.*, 1870, p. 73; J. B. Spearing, 'On the Agriculture of Berkshire', *J.R.A.S.E.*, xx, 1860, p. 16; A. C. Smith, *Guide to the British and Roman Antiquities . . . round Abury*, 1884, p. iii.

<sup>2</sup> Orwin and Whetham, *op. cit.*, p. 190.

<sup>3</sup> Darby, *loc. cit.*, pp. 5, 8-9, 14, 32-3, 35.

<sup>4</sup> Spearing, *loc. cit.*, p. 16.

TABLE IV<sup>1</sup>

RELATIVE PRICE MOVEMENTS: ARABLE AND LIVESTOCK PRODUCTS 1851-80  
(1865-74=100)

|        | 1851-5 | 1856-60 | 1861-5 | 1866-70 | 1871-5 | 1876-80 | <i>Movement</i><br>1871-80 <i>cf.</i><br>1851-60 |
|--------|--------|---------|--------|---------|--------|---------|--------------------------------------------------|
| Wheat  | 103    | 98      | 87     | 100     | 100    | 87      | - 7%                                             |
| Barley | 82     | 98      | 86     | 101     | 103    | 95      | +10%                                             |
| Oats   | 90     | 87      | 87     | 101     | 104    | 96      | + 7%                                             |
| Beef   | 77     | 85      | 87     | 94      | 110    | 103     | +31%                                             |
| Mutton | 80     | 88      | 93     | 93      | 108    | 105     | +27%                                             |
| Cheese | 75     | 86      | 84     | 102     | 97     | 85      | +13%                                             |
| Milk   | 65     | 84      | 82     | 89      | 91     | 111     | +36%                                             |

TABLE V<sup>2</sup>

REGIONAL WAGE MOVEMENTS 1850-72  
(Average weekly wage of all regions 1850-51=100)

|                                     | 1850-1 | 1869-70 | 1872 |
|-------------------------------------|--------|---------|------|
| Northern counties                   | 130    | 165     | 188  |
| Midland counties                    | 104    | 138     | 161  |
| Eastern counties                    | 84     | 114     | 138  |
| South and South-western<br>counties | 83     | 111     | 131  |

These trends favoured livestock production and accounted (together with a climate more amenable to grass growing) for a more positive switch to pastoralism on the northern and western clays than elsewhere. Mainly it was the heaviest land, least profitable under wheat, which moved wholly into grass. This switch in enterprises was often the expedient which followed serious losses of money on cereal production. When it occurred in the drier south and east, it was a movement towards much less intensive farming,

<sup>1</sup> Based on E. H. Whetham, 'Livestock Prices in Britain', A.H.R., XI, 1963, p. 29, Table I; *Report on Wholesale and Retail Prices*, 1903, pp. 70-1, 136-7, 153. The value of wheat output per acre probably fell considerably after 1866 when below-average harvests were not fully compensated by higher prices.—J. P. D. Dunbabin, 'Communications', *Past and Present*, 27, 1964, p. 109.

<sup>2</sup> Based on wage data in Caird, 'English Agriculture', *op. cit.*, p. 512; W. Hasbach, *A History of the English Agricultural Labourer*, 1920, p. 284.

resorted to after the abrupt rise in labour costs from 1872 and the steeper fall in wheat prices from the mid-1870's.<sup>1</sup> There, it was difficult to grow good grass quickly. Impoverished farmers in any case found it financially difficult to stock grassland; their landowners in the 1870's were no more inclined to promote the change and to back it with adequate livestock housing than they had been to foster drainage twenty years or so before.<sup>2</sup> Hence, for example, Druce described conditions in Essex as deplorable in 1880, "with some lands altogether derelict and more full of weeds and natural rough grass upon which a few cattle were picking bare living."<sup>3</sup> Tumble-down pasture became common on the poorer clays in the later 'seventies.<sup>4</sup> It was not surprising that many arable farmers regarded a major switch to grassland farming as a retrogressive step in which "the whole procedure of a farm would have to be remodelled and they would have to go back to the primitive days."<sup>5</sup>

However, some positive switch to grass there was, with a rise of sorts in the clayland output of livestock products as a result. What has not been discussed so far are the opportunity costs. Even if it had been paying badly, the conversion of clayland arable to grass meant foregoing the wheat crop. More seriously, the expansion of country dairies on existing clayland grass which followed the cattle plague of 1865-6 in the London cow-houses meant to a large extent foregoing the sale of cheese and butter, and the use of their by-products, in favour of liquid milk. This renders any assertion about a net gain in physical production on the clays at best equivocal.

## IV

It remains to reassert that the investment record of the clayland sector during the 1850-80 period was poor. Drainage was the key: too little was done, and since clayland farmers had had no particular opportunity to accumulate capital it was rarely accompanied by the essential concomitants—oilcake and artificial fertilizer. Mixed farming spread only patchily on to the

<sup>1</sup> These difficulties are fully discussed in R. Hunter Pringle, *R.C. Agriculture, 1894-97*, pp. 128-33, and W. T. Carrington, 'The Advantages of Converting Cold Arable Clay into Permanent Pasture', *J.R.A.S.E.*, 2nd ser., xv, 1879. See also *F.M.*, Jan. 1876, pp. 70-1; July 1877, p. 24.

<sup>2</sup> The costs of conversion could be high and most farmers (and some landowners) considered them to be the landlords' responsibility. Cost estimates varied between £3 and £12 10s. per acre with a general average of £6-£8, spread over three or more years.

<sup>3</sup> *R.C. Agriculture, 1880-82, Minutes of Evidence*, vol. III, p. 435.

<sup>4</sup> Orwin and Whetham, *op. cit.*, p. 246.

<sup>5</sup> *F.M.*, Feb. 1873, p. 110. Indicatively, in 1863 tenants virtually ignored the Duke of Northumberland's offer to carry the costs of laying heavy arable down to grass.—F. M. L. Thompson, *op. cit.*, p. 255.

clays,<sup>1</sup> but instead was consolidated and most intensified in the light land sector. Hardly surprisingly, the output record of the clayland sector, especially when the opportunity costs are counted, was uninspiring.

There was thus no 'revolution' in technique, merely a series of rather unsatisfactory adaptations to the swings in the market towards livestock production. This did not, as Dr Sturges claims, prepare the clays for the 'Great Depression'. Pringle, Haggard, and Hall saw many of them ranched "prairie fashion" during that period and beyond,<sup>2</sup> and rents fell farthest after 1880 on the clay soils.<sup>3</sup> It was always the mixed farming of the lighter lands which gave the high yields of livestock products. Arthur Young had written of the wet clays in 1770, "such soils must, like others, be cultivated by somebody, but I would advise every friend of mine to have nothing to do with them."<sup>4</sup> C. S. Read echoed this a century later. His advice to a farmer about to take an out-of-condition heavy land farm was, "Don't!"<sup>5</sup> Indeed, ever since the middle of the seventeenth century English agriculture had been afflicted by a laggard clayland sector; modern analysis shows that it is with us yet.<sup>6</sup> The view that the years 1850-80 saw a radical amendment of the position seems to us entirely untenable.

<sup>1</sup> In the physically more favourable districts and also near big towns which supplied ample dung and formed an immediate market.

<sup>2</sup> Pringle, *op. cit.*, pp. 41, 45-51, 82-3; H. Rider Haggard, *Rural England*, 1902, vol. 1, pp. 99, 129, 409, 470; vol. II, pp. 59, 394, 511-12; A. D. Hall, *A Pilgrimage of British Farming*, 1913, pp. 412-13, 421. A useful summary of evidence, the majority indicating a general trend towards less capital intensive farming, may be found in *R.C. Agriculture, 1896, Alphabetical Digest of Minutes of Evidence*, pp. 42, 45, 69-76, 98-100.

<sup>3</sup> In Suffolk, for example, rent reductions by 1881 averaged 15 per cent on light lands and 20-40 per cent on heavy lands.—J. Thirsk and J. Imray, *Suffolk Farming in the 19th Century*, Suffolk Records Society, 1, 1957, p. 30.

<sup>4</sup> *The Farmers' Guide in Hiring and Stocking Farms*, II, p. 4.

<sup>5</sup> Reported by W. T. Carrington, *loc. cit.*, p. 493.

<sup>6</sup> M. H. R. Soper, 'Heavy Land Farming', *Agriculture*, LXVII, 1960, pp. 174-8.

# The Agricultural Revolution on the English Clays: a Rejoinder

By R. W. STURGESS

MR COLLINS'S and Dr Jones's rejoinder to my article is a useful addition to the history of a period in which, as they note, the quantitative material is thin and every piece of descriptive evidence must be examined closely. The rejoinder is seriously marred, however, by three mistaken points. Firstly, it is surely a conceptual misunderstanding to view technical and output changes in isolation from the results of these changes, that is to say, the greater ability of producers to exploit changes in the market for their goods. Mr Collins and Dr Jones have stigmatized the changes on the clays as merely an "adaptation to market trends" over the third quarter of the nineteenth century. But that farmers were able to adjust their systems only indicates how large were the changes in kind and degree over the third quarter of the nineteenth century, in contrast to farmers' painful inability to adapt in the first half. An agricultural revolution consists of technical and structural changes in farming systems which make it possible for farmers, with a new-found ability to reduce costs and a new elasticity of supply, to exploit the moving structure of prices which faces them. This moving price structure was a long-run rise of stock prices compared with corn, and the revolution resulted from the farmers' awareness that corn would not pay on the clays, and that in the wet north and west of the country, where a thick sward could be obtained in two years, a radically more intensive form of dairying and stock fattening was the answer. Land was converted from corn to grass, and meadowland, which previously had been tied up to provide winter fodder, was released as corn was purchased for feed, and meadowland was fully exploited for grazing during the period of optimum use, the summer season. The acreage of meadow on clay farms, kept merely to feed farm plough-horses before the middle of the nineteenth century, could rise as high as a quarter of total land on the farm.

This leads to the second point, which is that Mr Collins and Dr Jones appear to have overlooked the main distinction within the clays, which I strongly emphasized in my article, between those in the wet north and west and those in the dry east and south. At the risk of repetition, this distinction needs to be stated again because the failure of Mr Collins and Dr Jones to see its relevance and their discussion in aggregate terms mean that the many

descriptions of distressed conditions on the southern clays have been translated by them to the clays as a whole. In fact, of their examples of inadequate drainage and techniques and low yields, in which the locality is specified, seven out of the nine are southern or eastern counties. Because of the difficulty of obtaining a good sward, farming on the Essex and Wealden clays, and in particular the much criticized fallow, altered little, and farmers remained dependent on their precarious corn crop. This did not change appreciably until the flood of Scottish and north country farmers descended on Essex and other southern clay counties in the 1880's and 1890's and introduced intensive dairy husbandry.<sup>1</sup> This belated switch to intensive dairying was made possible by the adoption of the "soiling" system whereby most of the land was laid down to corn and meadow, the corn and hay being carted to the cows in the stalls and manure being carried back to the fields. In this attempt to get over the poor quality of grazing grass in these dry areas cattle were kept in the stalls for most of the year. In contrast, as I have tried to show in my article, production of livestock increased in the north, west, and Midland counties from the middle of the century. But even in the Weald attempts to diversify were made by introducing more stock on to farms. The problems of clayland farming today, referred to by Mr Collins and Dr Jones, are problems of the dry east and south where inadequate grass exists in the summer for cheap stock feeding.<sup>2</sup>

Lastly, Mr Collins and Dr Jones have argued in an inverted way that because drainage and manuring on the clays as a whole appears to them to have been inadequate, production did not increase. The evidence of increased dairy and beef production is overwhelming, however, and cannot be escaped, and the criticism of inadequate drainage and manuring is open to straightforward explanation. In Somerset cow numbers rose by a half over the 'fifties, whilst in Cheshire they almost doubled in the thirty years after 1830. In Cumberland and on the Wheatlands of Shropshire, stock farming expanded where previously many farmers had confined their production solely to corn, whilst on the fattening pastures of Leicestershire the consumption of all the grain produced on the farm permitted a larger head of stock to be carried over winter.<sup>3</sup> Also, milk yields per cow increased because

<sup>1</sup> P. McConnell, 'The Experiences of a Scotsman on the Essex clays', *J.R.A.S.*, 3rd ser., II, 1891, pp. 311-24.

<sup>2</sup> I. G. Reid, *The Small Farm on Heavy Land*, Department of Agricultural Economics, Wye College, London University Publications, 1958, pp. 11-16.

<sup>3</sup> J. Harding, 'Recent Improvements in Dairy Practice', *J.R.A.S.*, XXI, 1860, p. 83; T. Farrell, 'A Report on the Agriculture of Cumberland chiefly with regard to the Production of Meat', *J.R.A.S.*, x, 2nd ser., 1874, p. 402; H. Tanner, 'The Agriculture of Shropshire', *J.R.A.S.*, XIX, 1858, p. 17; W. S. Moscrop, 'A Report on the Farming of Leicestershire',

of high feeding and the development of the milking properties of the Dairy Shorthorn breed. Although no figures are available, two of the leading authorities agreed that average milk yields per cow per year rose over the 1870's and 1880's.<sup>1</sup> It is impossible to estimate earlier yields because of the concentration of milking into the summer season and because of great differences between the milking properties of the different regional breeds.

I do not disagree about the change, in the country as a whole, to a more intensive mixed system of farming with greater emphasis on stock over the third quarter of the century. But on the clays change was more pronounced in kind and degree. Mr Collins and Dr Jones have talked about a "gap" between clayland and lightland farmers, and have compared corn yields, as if they were in open competition. But clay farmers were more concerned with their present condition compared with what it was a few years before than in any notional competition with other farmers. Equally, to compare wheat yields on the clays with those on the light soils over the 'fifties and 'sixties is irrelevant, because the measure of change was the ability of heavyland farmers to turn away from wheat to stock. More important to farmers in the west and north was the cheapening of their main cost, purchased feed, during the price fluctuations of the last third of the century. Because they were now in the more buoyant business of dairy and beef production, and were able to adjust production more easily to suit market conditions by fully utilizing their grassland and buying cheap corn as feed, they were in a position to accept a reduced level of prices during the "Great Depression." In fact, it may be stated that the general fall in prices from the 'seventies, distressing as it was for corn farmers, obscured a reduced level of real costs on all the clays of the country, except in East Anglia and the Weald. These lowered costs stemmed from the technical and structural changes of the 'fifties and 'sixties.

Mr Collins and Dr Jones have suggested that there remained "a huge gap of untreated clayland" requiring drainage by the 'seventies and that generally there was "so little done." This was patently not so on all of the clays outside of East Anglia, the east Midlands, and the Weald. In fact, of the first £2½ million borrowed from the government and improvement companies be-

*J.R.A.S.*, II, 2nd ser., 1866, pp. 321, 328; J. Dixon, 'Manuring Grasslands', *J.R.A.S.*, XIX, 1858, p. 207.

<sup>1</sup> R. H. Rew, 'An Enquiry into the Statistics of Production and Consumption of Milk and Milk Products in Great Britain', *Journal of the Royal Statistical Society*, LV, 1892, pp. 258-9; J. P. Sheldon, *The Farm and the Dairy*, 1889, p. 57. In fact, one authority could criticize country shows for being behind the times and giving prizes for the looks of an animal rather than for its milking properties: "The time has now arrived when milk is of the primest importance, and a well kept cow, if not yielding in the 12 months 550 to 600 imperial gallons is not worth keeping."—Gilbert Murray, 'The Dairy Cow', *Livestock Journal*, XXIII, 1886, p. 100.

tween 1846 and 1855, 83 per cent was spent on estates in counties to the north and west of Leicestershire.<sup>1</sup> Although drainage was not being carried out in eleven of the forty-two counties in the country in 1870, as quoted by Mr Collins and Dr Jones, it was still "extending" in twenty-five. The area drained in the west and north was large. If Caird's and Denton's view that the sum spent by landowners from their own resources on drainage by the late 'seventies was double that borrowed from the government or improvement companies, the amount spent in the north and west, as earlier defined, would be some £16 million. Reckoning the cost of drainage at the generally accepted figure of £6 per acre before 1872 and £6 10s. after, this represents just over 2 million acres, or the cultivated acreage of the counties of Leicestershire, Staffordshire, Warwickshire, and Cheshire. Since a considerable part of the western and northern counties was light land not requiring drainage, the proportion of the land in these areas which benefited from drainage must, therefore, have been great. Part of the reason for the apparently low percentage of land drained in the country as a whole during the 'fifties and 'sixties is that Bailey Denton, the leading writer on the subject, calculated the land actually drained as a proportion of land cultivated or *capable of cultivation*.<sup>2</sup> This area capable of cultivation included woodland. The difference between this latter area and the area *actually in cultivation* is not known. But if the total land in the country actually in cultivation in the year of the calculation, 1883, be compared with Denton's acreage actually in cultivation, and capable of cultivation, there is a difference of some 7½ million acres. This optimistic view of land which could technically be drained as opposed to what was economically desirable would therefore considerably depress any percentages worked out by Denton.

Also, the generally low rate of artificial manuring on the clays, pointed out by Mr Collins and Dr Jones, was compensated for by the fact that the increased herds carried on dairy farms in the 'fifties and 'sixties and the increased use of purchased grains for winter feeding returned more and better dung to the land. By the mid-'eighties brewers' grains were used by the majority of farmers in the Cheddar district of Somerset, and their use was "universal" in the west of England.<sup>3</sup> In the Trent valley brewers' grains or imported meal and oilcake were the main items in costs on most farms. Lord Lichfield, a Trent valley landowner, strongly opposed the change from cheese-making to milk-selling in the 'fifties because no milk-whey was left to be fed to pigs and so converted into manure. But he changed his views during

<sup>1</sup> Applications to Enclosure Commissioners for Drainage Loans, *London Gazette*, 1846-55, *passim*.

<sup>2</sup> J. Bailey Denton, *Agricultural Drainage: Reminiscences of Forty Years' Experience*, 1883.

<sup>3</sup> 'Brewers' Grains in Feeding', *Livestock Journal*, xxiv, 1886, p. 520.

the 'sixties because his tenants were feeding their cows so highly with grains, and thus returning large supplies of manure to the soil.<sup>1</sup>

Mr Collins and Dr Jones have said that rent on the poorer clays failed to rise over the 'sixties and 'seventies. Yet rents on the Earl of Lichfield's 16,000-acre estate on the claylands of the Trent valley increased by 18 per cent from 1855-7 to a peak in 1875-9; on Earl Ferrers's 6,500-acre Chartley estate they rose by 9 per cent from the 'fifties to their peak in 1878; on the Duke of Sutherland's 10,000 acres of the Trentham estate they rose 25 per cent in the same period. It is premature to generalize about rents on the bulk of the clays.<sup>2</sup>

To answer all Mr Collins's and Dr Jones's points would be to descend to petty dispute, but some examples must be given to show a looseness of argument. The reason why the original debt on the drainage of the North Devon estate cited by them was not paid after twenty years was that no improvement company asked for its loans to be fully repaid in less than twenty-five years. Who were the advanced agriculturists who had given up drainage by the 'sixties and gone in for steam ploughing? In what did their advancement consist if they were "sinking men . . . making desperate ventures upon a costly machine" during the propitious 'sixties? Also, to compare sheep numbers on the clays of Wiltshire with those on the light soils and to discover that in sheep equivalents the clays were less densely stocked than the chalk soils is misleading as sheep are not clayland livestock; dairying and beef fattening are the predominant enterprises.

A more serious criticism lies in the misuse of the term "opportunity costs." To state blandly that the change from cheese and butter sales to liquid milk selling, which occurred in the north-western and south-western grass counties after the London cattle plague of the mid-'sixties, meant that "a net gain in physical production on the clays (was) at best equivocal" is just not adequate. This, it is argued, was because no whey was now available as a by-product to be used to fatten pigs and thereby gain extra income. But in attempting to calculate opportunity costs Mr Collins and Dr Jones have omitted to include costs of the respective enterprises. This can be settled by a simple calculation using figures typical of the north-western or south-western grassland counties. In the 'sixties, good quality Cheshire, Derbyshire, Gloucestershire, or Wensleydale cheese was selling at 6d.-7d. a pound whilst farmers were receiving 9d. a gallon for "country" milk sold in London. A gallon of milk will yield 1 lb. of cheese. On a 100-acre farm with

<sup>1</sup> H. Evershed, 'The Farming of Staffordshire', *J.R.A.S.*, 2nd ser., v, 1869, pp. 80-1; 'The Farming of Nottinghamshire', *ibid.*, pp. 442-51; *Livestock Journal*, xxi, 1885, p. 396.

<sup>2</sup> Ranton Estate Office, Eccleshall; Leicester Borough Record Office, 26D53/2424-2436; Staffs. Rec. Office, D593.

access to London, the milk from twenty cows would yield £225-£262 as cheese, or £337 as milk, or at least £70 more as milk. At the same time, by turning from cheese to milk selling, larger farms would be able to forgo paying a dairymaid some £70 a year. Thus the gain from turning to liquid milk selling would be roughly £70-£140 and this would be much more than the value of milk whey as pig feed. In Leicestershire and Staffordshire the value of whey to be consumed by pigs was considered to be 30s. to 50s. per cow.<sup>1</sup> Because of the long-term cheapening of corn purchases these in fact could take over from whey and a considerable expansion of pig and poultry-keeping seems to have taken place on small farms over the 'seventies and 'eighties, using grain as feed.<sup>2</sup>

My contention is 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. This new intensity was gained by the feeding of cows with grains and oilcake which released much of the meadowland for summer grazing and permitted expanding herds of dairy and beef cattle to be carried on summer pasture. Because more livestock were carried in the summer a propitious circle appeared. The increased dung available gave higher yields of hay and corn for feed, which permitted a reduction in the meadow and arable acreage and the keeping of fewer hay-consuming plough horses, thereby releasing more land to be laid down as summer pastures. A large increase of dairy produce followed these changes where previously, on these traditional clay cornlands of the country, corn had been the mainstay. Mr Collins and Dr Jones have argued that the balance of production, of grain and of livestock, in the country as a whole came from the mixed farming of the light soils over the third quarter of the century. I think that this point is open to argument because of the difficulty of equating the production from different farming systems at a time when the statistical evidence is so thin. But that dairy production on the clays increased is beyond doubt. Also, this was a *continuing* increase. Because of the increasing supplies of cheap corn over the last quarter of the century and the buoyant demand for dairy produce, farming on the clays was in a position to exploit price changes at the time when the rigid classical turnip husbandry of the light soils was in decline. As such, the agricultural revolution on the clays in terms of increasing production may be said to have spanned the second half of the century. Clayland farmers were thus in a better position to face the price fluctuations in the last quarter of the century than their fathers had been in the thirty years after the Napoleonic Wars.

<sup>1</sup> Moscrop, *op. cit.*, p. 327; Evershed, *op. cit.*, p. 271.

<sup>2</sup> Farming Reports, *Agricultural Gazette*, N.S. xxvii, 1888, p. 494.

# English and Scottish Farmers in Poland in the First Half of the Nineteenth Century

*By* JULIAN BARTYŚ

THE problem of British agricultural settlements on Polish soil has not till now been investigated by historians. There are, however, some extremely valuable and interesting documents concerning this problem among the archives of the Agricultural Society in Warsaw for the period 1810 to 1825, and also among the Zamoyski Archives which were rearranged only a few years ago. This article is based mainly on these sources, supplemented to a small extent by information from Polish periodicals of the nineteenth century.<sup>1</sup>

Already in the eighteenth century English and Scottish farming represented the ideal of agricultural progress for the Polish landowner. From the end of the eighteenth century the so-called 'new agriculture' began to penetrate Poland, while after the Napoleonic Wars feverish attempts were made to improve the backward techniques of cultivating land by drawing upon examples of rational farming from the West. There were, however, too few people to cultivate the vast areas of land that had lain untilled during the Napoleonic Wars, and there was a shortage of qualified agronomists as well. In these circumstances official policy was directed towards the modernization of farm equipment and to the recruitment of skilled farmers, and estate officials, as well as mechanics and craftsmen from other countries. Amongst the specialists who came to depopulated Poland there were a number of Englishmen and Scotsmen who made a considerable impact on our nineteenth-century agricultural and industrial history.

It has proved very difficult to trace every single British farmer who came to Poland after 1815, and in consequence the greater part of this article is devoted to the story of the largest colony—both in respect of farms and population—of Englishmen and Scotsmen in Dowspuda. None the less, a few other examples will testify to the slow but steady influx of individual British farmers into Poland. The immigration was not impressive numerically

<sup>1</sup> Thanks are due to Mr George Gomori of the Centre for Russian and East European Studies, Birmingham University, for this translation from the Polish, and to Mr J. W. Y. Higgs for help with technical points.

but its importance for the advancement of Polish farming was enormous.

Some of those who were responsible for bringing individual British farmers to the country were only moderately wealthy Polish landowners. The outstanding Polish agriculturist, General Dezydery Chłapowski, was one of these. He was a propagandist on behalf of Scottish agriculture, and on several trips to Great Britain befriended the best English and Scottish agronomists. During his visit to England in 1823 he bought a portable threshing machine of the Meikle type and several Scottish ploughs and in addition to this he contracted with two Englishmen to work on his estate in Turew.<sup>1</sup> One of them was employed as a steward, while the other was overseer for machines and agricultural tools, instructing the labourers on the estate in their special tasks and organizing efficient management as well.<sup>2</sup> From the eighteen-thirties onwards the first contracted tenants from England and Scotland began to arrive on the family estates of the Zamoyskis. Thus, for instance, Andrzej Zamoyski, the son of the heir-in-tail Stanisław, an outstanding and exemplary farmer, settled the Scotsman, Dickson, on his family estates of Jadów in Zawiszyn manor.<sup>3</sup> This tenant was famous as an excellent breeder of purebred cows who produced yearly more than 500 quintals [53,638 British lb.] of excellent cheese of the Cheshire type which was very much sought after by the urban population in Poland. From the eighteen-thirties onwards, the heir to the estate, Stanisław Zamoyski, also brought tenants from Great Britain to his family estates in Magnuszew, and Maciejowice on the Vistula. One of these, called Gowenloh, took a lease of the manor of Podlęż, and another called Broomfield leased the manor of Gruszczyń.<sup>4</sup> Both tenants were famous for their exemplary farming and cattle raising. Thanks to their mechanized equipment for the processing of milk, they, like Dickson, produced thousands of pounds of Cheshire cheese which was quickly snatched up by local and Warsaw merchants.<sup>5</sup>

Several dozens of English and Scottish tenants occupied manors in the province of Lublin as well. The farm of David Wilson, who in the 1840's took over the large manor of Biszczka,<sup>6</sup> situated on the extensive estates of the Zamoyskis, will serve as an example. This manor comprised 9,501 *morgs* (13,111 British acres) of arable land, meadow, and pasture, of which about

<sup>1</sup> A village in the Kościan district, province of Poznań.

<sup>2</sup> W. Koszutski, Dezydery Chłapowski, *Encyklopedia Rolnictwa i wiadomości związek z niem mających*, 1, Warsaw, 1873, pp. 501-8.

<sup>3</sup> In the Wołomin district, province of Warsaw.

<sup>4</sup> In the Garwolin district, province of Warsaw. This is almost certainly the Scottish surname, Gowanlock.

<sup>5</sup> 'Sery polskie' (Polish Cheese), *Tygodnik Ilustrowany*, no. 303, Warsaw, 1865, p. 28.

<sup>6</sup> In the Biłgoraj district, province of Lublin.

500 *morgs* (690 acres) were left uncultivated and were covered with heather and moss. According to an account from 1851, "Mr. David Wilson, wishing to make use of this piece of land, dug ditches and thereby drained it considerably. He expects that in due time thanks to his efforts and expenditure on further dyking this land will become fertile."<sup>1</sup> His task was made easier by the fact that the inhabitants of the five neighbouring villages, although long lease-holders, were nevertheless obliged to provide so-called *odrobki* (labour services), that is, unpaid labour on Wilson's manor during busy seasons. This farmer introduced various crop rotations on some of the land under cultivation, while the rest of the land was cultivated on the four-course. The main crop cultivated there was rye, of which Wilson sowed an average of 100 *korzec* (i.e. 353 bushels) a year. Only 24 *korzec* (85 bushels) of wheat were sown on the Biszczka manor since the soil was unsuitable for wheat and it did not grow successfully. Keeping strictly to a crop rotation, a large part of the land was sown with clover to feed the considerable numbers of livestock. From all this, it is clear from the accounts dating from the early 1850's that this manor, in spite of considerable financial outlay, did not yield any profit. Only later did Wilson's farm bring any return for the money invested. Capital investment continued for more than ten years, during which time the farmer's economic situation was only saved by the profits of a large distillery. During a trip to England Wilson bought modern distillation equipment for it. Furthermore, a large orchard attached to the manor was kept in exemplary order by a qualified gardener. In the place of old and useless farm buildings Wilson erected new cowsheds, stables, and barns. He added to the agricultural machinery, first by introducing one, then two, threshers, two chaff-cutting machines—a treadmill type and a hand-operated one—also a drill on the English model. On his manor he employed one steward, one stackyard-keeper, two female workers, and 19 farmhands—23 persons altogether. He kept 28 horses and 30 oxen for the field work. Besides this, he reared 10 thoroughbred horses for riding, and pulling his coach. There were 96 purebred cows in the cowsheds, among them 42 heifers, and also several hundred (between 300 and 800 head) of merino and improved sheep. Altogether the number of livestock, although appearing large at the first glance, was not sufficient for a manor of that size. These figures, however, are taken from the early 'fifties, whereas in the following years the situation greatly improved. Before Wilson finally achieved any profit eleven

<sup>1</sup> Wojewódzkie Archiwum Państwowe w Lublinie (The State Archives of the Lublin Province) [henceforth W.A.P.L.]; Archiwum Ordynacji Zamojskiej (Archives of the Estates of the Zamoyskis) [henceforth A.O.Z.], no. 16188, f. 82: Raport o stanie gospodarstwa wiejskiego w folwarku Biszczka w 1851 r.

years of hard work and strenuous financial effort lay behind him.<sup>1</sup> This, however, was a rather isolated case; on the whole, British tenants obtained manors that were productive and possessed fertile or medium-fertile lands.

I turn now to the history of the largest settlement of English and Scottish settlers in Poland, established in 1816 on the estates of General Ludwik Pac in Dowspuda.<sup>2</sup> It should be mentioned that Britons had a special liking for the north-eastern parts of Poland because of the fertile lands, the abundance of woods, lakes, and rivers rich in fish, and also because of the unusually advantageous conditions of settlement offered to them by the Polish landowners living in the area. They began arriving in Poland from 1816 onwards, coming mainly by sea to Gdansk. A contemporary chronicler wrote in 1821: "Every year adventurers<sup>3</sup> and farmers arrive in Prussia<sup>4</sup> and in Poland from England and Scotland. Apart from those settled on Count Pac's estate of Dowspuda, one has acquired ownership of quite a large estate near Nowe Miasto, close to the Prussian border, in the province of Augustów; still another has bought a lease for life on a small estate, situated in the district of Kukow. Some have returned again to the port of Królewiec where the majority of them have remained. This is because the artful Prussian government, not wanting to have to establish a colony for them at Królewiec, effectively kept the richer Englishmen there by making them pay for the houses that were built there for them."<sup>5</sup> As we can see, the Prussian government was also eagerly trying to attract British settlers and entrepreneurs to its depopulated agricultural areas.

Ludwik Pac, mentioned above, ex-general of the Polish Army, returned to his family estates in Dowspuda after 1815 and occupied himself with farming. In landowning circles he earned himself the title of a "reasoned Anglophile." He was, indeed, an enthusiast for English and Scottish agriculture, and made many acquaintances and contacts with British landowners. He expressed his sympathies for English culture and good management not only by bringing to Poland farmers and craftsmen from Great Britain but also by building a splendid palace. This palace was modelled on the residences of

<sup>1</sup> W.A.P.L., A.O.Z., no. 16188, ff. 83-4, 226.

<sup>2</sup> Dowspuda is a village in the Suwałki district, province of Białystok, and was the main manor of the estate. Altogether it consisted of six manors, situated in the present districts of Augustów and Suwałki, about fifteen miles to the south and south-west of the town of Suwałki.

<sup>3</sup> Adventurers here include entrepreneurs and craftsmen.

<sup>4</sup> This is a reference to former East Prussia, the territory of which belongs at present to the provinces of Gdańsk and Olsztyn and also to the U.S.S.R.

<sup>5</sup> Archiwum Główne Akt Dawnych w Warszawie (Central Archives of the Old Acts in Warsaw) [henceforth A.G.A.D.]; Archiwum Zamoyskich [henceforth A.Z.], no. 100, f. 801: O koloniach angielskich w Królestwie Polskim, 1821.

English lords and built in the Gothic style by the Italian builders, Bosio and Enrico Marconi. The numerous frescoes, stuccos, and statues that decorated the palace were executed by Roman artists under the direction of Nicola de Angelis, a disciple of Landi. The beauty of this building and Pac's services to Polish agriculture inspired the proverb: "Pac is worthy of his palace and the palace is worthy of Pac" (*Wart Pac palaca, a palac Paca*; the actual meaning of the proverb is roughly "They are tarred with the same brush"—The transl.).<sup>1</sup> Pac became famous not only for his patriotism and his concern to arouse Polish agriculture from its state of decay but also for his political and social activities. It is worth mentioning that after his return from Great Britain in 1816 he offered, amongst other things, models of Scottish agricultural implements and machines to Warsaw University which enriched the educational equipment of that institution in the field of technology and mechanics.<sup>2</sup>

The estates of Pac at Dowspuda had been destroyed and depopulated as a result of military activities in the Napoleonic Wars. Consequently, an entire system of farming had to be started from scratch. Pac decided to carry out this reconstruction following English and Scottish models, with the help of migrant farmers from these two countries. Already in the autumn of 1815 he had brought in a few Scottish farming families and eleven families of German settlers from the Rhineland. But within a year Pac had ordered the German settlers to leave the farmsteads assigned to them. The Germans, in spite of widespread beliefs to the contrary, showed no ability for farming, proved to be very poor farmers, and even their solvency was in doubt.<sup>3</sup> In

<sup>1</sup> K. Kaszewski, 'Ruiny zamku w Dowspudzie' (The Ruins of the Castle in Dowspuda), *Tygodnik Ilustrowany*, no. 276, Warsaw, 1865, pp. 4-6. After the Polish-Russian War of 1831 Ludwik Pac emigrated to London, while his estates were confiscated by the Russian Tsarist authorities and sold to private buyers. His famous palace in Dowspuda crumbled into ruins in a few decades, and his collections of works of art and books were sold or plundered.

<sup>2</sup> J. Bieliński, *Uniwersytet Warszawski*, Warsaw, 1911, vol. II, p. 468.

<sup>3</sup> A.G.A.D., A.Z., no. 100, f. 80r. The author of this manuscript gave the German colonists who arrived in Poland after 1815 the unflattering name of "tramps from the Rhineland," thereby stressing their inability to improve Polish farming and their lack of qualifications. On the other hand it is known that the German colonists who settled down in eastern Poland at that time did not fulfil the hopes attached to them, and turned out to be very poor farmers. Here is an opinion about the German colonists on the estates of the Zamoysskis in south-eastern Poland: "The settlers in Sitaniec (a village in the Zamosc district, province of Lublin), like others of the same kind, give themselves up to the habit of excessive drinking. This vice is so widespread that in spite of the favourable conditions of their colonies, they are not at all well-off financially. . . They have not started a single elementary school until now, and the majority cannot read or write. In general, they have made no progress but rather regressed in relation to their predecessors, all of whom were literate, and who developed colonies and farms to the stage in which we see them now, and in which they left them to their successors."—'Opis

their place, Pac brought in during the years 1816-18 more than 60 families of tenants and farmers, mainly from Scotland. On the lands of a few bankrupt manors and depopulated peasant farms all settlers received large allotments of land, granted under leases of 25 years. In a short time the new colonists efficiently organized farming on the lands allotted to them. Within a few months they had erected living quarters and farm buildings, using the free building materials given them by Pac. In less than a year English and Scottish craftsmen had equipped the settlers with all the necessary tools and agricultural machinery and also with carts and other farming implements. Some of the small manors and newly established larger farms were given new names which reminded the settlers of their native country. Thus one of the manors became "New Scotland," another got the name "Gowenloh." At the start, the yearly rent paid by the British was fixed at 3 *zlotys* for each Magdeburg *morg* of land (i.e. 2s. 5d. for every 0.63 acres). To make the payment of rent easier, the settlers could pay the manor in grain reckoned at current market prices instead of in cash. The average area of each farm allotted to the Scotsmen and the Englishmen was between 280 and 560 Magdeburg *morgs*, i.e. 176 to 353 acres of arable lands and meadow.<sup>1</sup>

The relatively fertile lands on the Dowspuda estates were, however, exhausted by the three-course system of cultivation that had been used for centuries; they were also badly overgrown by weeds. At first the settlers did not introduce a crop rotation but concentrated on the thorough cultivation of the fields and application of supplies of animal dung and compost to the soil. In the first two years, 1816-17, grain was sown on the greater part of the land, thus supplying large quantities of straw for the needs of the livestock. Flooded land and meadows were dried out with the help of drainage ditches. Wherever the soil was too dry and sandy, it was consolidated with manure mixed with peat. Amongst the new crops introduced by the settlers the so-called Swedish turnip appeared, as well as clover, until then unknown in these parts; furthermore, the settlers intensified cultivation and increased the acreage of wheat, rapeseed, potatoes, hops, and mixed corn.<sup>2</sup> This is how the Scottish tenant, Thompson, as early as 1816, improved the condition of his farm. He sowed 90 Magd. *morgs* [56 acres] with Swedish turnips which

gospodarstw kolonistów niemieckich w dobrach Ordynacji Zamojskiej', *Encyklopedia Rolnictwa i wiadomości związek z niem mających*, II, Warsaw, 1874, pp. 1038-9. We give this description in order to contrast it with the flattering opinions about the British settlers which appeared in the Polish press of the nineteenth century.

<sup>1</sup> A.G.A.D., A.Z., no. 100, k. 801. It should be mentioned here that Ludwik Pac at the same time was amongst the first landowners in Poland to abolish serfdom on his estates, changing labour services into money payments.

<sup>2</sup> The Polish word is *orkisz*, which is a mixture of barley and wheat.

served as fodder for his cattle and sheep. He sowed potatoes on a similar acreage, "and, apart from that, on a well-manured, well-cultivated field that had been cleaned of couch grass he sowed 192 Magd. *morgs* [121 acres] of wheat in places where, in consequence of the abandonment of the farmstead and of neglected cultivation, only 12 *morgs* [7·5 acres] had been sown before. Despite the handicap of a rainy year, the resulting turnip crop contributed to the upkeep of the cattle to a greater extent than in previous years. Indeed, without it, the stock could not have been fed, for the meadows were flooded and hay was short in consequence. Besides, swedes have proved to be the best fodder for local cattle; when fed on them the cattle quickly improve in strength and the cows give more and better quality milk than those kept on traditional fodder."<sup>1</sup> It should be added that the farmers in Dowspuda also set up a hop plantation on 12 Magd. *morgs* [7·5 acres] of land.

In connection with the increased numbers of cattle and the establishment of an up-to-date distillery, potato cultivation was intensified. In 1817 potatoes were hardly known in this area, as previously they had been cultivated only on small garden plots around the manor. According to the report of Joseph Olszewski written in 1825—he was a graduate of the Agronomic Institute in Vilna and received a scholarship from Prince Adam Czartoryski—potato yields on the Dowspuda estates were around 11,000 *korzec* (380,737 bushels), of which about 40 per cent was used by the distillery. Joseph Olszewski, an eye-witness of the field work of Scottish farmers in Dowspuda, described the methods used in potato cultivation in 1825 thus:

"I have arrived at Dowspuda just at the time when the Scotsmen are busy with the cultivation of potatoes. I have observed in the fields the most thorough cultivation of this plant with which the Scots are (of all people) best acquainted. The manner of their cultivation should serve as an example. It runs as follows:

*"Preparation of the land.* The more sandy and brittle the soil is, the better they like it, since it does not have to be as often loosened as the heavy, clayey soils which, if they are not scarified every few weeks as is garden soil, will not produce a crop of potatoes worthy of the land's fertility. Either rye or barley may be sown after potatoes. The land for the potatoes has to be ploughed once in the autumn and two or three times in the spring.<sup>2</sup> Couch

<sup>1</sup> A.G.A.D., A.Z., no. 99, ff. 989–90: 'Stan gospodarstwa dowspudzkiego dóbr jaśnie wielmożnego jenerała hrabi Paca dziedzicznego', 1817. This hand-written report on the Pac estates was read and discussed at the meeting of the Agricultural Society in Warsaw on 12 and 13 March 1817.

<sup>2</sup> Olszewski's report is not only a description of the field operations which he had observed but it includes information picked up in conversation with Scottish farmers.

grass has to be harrowed out especially after the last ploughing; then, immediately after the harrowing the twitch has to be raked together into small heaps, burnt after a few days of good weather, and the ashes raked all over the field.

"*Sowing*. On land thus prepared deep furrows are ploughed with a Lithuanian *socha* [wooden plough] in parallel straight lines by skilled ploughmen; the distance between the furrows should be about an elbow [0.62 yards]. The ploughing can be done a day or two before planting and by the time of the planting the surface of the field will be like this  $\wedge\wedge\wedge\wedge\wedge$ . At the actual planting a country waggon filled with manure, (the best is unrotted strawy manure) goes along the furrow, leaving every few yards small heaps of manure. On a Lithuanian *morg* (0.6 acres) 100–300 one-horse cart loads might be necessary, depending on the fertility of the soil. Behind the waggon walks someone with a two-pronged rake (*kruk*) or with an ordinary rake to spread the manure into smaller heaps, while several more people are occupied in spreading the manure continuously in the furrows, so that it lightly covers the bottom of the furrow as evenly as possible everywhere. Next someone brings the prepared potatoes which are cut into half—a method that saves some seed without diminishing the yield. Having thrown the potatoes into the furrows, a few inches apart throughout the whole length of the row, the ridges are ploughed down from both sides and covered with earth by an ordinary *socha* so that where formerly the ridge was high there remains a furrow. The surface of the ground once again looks as it did before planting:  $\wedge\wedge\wedge\wedge\wedge$ .

"Because of the large size of the fields the planting of potatoes in Dowspuda usually lasts from the 1st to the 30th of May. In the first days of June when the fields begin to look green with growing weeds, they are harrowed across the ridges with a wooden harrow, irrespective of whether the potatoes have already started shooting. In the second half of June when the weeds again start to grow, the fields are hoed with a one-horse weeder between the rows of potatoes which by this time have already risen a few inches. The following week the earth is turned and the rest of the weeds growing closer to the rows of potatoes are uprooted with hand-hoes working from both sides of the row. This work is done by girls or even by children who walk along the rows and gather up the earth as close as possible around the potato shoots.

"In the beginning of July the potatoes ought to be ploughed round with a one-horse ridging plough with two mouldboards made of cast iron or wood shod with metal. This throws earth from both sides onto the potatoes that were previously disturbed by the weeder and the hoe. As a result the surface of the ground once again looks as it did at the time of planting  $\times\times\times\times\times\times$ .

Ploughing like this is continued every two weeks so long as weeds continue to shoot, but usually one ploughing is enough; after this the now well-developed potato starts to flower and needs no further ploughing.

"*Potato-harvesting*. First the field is ploughed with an ordinary *socha* of two *soszniki*<sup>1</sup> which should sink in deep enough to reach the middle of the row of potatoes. Afterwards people on foot pull out and shake off the foliage, gathering up the potatoes and carrying them back to the Scottish carts which take them to the villages to be stored.

"*Potato-clamps*. Trenches should be dug in a place which will safely keep out water, a foot deep, four to eight feet wide, and several dozen feet long. It should be filled with as many potatoes as one can find room for, piled on top of each other. Afterwards the whole heap is covered with dry, chaffed straw so that after pressing down, the layer is at least five to six inches thick. On the top of the straw earth is strewn, not only the earth that has been dug out of the trench, but also earth from the sides, around the clamp. In short, a small trench is dug around the clamp and the earth shovelled on top until it lies about a foot thick on top of the clamp. It is then rammed down with spades, lest rainwater should filter down from the top to the bottom. If there is any danger of the rainwater flowing down the sides to the bottom of the trench, it is better not to dig one but, having strewn the clamp with earth above the level of the ground, to cover it as already described. It is advisable to lay down some straw litter at the bottom of the potato clamp, provided that the straw or the potatoes themselves are not wet at the time. If snow should fall before the earth covering the potatoes has frozen, the snow should be at once cleared off, thus preventing it from soaking into the clamp. If the potatoes should start rotting in the clamp, steam will be seen coming from it. Then it must be opened up at once, the rotten potatoes removed, and the rest covered again with dry straw and earth, or else removed to a cellar."<sup>2</sup>

The above description of methods of potato cultivation were new not only to local Polish landowners but even to graduates of the Agronomic Institute of Vilna. The use of a ridging plough in ploughing out potatoes deserves special attention, since this method did not really catch on in Poland. It is true that in the eighteen-fifties on some Polish manors a ridging plough of the Lawson type was put to this use, but experience showed that it damaged the potatoes and left a considerable number of them in the ground. Therefore where mechanical diggers (*koparka*) are not used, the peasants continue to

<sup>1</sup> *Soszniki* are the wooden spikes of the *Socha*, a primitive, wooden, chisel-like tool.

<sup>2</sup> W.A.P.L., A.O.Z., no. 4285, ff. 70-2: J. Olszewski's report about the farming of the British farmers on the Dowspuda estates, 1826. The schematic drawings are reproduced here as they appeared in the text.

this day to dig out the potatoes with hand hoes. The ploughing in of fertilizer after the potatoes had been sown in rows did not catch on in Poland either. On the other hand, the storage of potatoes in clamps, following the method described above, is still used today in Polish villages, with the difference that the pits are deeper and the layers of earth and straw covering the potatoes thicker than those used by the Scottish farmers in 1825 in Dowspuda.

In the years 1817-18 the Scottish and English farmers in Dowspuda introduced the following crop rotations varied according to soil conditions. On sandy lands a six-course rotation was practised.

1. Potatoes sown on the fallow after manuring.
2. Rye or barley undersown with white clover.
3. Clover ley for sheep grazing.
4. Clover ley.
5. Ley ploughed out and sown with rye.
6. Rye.

On mountainous and on marshy lands a five-course rotation was introduced:

1. Potatoes on fallow after manuring.
2. Barley undersown with red clover.
3. Red clover for hay or grazing land for cows.
4. Clover ploughed out and sown with rye.
5. Rye.

On wet loams lying farthest from the farmsteads a four-course rotation was observed, thus:

1. Bare fallow.
2. Rye or sometimes wheat.
3. Spring crops, sometimes peas and vetches.
4. Fallow to serve as grazing land for cows because of the great abundance of small plots of natural meadows among the fields.<sup>1</sup>

Apart from the improved tools and agricultural machines produced in local workshops the farmers used local ridging ploughs and so-called Lithuanian *sochas*, the same as those generally used by the local peasant population. These implements were drawn by horses and oxen raised specially for the purpose on the immigrants' holdings. To save timber, wooden fences between tenants' plots were eliminated and replaced by ditches, or by quickset hedges of thorn and briar. Moreover, many new roads were built on the estates and roads previously built were put back in repair. Although the population of English and Scottish dwellers on the Dowspuda estates was about 500 persons in the eighteen-twenties, the individual farmer still kept some Polish servants in addition—2-5 workers, depending on the size of the farm and on the intensity of livestock breeding.<sup>2</sup>

Amongst the livestock bred by the settlers the greatest number of cattle were of "foreign" purebred type which, thanks to scientific methods of breeding and feeding, differed visibly from the cows kept by peasants in the neighbourhood. For instance, an English farming family, called Berth, was already keeping as many as 75 high-yielding cows in 1817. In the same year

<sup>1</sup> *Ibid.*, ff. 69-70.

<sup>2</sup> *Ibid.*; A.G.A.D., A.Z., no. 99, f. 989; no. 100, f. 802.

in the course of less than four months the Berths had produced from the milk of these cows large quantities of excellent "Cheshire" cheese which brought them a sum of 9,800 *zlotys* (£233 8s.), while the butter they produced fetched 720 *zlotys* (over £17). As the years went by, the production of "Cheshire"-type cheese was started on every farm. As late as 1865 we come across remarks about the mass production of this cheese on the Scottish and English farms of the Dowspuda estates. The production of this cheese, very much in demand in Poland, and also of high-quality butter, brought substantial gains to the local settlers.<sup>1</sup>

The farmers on the Dowspuda estates also bred a fair quantity of thoroughbred and improved sheep. Soon after settling in in 1817 the number of Spanish merino sheep kept by the Scots and the English reached 2,500 head and in the following years the number had grown to over 7,000. The high-quality wool obtained from these sheep was much in demand at the Warsaw markets. It was also sent to Great Britain by English merchants travelling to Warsaw or else visiting Dowspuda itself.<sup>2</sup>

Together with the farmers, some skilled craftsmen (mainly Englishmen, accompanied by their families) arrived at Dowspuda. Amongst them was a wheelwright and joiner, named Pritzer,<sup>3</sup> two mechanics, named Douglas and Robertson, two English tanners, and several locksmiths and blacksmiths. They quickly established workshops to meet the needs of the settlers and of the whole estate of Dowspuda. General Ludwik Pac supplied them with free building materials to erect living quarters and farm buildings in addition to which each of them received small parcels of arable or grazing land. On these parcels the craftsmen set up vegetable gardens and orchards, while their cows and sheep grazed on the pasture lands. Within eighteen months, i.e. in 1816 and 1817, they had made the following machines, agricultural tools, and household accessories for the settlers and the whole estate:

"1. Two costly machines for the threshing of grain, on the best Scottish model, each of which could thresh out 8 stacks of rye or 12 stacks of legumes in an hour.<sup>4</sup> One of these machines alone threshed out 12,000 stacks a year which saved 6,000 working days, the time that would have been needed for threshing out a similar quantity of grain by flails.<sup>5</sup>

<sup>1</sup> A.G.A.D., A.Z., no. 99, f. 992; Kaszewski, 'Ruiny zamku w Dowspudzie', *loc. cit.*, p. 4. The English form of the surname, Berth, is probably Burt.

<sup>2</sup> A.G.A.D., A.Z., no. 99, k. 990; Kaszewski, *ibid.*

<sup>3</sup> This is almost certainly the surname, Price, which in Polish would be pronounced Pritzer.

<sup>4</sup> A stack of grain in old Poland comprised sixty sheaves but its size depended on the size of the sheaves, on the type of grain, the number of weeds, etc. as well as on the industry of the workers who tied the sheaves together. Therefore it would be difficult to establish the size of one stack.

<sup>5</sup> At this time a worker could thresh out with flails an average of half a stack of grain during

"2. Eight riddles (*arfy*),<sup>1</sup> each of which could sieve about 50 Warsaw *korzec* (176 bushels) a day.

"3. A hydraulic press, brought from abroad at considerable cost which served to press oil from rape and other seeds, for use in cloth manufacture. It was also used for winching out the thickest trunks and roots from woodland with the greatest ease, requiring the aid of only one man.<sup>2</sup>

"4. A machine for washing linen, generally used in barracks and hospitals in England.

"5. A mechanical mill for the felting and cleaning of cloth.

"6. A horse-mill<sup>3</sup> for paring bark.

"7. Several chaff-cutting machines.

"8. A machine for peeling potatoes.

"9. Machines for lifting great weights, and many other machines and tools to lighten the manual work of servants, and to improve the work of the distilleries; two-wheeled carts called *dziankar* for loading logs of wood and requiring one man only; machines of a new kind for winnowing grain.

"10. Four double machines for the sowing of turnips and two for sowing peas and beans. These were exhibited by the English wheelwright, Pritzer, who, in spite of a long illness, which caused serious delay to his work, also produced

"11. fifteen ploughs of different sizes and for different uses.

"12. Two large cultivators, called in English grubbers, and in addition, a large number of wheelbarrows, harrows, weeding hoes, two-wheeled carts, and other agricultural tools to ease farm work. Finally, mention should be made of the most important items of equipment, namely, large patterns which have been made with great skill, and with the help of which one may at a moment's notice cast spare parts for sawmills, mills, threshers, oil mills, corn mills (*krupiarnia*), fulling presses, paper mills, chaff-cutters, *arfy* (riddles) etc. The English locksmiths and blacksmiths are not only carrying out their tasks as perfectly as possible, *but even train students in our country who have in them the best possible teachers.*"<sup>4</sup>

a ten-hour working day. Threshing with a flail was done invariably by four workers in a barn and the author of the description took one working day of four threshing workers as a basis for calculating the saving achieved in threshing by the Scottish thresher in Dowspuda.

<sup>1</sup> *Arfa* is a wire net, stretched out on a wooden frame, surmounted by a basket through which seed was poured. In Poland *arfas* with wire nets or those made of narrow strips of leather began to be used only from the second part of the seventeenth century onwards.

<sup>2</sup> The machine arrived in 1816 from England in pieces and mechanics in Dowspuda had only to assemble it.

<sup>3</sup> A horse-mill (*młyn koński*) here means an appliance for paring the bark of the oak-tree; it was moved by a wooden treadmill to which horses were harnessed.

<sup>4</sup> A.G.A.D., A.Z., no. 99, ff. 990-1.

If we consider the short time in which all this had been achieved, the production of these small English workshops was impressive and understandably created a sensation amongst the neighbouring peasant and landowning population. The construction of two of A. Meikle's large fixed-drum threshers was an especially fine achievement—they were among the first threshing machines of this kind to be built in Poland. Indeed, the event was mentioned in the press: the anonymous correspondent of the agricultural review *Izys Polska* reported the news in the following manner thereby greatly arousing public interest:

"I have heard of a precision-built and very useful English threshing machine which now exists in Poland. It is, apparently, on the estates of General Count Pac, who, having introduced all the equipment of an English farm, has copied it down to the smallest detail. This splendid and in its way unique achievement, accomplished at great cost, well deserves publicity. There is one thresher for the whole estate, set up at its centre. All grain from the entire estate is brought to this point, and stacks or rather small heaps are made ready to be threshed out by the machine at a convenient time. Whether much time or much grain is lost by transporting it from distant places, I would not know."<sup>1</sup>

Both the thresher and the system of stacking reaped grain into stacks around the threshing barn followed almost exactly the descriptions of Scottish farming which were published at that time by Polish landowners who had visited Britain.<sup>2</sup> To the description quoted above we may add that the machines made by English craftsmen in Dowspuda excelled in durability and productivity. Judging from references in the press, certain machines, especially the threshers produced between 1817 and 1820, were still working faultlessly in 1865; they had been in constant use in Dowspuda for more than 45 years.<sup>3</sup> More than this, it should be stressed that the English craftsmen living on the estates did not hide their skills jealously, practising them for their own profit alone; they trained Polish pupils to build tools, agricultural machinery, and industrial appliances, thus making a contribution to the technical progress of Polish agriculture. Nor did the inventiveness of these specialists stop at making the above-mentioned machines and tools. Other written sources inform us that in 1817 the English craftsmen finished work on a

<sup>1</sup> O młocarniach (korespondencja), *Izys Polska*, no. 11, vol. III, Warsaw, 1820, p. 454.

<sup>2</sup> See, for example, D. Chłapowski, *O rolnictwie*, Poznań, 1875, 4th edn, with an addition of letters about farming written from Scotland and England in 1815 and 1819; A. P. Biernacki, 'Pod jakimi względami ważna jest rolnikowi polskiemu znajomość gospodarstwa wiejskiego angielskiego', *Gazeta Wiejska*, Warsaw, 1817, pp. 153-6.

<sup>3</sup> Kaszewski, *loc. cit.*, p. 4.

modern sawmill with 12 saws, and supplied the technical equipment for a tannery which was later run by two qualified tanners brought from London. Furthermore, equipment was built for a brewery which began producing beer in 1817 which "equalled the best Bavarian beer, and imitated English beer." The productive capacity of the brewery was 4,000 barrels in a year; the raw material, hops and barley, was supplied from the farms of British settlers and from the manors which remained under the management of General Pac.

Early in 1818 a personal acquaintance of Pac visited Dowspuda. He was an Englishman, called Riad,<sup>1</sup> owner of a large English cloth factory. He entrusted his business to the care of his eldest son, while he himself undertook the organization, construction, and mounting of the technical equipment required for a similar factory for the bleaching of flax and linen to be set up in Dowspuda. The parts required for the factory were imported from England. This plant was working under the management of Riad and other English masters for eight years, until 1826 when it was closed down for lack of sufficient quantities of raw material.<sup>2</sup>

As we can see, the plans realized by Pac with the help of English experts for the industrialization of his estates together with the expansion of agricultural production were bold and sweeping.

The British colonists and craftsmen in Dowspuda won for themselves respect and recognition from the peasants and landowners of the neighbourhood. Hence their assimilation into their chosen country took place very quickly. Nevertheless, they kept their different customs for decades, at the same time maintaining their high standards of technical competence and their relatively high intellectual standards. According to contemporary accounts: "the customs and ingrained habits of the Scots, especially of those who have always tilled the land, are irreproachable. They like Polish spirits but they dilute them with beer, water, and other liquids and, on the whole, they are very thrifty. In working on the land they are much more industrious than the native peasants. . . For ploughing they use horses most often and a plough, keeping local lads for the *socha* and the oxen. . . Finally, it is extraordinary that although they undertake the lowliest jobs on the farm, each of them can write and count and some even have collections of all kinds of books, and read them from time to time."<sup>3</sup>

Here is yet another opinion about the British settlers in Dowspuda: "The

<sup>1</sup> This is probably the surname, Read.

<sup>2</sup> A.G.A.D., A.Z., no. 99, f. 992; Słownik Geograficzny Królestwa Polskiego, vol. II, Warsaw, 1881, pp. 136-7.

<sup>3</sup> A.G.A.D., A.Z., no. 100, f. 802, 1821.

population has been much increased on these estates by industrious people who know all about the proper cultivation of the land and also have a knowledge of the smaller crafts which are practised in the villages; this opens up great possibilities not only for the squire but—one might say—for the country too, since these people furnish an example of industry and diligence, and only by the practice of such virtues can our domestic farming be improved.”<sup>1</sup>

As the years passed the English and Scottish farmers and craftsmen in Dowspuda mixed with the local population more and more, losing their distinct national and religious traditions and customs, but preserving their reputation for industry and enlightened expertise. In 1856 the following account was written of the descendants of the first British settlers in Dowspuda: “In these parts there are to this day naturalized descendants of those newcomers, and a spark of their fathers’ customs, language, and knowledge continues to glimmer amongst them. One can find here an excellent cheese, named ‘Cheshire’ after the place of its origin and the method of its making, as well as other products of the farming business which they learned from their ancestors.”<sup>2</sup>

Thanks to the efforts of the great agriculturalist and patriot, General Pac, a thriving centre of technical progress in agriculture was created in 1816; a nucleus of scientific farming was transplanted alive from Scotland and England. The British settlers taught the local population how to cultivate the land efficiently; how to raise purebred and high-yielding cows and improved sheep; how to construct and use to best advantage their perfected agricultural tools and machines; and finally they taught thriftiness and economy. Still, the advantages were not all one-sided. The Scots and the English received in Dowspuda fertile lands and financial help in the form of building materials. They could, without any serious restriction, use the resources of the woodlands (firewood and timber for building, fungi, blueberries, raspberries); they had permission to hunt in the spacious forests in the area which abounded in game; they could also fish in the rivers and lakes. Low ground rents and state taxes, their freedom from all forms of exploitation, the sympathy of the local population—all this created favourable conditions for productive farming, even for prosperity. Thanks to their great skill in farming, they were able to take good advantage of these opportunities.

The history of this hitherto unknown centre of British agricultural settlement in Poland, from which agricultural knowledge and technical progress spread afar, serves as yet another example of the British contribution to agricultural advance in the old Kingdom of Poland.

<sup>1</sup> A.G.A.D., A.Z., no. 99, ff. 992–3, 1817.

<sup>2</sup> Kaszewski, *loc. cit.*, p. 4.

# Towards a Terminology for Strip Lynchets

By G. WHITTINGTON

THE writings on strip lynchets are many and approach the subject from a variety of standpoints. They reveal in some instances the confusion that exists in the use of the word lynchet, but more important they have led to the creation of many descriptive terms which might be used to form a lynchet terminology. In recent years the literature has paid greater attention to the form and structure of strip lynchets and this has established a clearer understanding of the different constructional aspects of these agricultural features. This paper is an attempt to show how a terminology has slowly come into existence.

The present word 'lynchet' is derived from the Anglo-Saxon word 'hlinc'. There are many instances of 'hlinc' in the old chronicles, and especially in the boundary charters where it was used as a distinguishing point on the boundaries. This is seen in Kemble's *Codex Diplomaticus Aevi Saxonici* where the delimitation charters are to be found. The boundaries contained therein follow features of the landscape such as streams, highways, foot-paths, and notable stones, and 'hlinc' is used many times to identify a particular point on the boundary. Sometimes it is qualified: 'maerhlinc' and 'stan maeres hlinc', 'maer' being a boundary; 'hafoc hlinc'—Hawk's ridge; 'rahlinc'—roe's ridge; 'brom hlinc'—broom ridge. There is, however, only one instance of a cultivated 'hlinc' in a Worcestershire charter, A.D. 972: "of afene on caldan pyllan . . . on pyrd hlinc"—"from the Avon to the cold spring . . . to the ploughed ridge." There also occurs in several charters the reference to 'thæs Hlinca Heafdun' (viz. Kemble 1035, 1110)—'the headlands of the ridge', which has been taken by some writers as evidence of 'hlinc' having an agricultural connotation at an early period. It is more likely, however, that 'hlinc' here still meant ridge, and that it so happened that in this instance the ridge had a ploughed headland on it.

The first written use of the word lynchet appeared in 1669 in a book called *Systema Agriculturae*. In this book the definition of the word lynchet is given as "A certain line of Green-sword or Bounds, dividing Arable land in Common Fields."<sup>1</sup> Thus the original meaning of the word lynchet was very different from the one it conveys now. Other authors writing between the

<sup>1</sup> J. Worlidge, *Systema Agriculturae*, 1669, p. 273.

year of publication of Worlidge's book and 1797 also used the word lynchet or a local variation of the word, and again there is no hint of the present-day meaning. Three definitions given are: "A bank, Wall or Causey between Land and Land, or Parish and Parish, to distinguish the bounds;"<sup>1</sup> "A green balk to divide lands;"<sup>2</sup> "the mere green sward dividing two pieces of arable in a common field, called in Hants, a lay-bank."<sup>3</sup> It is worth noting that they make no mention of any differentiation between the land on the level and that on the hillside.

Two authors writing in the early 1790's on the subject of lynchets referred to them as terraces, and it can be concluded from this that either they had never heard of the word lynchet or that it was a dialect form which they did not consider worth using.<sup>4</sup>

Writing in 1797, however, Maton drew attention to the terraces to be found on declivities in the chalkland, and added that he was alluding "to the linches, or lynchets, as they are called."<sup>5</sup> This was the first occurrence of the word in the sense of 'terrace', and it predated a similar usage by nearly 70 years.

In 1799, Marshall writing about the 'Chalk Hills' says, "The artificial surface which meets the eye, in different parts of these hills, forcibly arrests the attention. It occurs on the steeper slopes, which are formed into stages, or platforms, with grassy steeps, provincially 'LYNCHETS', between them."<sup>6</sup> Here the word was still being used in the sense favoured by Worlidge over a hundred years earlier, though it is possible to see the beginning of the intrusion of a different meaning. In a glossary of Sussex provincialisms written in 1836 a very much restricted meaning was given to lynchet: "a green or wooded bank, always on the side of a hill between two pieces of cultivated land."<sup>7</sup> In short, although the meaning given by Maton had not yet been used again, this was a definite move away from the earlier definition to one approaching the present use of the term. In a still later glossary both meanings were given: "a ledge of ploughed ground on the side of a hill; or the strip of green ground between two ploughed ledges."<sup>8</sup>

<sup>1</sup> T. Blount, *Glossographia*, 1690.      <sup>2</sup> J. Ray, *A Collection of English Words*, 1674.

<sup>3</sup> T. Davis, *A General View of the Agriculture of Wiltshire*, 1794.

<sup>4</sup> T. Pennant, *A Tour in Scotland*, 1790, III, p. 283; and an anonymous author in *The Gentleman's Magazine*, LXVI, 1796, p. 821.

<sup>5</sup> W. G. Maton, *Observations Chiefly Relative to the Natural History, Picturesque Scenery, and Antiquities of the Western Counties of England*, 1797, II, p. 186.

<sup>6</sup> W. Marshall, *Southern Counties*, 1799, II, p. 300.

<sup>7</sup> W. D. Cooper, *A Glossary of the Provincialisms in Use in the County of Sussex*, 1836.

<sup>8</sup> W. Barnes, 'A Grammar and Glossary of the Dorset Dialect', *Trans. Phil. Soc.*, pt 3, 1864, p. 68.

In the period which followed this, lynchets took on the present specific meaning which signifies both the terrace flat and scarp. Scrope<sup>1</sup> and Hardy<sup>2</sup> in their writings referred to the whole terrace as a lynchet. Halliwell, writing on the use of words in an earlier period, was alone in giving the seemingly original meaning only: "Any bank or boundary for the division of land."<sup>3</sup> It is true that Seebohm restricted the term to the dividing risers, but he said also that the word 'lynch' was applied to the terraced strips themselves.<sup>4</sup>

Thus during a period of about 250 years an alteration occurred in the meaning of a word which had had agricultural connections since early times. But for the fact that strip lynchets continue to exist, the word would most probably have died out except for its occurrence in many place names and in the term 'links', for it is the other Anglo-Saxon word for ridge, namely, 'clif', that has survived in the modern names of such natural features as escarpments and steep hills, e.g. Chisman's Cleeve on the southern escarpment of the Vale of Pewsey, and Cleeve Hill near Cheltenham.

It was hoped to locate the first use of the term 'strip lynchet' and thus see if that usage proved a connection between the feature it denoted and the open fields. Although easily found it did not provide any provable connection with this agricultural system. 'Strip lynchet' grew out of several tentative combinations of lynchet and strip used in a qualifying sense, i.e. in order to differentiate it from the 'Celtic' lynchet which appeared in the literature of the second decade of the twentieth century. The first use of the words together was made by Crawford in 1923 when he spoke of 'strip-lynchets'.<sup>5</sup> Clearly this was merely an attempt to describe the appearance of the lynchets about which he was writing, but the description stuck and the two words became considered as one term. Clay<sup>6</sup> writing in 1927 and Raistrick and Chapman<sup>7</sup> in 1929 used strip lynchet as a term with the words no longer inside inverted commas. From that time a new word entered the parlance of geographers, archaeologists, economic historians, and agricultural writers. The term itself describes this feature of the landscape admirably, but it is perhaps unfortunate in as much as it immediately implies a connection with

<sup>1</sup> G. P. Scrope, 'On the Origin of the Terraces, Balks, or Lynchets of the Chalk Downs', *Wilts. Archaeol. Mag.*, XII, 1866, p. 186.

<sup>2</sup> T. Hardy, *Wessex Tales*, 1888, p. 56; *Tess of the D'Urbervilles*, 1891, p. 365; *Wessex Poems*, 1898, p. 135.

<sup>3</sup> J. O. Halliwell, *Archaic and Provincial Words*, 1874.

<sup>4</sup> F. Seebohm, *The English Village Community*, 1890, p. 5.

<sup>5</sup> O. G. S. Crawford, 'Air Survey and Archaeology', *Geog. Jnl.*, LXI, 1923, p. 357.

<sup>6</sup> R. C. C. Clay, 'Some Prehistoric Ways', *Antiquity*, I, 1927, p. 59.

<sup>7</sup> A. Raistrick and S. E. Chapman, 'The Lynchet Groups of Upper Wharfedale, Yorkshire', *Antiquity*, III, 1929, p. 173.

the open fields. It is perhaps due to this and earlier ideas of the origin of the open fields<sup>1</sup> that these terraces have been regarded all too readily by many people as being incontrovertibly Anglo-Saxon.

Strip lynchets has now become firmly entrenched in the English language as a complete term but, as shown earlier, lynchets in its various forms, had several meanings in the past, and even today it does not have a single interpretation. Lynchets, when used by itself in present-day English, denotes a bank which has arisen due to agricultural practices, but it also has a specialized meaning which, as the Orwins say, has "been complicated by the application of the name lynchets to something entirely different from the clearly defined terraces of the hillsides, namely, to the little banks enclosing the small crofts or cultivation plots which archaeologists associate with a farming system earlier than that of the Open Fields."<sup>2</sup> Without use of the qualifying terms strip and Celtic, confusion as to the actual feature being discussed can easily arise.<sup>3</sup>

Strip lynchets is not, of course, a term used by the inhabitants of the areas in which the terraces are found. Local people have no need to differentiate between types of lynchets because the strip variety is the only one which really stands out in the local landscape; the 'Celtic' lynchets is a much more subdued feature and is usually located out of the sight of most settlements. The word lynchets, by itself, is used commonly in Wiltshire and Dorset but it does not have an exclusive use even in Wessex. Lynch or lince is used in Dorset and Hampshire, while lanchard is still to be found in Somerset. The term wall or whale is used on the Somerset-Dorset border in the neighbourhood of the Cadburys and Compton Pauncefoot. Lynchets and the forms akin to it are common in the south of England but in the north the words *daisse* and *rein*<sup>4</sup> are also used.

Since strip lynchets was introduced into the literature, several useful terms have been coined which are now vital in describing their component parts. As early as 1927 Curwen<sup>5</sup> had introduced the terms 'negative lynchets' and 'positive lynchets': the former is a zone at the back of a strip from which

<sup>1</sup> J. Thirsk, 'The Common Fields', *Past and Present*, no. 29, 1964.

<sup>2</sup> C. S. and C. S. Orwin, *The Open Fields*, 1938, p. 319. Strictly speaking the lynchets associated with the Bronze Age farming system would be better described by some other term but the name 'Celtic Fields' of which the lynchets are a vital part has become entrenched. Thus Celtic continues to be used although it has nothing to do with the modern field patterns of areas like Wales, Ireland, etc.

<sup>3</sup> For such a confused use, see D. P. Dobson, *Somerset*, 1939, p. 211 ff.

<sup>4</sup> It is interesting to note that the word used in the Dresden area of Germany to describe a strip lynchets is 'Raine'.

<sup>5</sup> E. C. Curwen, 'Prehistoric Agriculture in Britain', *Antiquity*, 1, 1927, p. 264.

material has been moved in order to build the bank of the terrace or positive lynchets.

Clay, writing in 1927, added two new terms to the already existing terminology. He used an obvious collective term for a system of strip lynchets when he referred in his article to a 'flight of steps'. Strip lynchets certainly have the appearance of gigantic stairs, and it now appears quite normal to speak of a 'flight of strip lynchets', that being a more expressive term than a 'series of strip lynchets'.<sup>1</sup> Keeping to the analogy of the stairs, Clay also used the word tread to refer to the ploughed part of the strip lynchet, "the tread of the steps corresponding to the cultivation area."<sup>2</sup> This is a useful term because 'strip lynchets' includes both the bank and the flat area so that something is needed with which to differentiate one component part from the other.

When describing the excavations at Bishopstone, Wood<sup>3</sup> used both tread and flight as part of his nomenclature. In order to describe the part of the strip lynchet which divides one tread from another he introduced the word 'riser', and the phrase 'lip of the riser' to describe that part where the tread and the riser meet.

Thus it can be seen that a change has taken place in the course of time in the meaning of lynchets. But as a result of the suggestions made by various authors there is now in existence a valuable collection of terms which facilitate the description of strip lynchets. Such terms can now be found quite commonly in recent works on strip lynchets.<sup>4</sup>

<sup>1</sup> In France the flight is known as 'Le nid'.

<sup>2</sup> R. C. C. Clay, *op. cit.*, p. 59.

<sup>3</sup> P. D. Wood, 'Strip lynchets at Bishopstone, near Swindon, Wilts., excavated in 1954', *Wilts. Archaeol. Mag.*, LVI, 1956, p. 12.

<sup>4</sup> H. C. Bowen, *Ancient Fields*, 1961; G. Whittington, 'The Distribution of Strip Lynchets', *Trans. Inst. Brit. Geographers*, xxxi, 1962, p. 119; J. W. McNab, 'British Strip Lynchets', *Antiquity*, xxxix, 1965, p. 279.

# The Remodelling of a Common-field System

By IAN BECKWITH

RECENT discussion has reminded us that pre-enclosure field systems were probably not static but were often subject to change in response to contemporary economic or social pressures. It has been suggested by one writer that the direction of such changing field patterns in the seventeenth century tended to favour an increase in the number of arable fields so as to reduce the area left fallow each year.<sup>1</sup> The village of Corringham, Lincolnshire, provides an illustration of how a common-field system was remodelled not once but several times before the Parliamentary enclosure of the mid-nineteenth century.

Corringham is situated four miles east of Gainsborough. Originally there were two villages, Great and Little Corringham, which, in the pre-enclosure period, worked their fields separately. However, the two communities have now merged into one long village which straggles between two branches of the River Eau. Great and Little Corringham were enclosed late, between 1848 and 1852, at which time the parish contained 8,000 acres, including 2,800 acres of common pasture. Within the parish there were, besides the Corringhams, several outlying hamlets, which seem to have been shrunken townships and which, with one exception, preserved their independent field systems.

Evidence for the disposition of the arable lands of Great Corringham in the Middle Ages is provided by a grant of a bovaté of land

and some woodland there in about 1200.<sup>2</sup> The relevant passage in this charter reads as follows:

"Hee autem sunt partes terre. Ex occidentali parte ville tres acre supra villam in magna cultura propinquoires soli. vna acra in Broxwellehil in cultura remotiori versus aquilonem. due acre in Wudefurlang ad Litelethorn. due acre in Litelethorndale. due acre ad Hilakethorn. Ex orientali parte ville ad magnam culturam sub Holm une acra propinquoior soli. una acra ad Rosaghe. una acra ad Crakethorn. ad Bruneshil due acre in cultura remotiori versus aquilonem. ad Copthorn due acre propinquoiores soli. in Haueracres due acre in remotiori cultura versus austrum."

This implies that at the time when this grant was made the arable land of Great Corringham lay in two broad divisions to the west and east of the township. The wording recalls Stenton's statement that the formula by which Lincolnshire holdings were conveyed in the twelfth century suggests that a two-field system prevailed in Lincolnshire.<sup>3</sup> Another charter granting a bovaté and sixty acres of wood in Corringham, of about the same date as that just quoted, refers to twenty-six selions and two acres of land scattered in seven separate furlongs.<sup>4</sup> It happens that several of the furlong names in these two medieval grants of land survived into the eighteenth century and appear on an estate map of 1758.<sup>5</sup> They show that furlongs which

<sup>1</sup> J. Thirsk, 'The Common Fields', *Past & Present*, no. 29, 1964; M. W. Beresford, 'Glebe Terriers & Open Field in Leicestershire', *Studies in Leics. Agrarian History*, *Trans. Leics. Archaeolog. Soc.*, 1948, p. 94.

<sup>2</sup> C. W. Foster and K. Major (eds.), *Registrum Antiquissimum*, vol. IV, *Lincoln Record Society*, xxxii, p. 4, no. 1105.

<sup>3</sup> F. M. Stenton, *Documents Illustrative of the Social & Economic History of the Danelaw*, p. xxx.

<sup>4</sup> *Registrum Antiquissimum*, *op. cit.*, p. 5, no. 1106.

<sup>5</sup> Lincolnshire Archives Office, Bacon Plans 1/1.

appear on the extreme edges of the village in the mid-eighteenth century were already in existence in about 1200 so that the arable lands had apparently already reached their ultimate limits of expansion by the beginning of the thirteenth century. However, this grant does not distinguish between the furlongs on the west and the furlongs on the east of the township. A comparison of the furlong names in the medieval grants with the eighteenth-century map suggests that when the grants were made in 1200 the scribe proceeded to describe the lands being given beginning with the furlongs on the far east of the village and concluding with the furlongs on the far west. This may again suggest a division of the arable into two large fields. However, as we shall see, it is dangerous to push too far the evidence from an eighteenth-century map of a pre-enclosure village as a description of the condition of the fields in the Middle Ages.

By the beginning of the seventeenth century, however, the medieval field pattern, so far as it has been determined, had already been altered twice. The evidence for this is contained in a series of bye-laws made in 1601.<sup>1</sup> The bye-laws are endorsed "A copie of the orders set downe by thinhabitants [*sic*] of Corringham and Asebie the 14th day of May 1601." By whom they were copied and from what source is not known at the moment. The script, however, suggests that the copy was made not long after the original document had been drawn up. At the date when the bye-laws were apparently made most of the land in Great Corringham belonged to the manor and soke of Kirton-in-Lindsey. Three of the signatories to the bye-laws, namely John Thorald, Richard Gilby, and John Gilby, were tenants of the manor of Kirton. The status of the others is not clear.<sup>2</sup> It may be conjectured that the use of the words "thinhabitants," coupled with the fact that tenants of the manor of Kirton were in a minority

among the signatories is evidence that these bye-laws were not made in the manorial court of Kirton, but represent a decision by twelve of the community of the village irrespective of tenurial status.<sup>3</sup> In view of the importance of the step taken in clause five of the bye-laws, one would certainly expect this to be a decision requiring the approval of the entire farming community, rather than of a group of farmers who owed suit to a court with jurisdiction over a portion of the village only. However, it might be further conjectured that the presence of the largest single tenant of the manor of Kirton in Corringham, Sir John Thorald, among the signatories indicates that the interests of the Kirton tenants were well represented. Aisby, whose inhabitants were also represented in the decisions embodied in these "Orders", was one of the outlying hamlets within the parish of Corringham. In 1616 it was stated that "The two townships of Corringham Magna and Assebye are conjoynd in situation, and most of the lands lye intermixt in the comon fields of both. . . Assbye, sharing the comon field of Corringham Magna, has anciently 18 oxgangs rented at £3 5s. 4d., viz. each bovat 3s. 5d. There should be 360 acres, besides comons, but now only 234 a. acknowledges."<sup>4</sup> The bye-laws not only show that familiar practice of communal control of crops and stock "according to ancient rights and practices" which was common in the unenclosed village, but they also provide evidence of a significant alteration in the agricultural practice of Great Corringham at a definite moment in time, and of how that alteration was carried out. If this evidence is not unique it is surely unusual.

The bye-laws contain seventeen clauses. With one exception they follow a familiar enough pattern. They deal with such matters as "setting and diking" along the field boundaries of Corringham and the neighbouring townships, arrangements for the common pastures, and the scouring and cleaning of the

<sup>1</sup> Lincolnshire Archives Office, T.L.E. 26/3/1/3.

<sup>2</sup> Survey of the Manor and Soke of Kirton, 1616, cited in Oxoniensis, *History of Corringham*.

<sup>3</sup> No evidence of these bye-laws appears in the Kirton Manor Court Roll.

<sup>4</sup> Survey of the Manor and Soke of Kirton, *op. cit.*

ditches and drains. Such rules are not uncommon: usually they reiterate laws which were already in existence but had lapsed, or make explicit some practice which has become orthodox routine but needs the power of enforcement. The significant clause here is clause five which states:

"5. Itm that the foure corne feilds of Corringham be turned in three corne feilds. And that Raynthornes and Bracken hill, wch after this day is sown wth barly, shalbe used hereafter wth hony hole feild, and the other two feilds to contynew as they now be upon payne for euery aker not so translated as afore said at the next seed tyme 3s 4d."

In this clause we see the community of farmers acting to transform the agricultural practice of their village rather than merely conserving their ancient rights and practices. However, it is not easy to offer a clear interpretation of this clause. If, as is possible, there were two fields in Great Corringham in 1200, apparently by 1601 these had been subdivided into four. On the evidence of the map of 1758 this was an alteration in the pattern of the existing arable land since it seems likely that no more arable was added to the village after 1200. The bye-laws of 1601 then go on to make the arrangements for turning the four fields into three. They state that the furlongs called Raynthornes and Bracken Hill are to be worked with Hony Hole Field. According to clause three of the bye-laws, however, Honey Hole was the name of a furlong in Copthorne Field. The Parliamentary survey of the lands belonging to the Prebend of Corringham in 1650 bears this out for it shows that Raynthornes and Bracken Hill furlongs were at that date being worked with Copthorne Field.<sup>1</sup> This survey gives the other two fields as the East Field and the West Field. According to the 1758 estate map, however, the three fields of Corringham were West, Middle, and Honey Hole Fields. Copthorne was the name of a furlong in Honey Hole Field. This map shows the Raynthornes and Bracken Hill furlongs of the 1601 bye-laws

to have been situated on the west side of the village, at the south end of the West Field. Honey Hole Field (or Copthorne), however, lay on the extreme east side of the village, divided from Raynthornes and Bracken Hill by the village itself to the south-west and by the whole of the Middle Field. The disposition of Raynthornes and Bracken Hill would suggest that at some point between 1200 and 1601 the arable land to the west of the village had been divided into two fields (corresponding to the West Field of the eighteenth-century map plus a field made up of Raynthornes and Bracken Hill furlongs), and that the arable to the east was also subdivided into two fields (corresponding to the Middle Field and Honey Hole Field of the eighteenth-century map). If field nomenclature is anything to go by, the East and West Fields of the 1650 survey probably recall a period when these names corresponded to the actual arrangement of the fields but before the tripartite division decided upon in 1601 had obtained sufficient hold on the imagination of the community to have produced the more rational renaming of the 1758 map.

To what extent the decrease in the number of fields which was carried out in 1601 corresponded to a contraction in the land under plough is not clear. As has been seen, the 1758 map shows many of the medieval furlongs to have been on the extremity of the village. However, the survey of the soke and manor of Kirton in 1616 noted that for Aisby, which as we have seen had its lands intermixed with those of Corringham, "There should be 360 acres, besides comons, but now only 234 a. acknowledges." One would have expected that any reshuffle of fields would have merged Raynthornes and Bracken Hill with the field immediately adjacent rather than with a field on the far side of the village. That this point also struck the village community ultimately is suggested by the Field Book which accompanies the eighteenth-century map referred to above. From this Field Book it seems that

<sup>1</sup> Lincolnshire Archives Office, Parliamentary Survey, v/viii; 1/10.

Raynthornes and Bracken Hill were then being used with the West Field. The same Field Book states that Raynthornes and Bracken Hill had respectively just over twenty acres and just over eleven acres. Thus taken together these two furlongs were little bigger than the average furlong in the West Field. It thus appears that by the mid-eighteenth century there had been a further modification in the arrangement of the fields. It is also clear that by the end of the seventeenth century at least the "text-book" three-field rotation had been abandoned, and that further mutation had taken place in the field system used in Corringham. For example, in one inventory of April 1671 we find a farmer with eighteen acres of wheat, rye, and barley, eight acres of wheat "in the field," and fifteen acres of pease and oats, making altogether five types of crop on forty-one acres.<sup>1</sup>

It seems, therefore, that in Corringham at least three different cropping systems had operated at one time or another between the end of the twelfth and the beginning of the seventeenth centuries, and that the trend was from a two-field system to a four-field system, and then to a reduction once more in the number of fields. Moreover, within seventy years of the introduction of a three-field system this too was further modified to allow farmers greater flexibility in the choice and disposition of their crops. By the mid-eighteenth century, without altering any further the number of fields, a reallocation of furlongs had taken place between Honey Hole and West fields. To what extent was this the pattern of events elsewhere? In the words of Professor Stenton: "The evidence for the prevalence of a two-field system in Lincolnshire is continued by innumerable later documents. The two great arable fields of these villages are revealed as clearly in Elizabethan

and Jacobean surveys as in the charters of the twelfth and thirteenth centuries." Stenton goes on to say that "The distribution of the arable in Lincolnshire villages at the beginning of the seventeenth century is illustrated with abundant detail in the large collection of glebe terriers of this date preserved in the Archives Office at Lincoln. Examples of the three-field system occur sporadically in this collection, but a scheme which divides the arable into two great fields is obviously normal in the county."<sup>2</sup> In seventeen of the villages in the vicinity of Corringham, however, the glebe terriers reveal that nine had three fields by the mid-seventeenth century, six villages had two fields, and the remaining two had four fields.<sup>3</sup> No significant pattern in the distribution of field systems appears on the map.

With Corringham's example in mind, it is possible to consider these seventeen villages as all representing various stages in the development of the common-field system. Some villages had not yet abandoned the two-field arrangement. Others, the majority, may well have made the same decisions regarding their fields as did the Corringham farmers in May 1601. One thing may at least be deduced which has general application. Any attempt to construct a map of the fields of Corringham in the pre-enclosure period on the evidence of the glebe terriers alone, or of the eighteenth-century estate map and field book, or of the maps made in connection with the commutation of tithe, would certainly fall short of the truth if it assumed that the field pattern so delineated had survived without alteration or modification from the Middle Ages. It reveals once again that the common-field system was capable of many variations to suit the conditions of the land and whatever economic or social conditions prevailed

<sup>1</sup> Lincolnshire Archives Office, Inv. Di 38/2/F/50 (R. Francis).

<sup>2</sup> F. M. Stenton, *op. cit.*, p. xxxi.

<sup>3</sup> Glebe terriers in the Lincolnshire Archives Office for the villages of Caenby (1679), Fillingham (1638), Heapham (1660), Ingham (1606), Stow (1663), Scotton (1625)—all with two fields; three-field villages are Broxholme (1605), Gate Burton (1608), Cammeringham (1606), Great Corringham (1650), Grayingham (1578), Marton (1634), Northorpe (1638), Pilham (1674), Upton (1578); four-field villages are Scotter (1606) and Little Corringham (1650). The glebe terriers are silent as to any changes in the number of fields.

at any time.<sup>1</sup> The final stage in this story of the remodelling of the fields of Corringham came with the arrival of the enclosure com-

mission in 1848 when the common fields were swept out of existence.

<sup>1</sup> I am grateful to the Archivist, Mrs J. Varley, and to her staff at the Lincolnshire Archives Office for making the documents I have used available to me so readily. For the opinions stated in this article I am entirely responsible.

## Notes and Comments

### THE SOCIETY'S LATE PRESIDENT

Members of the B.A.H.S. will learn with regret of the death of Mr R. V. Lennard in March this year. He was formerly Reader in Economic History in the University of Oxford, and was President of this Society from 1962 to 1965. He gave a presidential address to the Society at its December conference in 1963, which was subsequently reprinted in this REVIEW under the title: 'Agrarian History: some Vistas and Pitfalls'.

### THE ANNUAL CONFERENCE

The annual conference of the British Agricultural History Society was held at Trinity Hall, University of Dublin, from 3 to 6 April 1967. An opening reception was given by the Irish Tourist Board and was followed by dinner at which the Society's guests were the Provost of Trinity, Professor Jones Hughes, Dr A. T. Lucas, Professor D. A. Binchy, Professor E. Estyn Evans, Mr Patrick Lynch, Dr John O'Loan, and Mr R. A. Butlin.

Professor Binchy opened the Conference with an evaluation of the 'Agricultural Evidence from old Irish Law Tracts'; and on the following morning Professor Evans described and illustrated 'The Survival of ancient Agricultural Practices in Ireland'. After a paper on 'The Role of the Guinness Brewery in Irish Agricultural Development', members were entertained to lunch by the Directors of the Guinness brewery and were shown round in the afternoon. In the evening Mr R. A. Butlin described 'Agriculture in County Dublin in the Eighteenth Century'.

The following morning Dr O'Loan spoke on 'Farming in Ireland under the Union, 1800-1920', and in the afternoon he and Mr Butlin conducted an excursion to the Wicklow Mountains, Powerscourt House, and Glendalough.

At the annual general meeting held on Tuesday, 4 April, Professor H. P. R. Finberg was re-elected President of the Society, and Mr C. A. Jewell and Mr M. A. Havinden were re-elected Treasurer and Secretary respectively. Dr A. M. Everitt, Mr J. W. Y. Higgs, and Dr M. L. Ryder retired from the Executive Committee under rule. Dr Everitt and Dr Ryder were re-elected, and Mr George Ordish was elected to the vacancy. Mr Higgs, who was Secretary of the Society from its foundation in 1952 until 1964, thus retired from the Executive Committee after fifteen years' continuous service. His retirement was received with great regret.

Dr W. H. Chaloner, the Chairman of the executive committee, presented its report. He was pleased that the increased subscription had not so far resulted in any significant loss of membership. This now stood at 645. The Treasurer reported that the Society's finances were satisfactory and that he had a surplus of £79 3s. 2d. for the year. He said, however, that the new subscription had been fully justified and that the increased income would not only cover the rising costs of publishing the Review, but would also allow for its substantial enlargement in future.

(continued on page 139)

# Work in Progress

Compiled by ALAN EVERITT

The following list does not lay claim to completeness. It has been compiled from the particulars given in response to a letter circulated to universities and local record offices. It is hoped to publish similar lists from time to time, and the compiler will therefore be glad to receive any information concerning changes of subject and additions to this list.

ABBOTT, Mrs M. R., *New Hall, Cambridge.*

The social structure of north-eastern England in the first century after the Norman conquest.

AIRS, M. R., *Oriel College, Oxford.*

Aspects of the English building industry, 1500-1640.

ALLAN, A. R., *Bury St Edmunds and West Suffolk Record Office, 8 Angel Hill, Bury St Edmunds.*

Kersey priory.

Medieval Bury St Edmunds.

ALLAN, D. G. C., *Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2.*

The Committee of Agriculture of the Society of Arts, c. 1755-1820.

The county agricultural societies, 1755-1800.

AMOS, S. W., *Cornergarth, The Retreat, Hutton, Essex.*

Poverty and social distress in Essex, 1815-1850.

ASKEW, G. P., *School of Agriculture, The University, Newcastle upon Tyne.*

Field evidence of medieval and later land reclamation and drainage in Romney marsh.

ATKINSON, K. See under ROBERTS, B. K.

BAINES, Miss P. J., *Linacre House, Oxford.*

British agricultural developments in the inter-war period, 1919-39, with special reference to the contribution of interest groups.

BAKER, A. R. H., *Department of Geography, Downing Place, Cambridge.*

Rural settlement patterns and field systems in south-east England and on the margins of la Beauce and la Gâtine tourangelle in France.

BAKER, D. A., *Moorhurst, 66 Fernleigh Rise, Ditton, near Maidstone, Kent.*

Agriculture and rural society in Kent, 1660-1760.

BATHO, G. R., *Department of Education, The University, Sheffield, 10.*

The administration of the Talbot estates, 1500-1617.

BEATH, J. A., *Department of Agricultural Economics, Wye College, near Ashford, Kent.*

The structure and function of the rural settlement, with particular reference to trends in rural industries in East Sussex.

BECKWITH, I., *Flat No. 3, Canwick House, Canwick, Lincoln.*

The agricultural labour force in some north Lincolnshire villages in the nineteenth century.

Life and work in the wapentakes of Corringham and Well, 1600-1914.

An edition of the Court Leet Book of Gainsborough.

BESSELL, Miss C. R., *School of Geography, The University, Manchester, 13.*

Development of the town and liberties of Shrewsbury during the Middle Ages.

- BEST, R. H., *Department of Economics, Wye College, near Ashford, Kent.*  
 A study of land-use structure and changing provisions of land in small settlements of under 10,000 population in Britain.  
 A comparative analysis of changing land-use patterns in Britain and the United States.
- BIRRELL, Miss JEAN R., *Department of Economic History, The University, Sheffield, 10.*  
 The medieval English forest.  
 Agrarian history of medieval Staffordshire.
- BLACKMAN, Miss JANET, *Department of Economics, The University, Hull.*  
 The food supply of an industrial town: the marketing of foodstuffs in Sheffield and the surrounding area from c. 1750 to the end of the nineteenth century.
- BLACKWOOD, B. G., *27 Ryder Crescent, Southport, Lancashire.*  
 The Lancashire gentry, 1625-1660.
- BLENCH, B. J. R., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*  
 The agricultural geography of Jersey, 1650-1850.
- BLUNDEN, JOHN, *The University of Sussex, Falmer, Brighton.*  
 Changes in land tenure in selected parishes of north-west Essex and South Devon, 1861-1960.
- BOND, C. J., *Department of Geography, The University, Birmingham, 15.*  
 A geographical analysis of the changes and incidence of fifteenth- and sixteenth-century depopulation in South Warwickshire.
- BOWEN, C. See under FOWLER, P. J.
- BRANDON, P. F., *Greensleeves, St Julian's Lane, Kingston Buci, Shoreham, Sussex.*  
 The medieval colonization of the Weald and parts of Devon.  
 The Weald in the sixteenth and seventeenth centuries.
- BRITNELL, R. H., *Department of Economic History, The University, Durham.*  
 The relationship between town and country, with special reference to the Colchester area, 1150-1400.
- BROOKS, N. P., *Magdalen College, Oxford.*  
 The pre-conquest charters of Christchurch, Canterbury.
- BUCHANAN, R. H., *Department of Geography, The Queen's University, Belfast, 7.*  
 The evolution of rural settlement in Ireland.  
 Irish field systems.
- BUTLIN, ROBIN, *Department of Geography, University College, Dublin, 2.*  
 Agrarian and urban changes in the Irish landscape resulting from plantation schemes in the sixteenth to eighteenth centuries.  
 Northumberland field systems.
- CARLIN, Miss M. N., *15 Linden Road, London, N.15.*  
 Christchurch, Canterbury, and its lands, 1391-1547.
- CATT, D. C., *Tillycorthie Farm, Udny, Aberdeenshire.*  
 Agricultural change in the Buchan area of Aberdeenshire in the late nineteenth and twentieth centuries.
- CHAMBERS, Professor J. D., *136 Parkside, Wollaton, Nottingham.*  
 Agricultural labour, 1750-1850 (for *The Agrarian History of England*, vi).
- CHESHER, V. M. and F. J., *Angrouse, Mullion, South Cornwall.*  
 The houses of the Cornish peasants, yeomen, and lesser gentry from the Middle Ages to the eighteenth century.

- CHIPLEN, J., *20 Stavordale Road, Weymouth*.  
Tithe records of north Dorset.
- CLARK, E. T., *46 Trinity Rise, London, S.W.2*.  
Capital for land improvement on British estates, c. 1850-c. 1896.
- CLARK, HELENA H., *Department of Plant Science, The University, Newcastle upon Tyne, 1*.  
The early history of cereal cultivation in Britain, and the introduction of rye as a cultivated crop.
- CLARKE, H. B., *9 Serpentine Road, Selly Park, Birmingham, 29*.  
The early surveys of Evesham Abbey.
- CLARKSON, L. A., *Department of Economic and Social History, The Queen's University, Belfast, 7*.  
The English leather industry from the sixteenth to the nineteenth centuries.
- CLAY, C. G. A., *Department of Economic and Social History, 67 Woodland Road, Bristol, 8*.  
The build-up of large units of landownership in the period after 1660.
- CLIFFE, J. T., *263 Staines Road, Twickenham, Middlesex*.  
The Yorkshire gentry: Reformation to Civil War.
- COATES, B. E., *Department of Geography, The University, Sheffield, 10*.  
The changing pattern of market towns in England and Wales.  
The development and distribution of landscaped parks in Yorkshire.
- COLLINS, E. J. T., *Museum of English Rural Life, The University, Reading*.  
English arable farming, 1850-80.  
Agricultural output, input, and innovation, 1750-1850.
- CONNELL, E. J., *Harrogate College of Further Education, Haywra Crescent, Harrogate, Yorks*.  
Horse wheel-houses and engine-houses on farms in the Vale of York.
- CONNELL, K. H., *Department of Economic and Social History, The Queen's University, Belfast, 7*.  
Peasant marriage in Ireland after the famine.
- CONNOR, W. J., *King's College, Cambridge*.  
Northamptonshire families, c. 1570-1640: an examination of the relationships of the more important families in the neighbourhood of Burghley House.
- COPPOCK, Professor J. T., *Department of Geography, High School Yards, Edinburgh*.  
Agricultural changes in south-east England, 1877-1964.  
Agricultural atlas of Scotland.
- COSSEY, F., *60 Sycamore Avenue, Peterborough*.  
Farmworkers' trade unions in the fenland area of south Lincolnshire, Huntingdonshire, the Isle of Ely, and the Soke of Peterborough, 1872-82.  
The manor of Fenstanton, Huntingdonshire, 1082-1802.
- CULLIS, H. P., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1*.  
Agricultural geography of the Medway basin.
- DAVIES, HOWARD, *University College of Wales, Aberystwyth*.  
Rural Wales in the later part of the nineteenth century.
- DAVIES, J., *Trinity College, Cambridge*.  
The Bute estate in Glamorgan in the nineteenth century.
- DAVIES, R. R., *Department of History, University College, Gower Street, London, W.C.1*.  
Marcher society in Wales in the fourteenth century, with some reference to agriculture.
- DICKINSON, P. G. M., *County Record Office, County Buildings, Huntingdon*.  
The history of Great Stukeley parish, Huntingdonshire.

- DILLEY, R. S., *Department of Geography, Downing Place, Cambridge.*  
The commons and common fields of Cumberland, 1500-1850, and their importance in the local economy.
- DODD, J. P., *21 Townfield Lane, Frodsham, Cheshire.*  
The 1854 Crop Returns.  
Nineteenth-century agriculture.  
The history of allotments.
- DODGSHON, R. A., *Museum of English Rural Life, The University, Reading.*  
Agrarian change in Roxburghshire and Berwickshire, 1700-1820.  
Cultivation techniques in south-west England (with C. A. Jewell).
- DULY, Mrs MIRIAM, *Department of History, The University, Southampton.*  
Popular disturbances and distress in Munster and Connacht, 1816-1823.
- DYER, C. C., *School of History, The University, Birmingham, 15.*  
The estates of the bishopric of Worcester from the seventh to the sixteenth century.
- EAST, R. C., *Department of Geography, University College, Gower Street, London, W.C.1.*  
Land-use in mid-eighteenth century Surrey.
- EMERY, F. V., *School of Geography, Mansfield Road, Oxford.*  
Agrarian change in Gower from 1500 onwards.  
Regional farming in Wales, 1500-1640.
- ENGLISH LOCAL HISTORY DEPARTMENT, *The University, Leicester.*  
A dictionary of surveyors: an index of those engaged in map-making to 1850. (Enquiries may be addressed to Dr P. M. G. Eden.)
- EVANS, Professor B. M., *Department of Geography, University of Guelph, Guelph, Ontario, Canada.*  
Crop yields and stock productivity in the seventeenth century, with special reference to North Wales.  
Tudor and Stuart farming in Anglesey and western Montgomeryshire.
- EVANS, Professor E. E., *Department of Geography, The Queen's University, Belfast, 7.*  
Survival of primitive agricultural techniques, buildings, and implements.
- EVANS, E. J., *8 Humphrey Burton's Road, Coventry, Warwickshire.*  
A history of tithes in the eighteenth and early nineteenth centuries, with special reference to Staffordshire and Warwickshire.
- EVANS, H. C., *Department of Geography, South Road, Durham.*  
Enclosure and land use in lower Teesdale between c. 1750 and 1900.
- EVANS, J. A., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*  
Historical geography of woodlands since 1800.
- EVERITT, ALAN, *Department of English Local History, The University, Leicester.*  
Northampton: market and county town, 1500-1760.  
Northamptonshire gentry in the seventeenth century.  
Leicestershire gentry in the seventeenth century.  
The history of the Kentish landscape.
- EYRE, S. R., *Department of Geography, The University, Leeds, 2.*  
The limits of common waste and improved land in north Derbyshire from medieval times onwards.
- FARRELL, Miss E. G., *Department of Geography, University College, Swansea.*  
The settlement geography of Essex from the Dissolution to the Revolution.

- FIELDEN, K., *Department of History, Old College, South Bridge, Edinburgh, 8.*  
Richard Cobden and America.
- FIELDHOUSE, R. T., *3 Mulgrave Drive, Romanby, Northallerton, Yorkshire.*  
Farming and social structure in Walburn and Wensleydale during the sixteenth and seventeenth centuries.
- FINBERG, Professor H. P. R., *151 Park Road, Chiswick, London, W.4.*  
The agrarian history of England in the Anglo-Saxon period.
- FLETCHER, T. W., *Department of Economic History, 15 Buccleuch Place, Edinburgh, 8.*  
The agrarian revolution in Lancashire.
- FOLLEY, R. R. W., *Department of Agricultural Economics, Wye College, near Ashford, Kent.*  
Behavioural management in Kentish fruit-growing: a comparison with production in the O'Kanagan Valley in British Columbia.
- FOUNTAIN, KEITH, *17 Reynolds Road, Beaconsfield, Buckinghamshire.*  
The effect of nineteenth-century enclosure upon the settlement, population, and economy of a group of parishes in Cambridgeshire.
- FOWKES, D. V., *32 Main Road, Jacksdale, Nottinghamshire.*  
The agricultural geography of Nottinghamshire, c. 1750-1860.
- FOWLER, P. J., *Department of Extra-Mural Studies, 20A Berkeley Square, Bristol, 8.*  
Celtic and medieval field systems on Fyfield and Overton Downs, Wiltshire (with H. C. Bowen).  
Celtic and medieval field systems in north Somerset.  
Celtic and medieval field systems at Gwithian, Cornwall (with A. C. Thomas).
- FOX, H. S. A., *Department of Geography, Downing Place, Cambridge.*  
Devonshire field systems.
- FREEBODY, Mrs NINA K., *7 Marstown Avenue, South Wigston, Leicester.*  
A history of Scraptoft, Leicestershire.
- FREY, J., *Department of Extra-Mural Studies, The Queen's University, Belfast, 7.*  
Agriculture and settlement in north Co. Antrim from the eighteenth to the twentieth century.
- FULLER, Miss G. JOAN, *Department of Geography, The University, University Park, Nottingham.*  
The development of settlement and agriculture in the Wirksworth Hundred of Derbyshire from Domesday to the mid-fourteenth century.
- FUSSELL, G. E., *55 York Road, Sudbury, Suffolk.*  
The classical tradition in West European farming.
- GAILEY, R. A., *Ulster Folk Museum, Cultra Manor, Holywood, Co. Down.*  
Rural house types in the barony of Oneiland East, Co. Armagh.  
Typology of Irish spades and methods of spade cultivation.
- GENTLEMAN, H., *8 Kirkstall Drive, Alt Road, Formby, Lancashire.*  
Some aspects of the agricultural geography of a transect across Warwickshire in the mid-nineteenth century.
- GHIRELLI, M. J., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*  
The agricultural geography of west Hertfordshire, 1600-1870.
- GILMORE, F. H., *Newnham College, Cambridge.*  
Agriculture and trade in Britain, the Northern Provinces, and free Germany in relation to the history of the third and fourth centuries A.D.

- GLASSCOCK, R. E., *Department of Geography, The Queen's University, Belfast, 7.*  
The 1334 lay subsidy.  
Settlement desertion in the Middle Ages in England and Ireland.
- GODBER, J., *County Record Office, Shire Hall, Bedford.*  
The history of Bedfordshire, including agrarian topics.
- GRANT, Mrs B. F., *78 Twyford Avenue, Acton, London, W.3.*  
Social and economic history of Wensleydale, Yorkshire.
- GURNEY, Miss C., *Somerville College, Oxford.*  
Effects of war on the English land market, 1688-1715.
- GURNEY, Miss R., *Department of Geography, Social Studies Building, Liverpool, 7.*  
Population changes in the Peak district of Derbyshire in the nineteenth century.
- HABAKKUK, Professor H. J., *All Souls College, Oxford.*  
Aristocracy and gentry in England in the seventeenth and eighteenth centuries.
- HALLAM, Professor H. E., *Department of History, The University of Western Australia, Nedlands, Western Australia.*  
The agrarian history of eastern England between 1086 and 1350.  
The agrarian history of fens and marshes in England between 1350 and 1500.
- HAMSHERE, J. D., *School of Geography, The University, Manchester, 13.*  
The evolution of rural settlement in Worcestershire, with particular reference to the Middle Ages.
- HARES, J. S., *Department of Geography, South Road, Durham.*  
The feudal geography of Guernsey during the twelfth, thirteenth, and fourteenth centuries.
- HARLEY, J. B., *Department of Geography, Social Studies Building, Liverpool, 7.*  
The mapping of Britain before 1850.  
The land surveyor in English history.
- HARRIS, A., *Department of Geography, The University, Hull.*  
Field systems in the East Riding of Yorkshire (with W. Matzat, University of Frankfurt, Frankfurt-am-Main).
- HARRISON, B. J. D., *17 Whitby Avenue, Guisborough, Yorkshire.*  
The field systems of the North Riding of Yorkshire.
- HARVEY, P. D. A., *Department of History, The University, Southampton.*  
The pre-enclosure fields of Neithrop, near Banbury.  
The field systems of a small group of parishes in Suffolk, Essex, and Cambridgeshire.  
The origin and history of the manorial accounting formulary.
- HARVEY, Miss SALLY P. J., *Girton College, Cambridge.*  
The tenurial hierarchy and the structure of estates in the eleventh century.  
The distribution of arable and livestock farming.
- HATCHER, M. J., *77 Hatfield Road, Potter's Bar, Hertfordshire.*  
Medieval agriculture in Cornwall.
- HAVINDEN, M. A., *Department of Economic History, The University, Exeter.*  
History of agriculture in Britain since the Anglo-Saxon settlement.  
History of farming on Dartmoor.
- HELLIER, Miss R., *23 South Grange Road, Ripon, Yorkshire.*  
The agricultural history of the liberty of Ripon.

- HEY, D. F., *61 Unwin Street, Penistone, Sheffield.*  
Ecclesfield (Yorkshire) in the eighteenth and nineteenth centuries.
- HIGGS, J. W. Y., *Exeter College, Oxford.*  
*The Agrarian History of England*, vi, 1750-1850 (with G. E. Mingay).
- HILTON, Professor R. H., *School of History, The University, Birmingham, 15.*  
Social structure of medieval rural England.  
Serfdom.  
Agrarian history of the West Midlands.
- HODGSON, R. I., *Department of Geography, South Road, Durham.*  
The historical geography of Chester Ward, County Durham, with special reference to land-ownership, enclosure, and early industrial developments between c. 1650 and 1850.
- HOLLAND, D., *4 Laburnum Road, Balby, Doncaster.*  
The replanning and rebuilding of English estate villages during the eighteenth and nineteenth centuries.
- HOLMES, C. J., *The London School of Economics, Houghton Street, Aldwych, London, W.C.2.*  
Agricultural research and productivity in Great Britain, 1900-1939.
- HORN, Mrs P. L. R., *Department of Economic History, The University, Leicester.*  
Agricultural labourers' trade unionism in four Midland counties, 1860-1900.
- HOSKINS, Professor W. G., *Department of English Local History, The University, Leicester.*  
English harvests, 1086-1800.  
Economic and social history of England in the sixteenth century.
- HOUSTON, GEORGE, *Department of Political Economy, The University, Glasgow.*  
Production, prices, and wages in Scottish agriculture since 1790.  
The history of the Scottish farmworker.
- HOWELL, D. W., *The London School of Economics, Houghton Street, Aldwych, London, W.C.2.*  
The development of Welsh agriculture, 1822-1914.
- HOWELLS, B. E., *St David's College, Lampeter, Cardiganshire.*  
The agrarian history of South Wales in the sixteenth and seventeenth centuries.
- HULL, P. L., *County Record Office, County Hall, Truro, Cornwall.*  
The Caption of Seizin of the Duchy of Cornwall, 1337.
- HUNT, E. H., *Department of Economic and Social History, The Queen's University, Belfast, 7.*  
Economics of the agricultural labour market, 1850-1914.
- HURST, J. G., *Ministry of Public Buildings and Works, Sanctuary Buildings, Great Smith Street, London, S.W.1.*  
A national gazetteer of deserted medieval villages in England and the study of the medieval peasant house. (For the Deserted Medieval Village Research Group.)
- HUTTMAN, J. P., *The London School of Economics, Houghton Street, Aldwych, London, W.C.2.*  
Institutional factors in the development of Irish agriculture, 1846-1914.
- HYAMS, P. R., *Jesus College, Oxford.*  
Villeinage in twelfth- and thirteenth-century England, especially in its legal aspects.  
The legal history of the lease.  
Rural financing and the peasant land market.
- IREDALE, D. A., *121 Runcorn Road, Barnton, Northwich, Cheshire.*  
North Riding farming and cottage and workshop industry, 1710-1870, with special reference to lead and ironstone mining.

- JENKINS, J. GERAINT, *Welsh Folk Museum, St Fagans, Cardiff*.  
A history of the Welsh woollen industry.
- JENNINGS, B., *Department of Adult Education, The University, Leeds, 2*.  
History of Harrogate and Knaresborough.  
History of the Upper Calder Valley.
- JEWELL, C. A., *Museum of English Rural Life, The University, Reading*.  
Cultivation techniques in south-west England (with R. A. Dodgshon).
- JONES, E. L., *Nuffield College, Oxford*.  
Agriculture's rôle in the origins of industrialization in the advanced countries.  
Aspects of agricultural production in England, especially the South, 1650-1880, and its relation to economic growth.
- JONES, G. R. J., *Department of Geography, The University, Leeds, 2*.  
Rural settlement in Wales and the parallel implications for early settlement in England.
- KERNTHALER, E. A., *82 Pine Hill, Epsom, Surrey*.  
Agriculture and landownership in Surrey, 1750-1850.
- KERR, MISS BARBARA, *Grants Farm, Longthorns, Wool, Wareham, Dorset*.  
Land tenure in Dorset.
- KERRIDGE, E., *Department of Economics, University College of North Wales, Bangor*.  
English agrarian history, c. 1500-c. 1800.
- KEW, J., *c/o Department of History, The University, Exeter*.  
The land market in Tudor Devon.
- KING, E. J., *Department of History, The University, Sheffield, 10*.  
The estates of Peterborough Abbey, 1150-1350.
- KLEMEN, I. K., *Department of History, The University, Manchester, 13*.  
Kentish agriculture in the nineteenth century.
- LAWTON, R., *Department of Geography, University of Liverpool, 12 Abercromby Square, Liverpool, 7*.  
Rural population trends in nineteenth-century Britain, with reference to changing social and economic structure.
- LEWIS, R., *University College of Wales, Aberystwyth*.  
The survey of Gower in the eighteenth century.
- LIDDELL, W. H., *27 Sporhams, Castle Mayne, Basildon, Essex*.  
The forest of Essex.
- LILL-RICHARDSON, T., *21 Northolme Road, Hessle, Yorkshire*.  
The standard of living of the agricultural labourer, 1790-1840.
- LLOYD, HOWELL A., *Department of History, The University, Hull*.  
The gentry of south-west Wales, 1540-1640.
- LOCKWOOD, H. H., *10 Alloa Road, Goodmayes, Ilford, Essex*.  
The evolution of the settlement pattern of Barking from Roman times to the mid-nineteenth century, with special reference to the clearance of woodland.
- LONG, W. HARWOOD, *Agricultural Economics Section, University of Leeds, 40 University Road, Leeds, 2*.  
The development of Yorkshire farming since the seventeenth century.
- LORRAIN-SMITH, R., *Linacre House, Oxford*.  
The economy of the private woodland in Great Britain.

- LUKEHURST, Miss C. T., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*  
The changing rôle of marsh farming in Kent.
- MAC AODHA, B. S., *Department of Geography, University College, Galway.*  
Aspects of agriculture in the West of Ireland.
- MACFARLANE, Mrs I., *Field Head, Outgate, near Ambleside, Westmorland.*  
The social and economic history of Kirby Lonsdale.
- MCGUIRE, J., *Department of Geography, The University, Leeds, 2.*  
The effect of land use during the past millennium on the nature and distribution of vegetation types on the upland between Haslingden and Edgworth, Lancashire.
- MARSHALL, J. D., *Bolton Technical Teachers' Training College.*  
Effects of industry on agrarian conditions, labour migration, farming, 1750-1850, with special reference to the north-west.
- MARTIN, J. M., *Department of Economic and Social History, The Queen's University, Belfast, 7.*  
Economic, social, and demographic patterns in the West Midlands, 1660-1830.
- MASON, Mrs K. M., *Reynard Ing, Ilkley, Yorkshire.*  
The history of British cheeses.
- MATZAT, W.: See under HARRIS, A.
- MAYHEW, A., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*  
Rural settlement in the Weser-Ems region of Germany.
- MEAD, Professor W. R., *University College, Gower Street, London, W.C.1.*  
Ridge and furrow, hedgerow and field boundary in England.
- MILLER, G. S., *Museum of English Rural Life, The University, Reading.*  
Literary aspects of nineteenth and early twentieth-century rural life.
- MINGAY, G. E., *Faculty of Social Sciences, University of Kent, Canterbury.*  
Agricultural development in Glamorgan, 1750-1914.  
*The Agrarian History of England*, VI, 1750-1850 (with J. W. Y. Higgs).  
The gentry.
- MOISLEY, A., *The University, Reading.*  
Field Systems and Settlement Forms in the Outer Hebrides and Western Ireland.
- MORGAN, Mrs VALERIE, *Department of Geography, Downing Place, Cambridge.*  
Regional variations in Scottish agriculture in the 1790's and particularly the effect of industrialization in the central valley on the agrarian pattern.
- NICHOLSON, R. P. DE B., *Uplands, Saxon Road, Salisbury, Wiltshire.*  
Farm buildings in Wessex.  
Watermills of west Hampshire and Wiltshire.  
Village buildings and smaller houses.
- NIELSON, V. C., *c/o Records Office, Shire Hall, Gloucester.*  
Cheese-making and cheese-chambers in Gloucestershire.
- OHÓGÁIN, D., *Department of Geography, University College, Galway.*  
The pattern of farming in Co. Louth.
- OLIVER, Professor J., *Department of Geography, University College of Swansea, Singleton Park, Swansea.*  
Weather data and their economic significance, particularly with respect to agriculture, for Wales and south-west England in the seventeenth and eighteenth centuries.

- OSCHINSKY, Miss DOROTHEA, *Department of Medieval History, University of Liverpool, 8 Abercromby Square, Liverpool, 7.*  
The husbandry of Walter of Henley.
- OWEN, A. E. B., *79 Whitwell Way, Coton, Cambridge.*  
Land drainage and reclamation in eastern Lincolnshire.
- OWEN, H., *University College of Wales, Aberystwyth.*  
The lordship of Denbigh, 1282-1420.
- PALLISTER, J., *Department of Geography, The University, Leeds, 2.*  
The distribution of settlement in west Yorkshire, 1066-1377.
- PANNETT, D. J., *Department of Geography, The University, Birmingham, 15.*  
Warwickshire's fields: their character and origins.
- PARTON, A. G., *Department of Geography, The University, Hull.*  
Aspects of the historical geography of Surrey.
- PELHAM, E. C., *Hertfordshire Institute of Agriculture, St Albans.*  
The arable pattern of Essex farming from the sixteenth century, as exemplified particularly by the Petre estates.
- PERREN, R., *47 Swyncombe Avenue, Ealing, London, W.5.*  
The effects of agricultural depression on the Shropshire and Staffordshire estates of the dukes of Sutherland between 1870 and 1900.
- PERRY, B. T., *Bishop Grosseteste College, Lincoln.*  
Early settlement and agriculture on the Hampshire chalklands.
- PHILLIPS, A. D. M., *Department of Geography, University College, Gower Street, London, W.C.1.*  
The underdrainage of farmland in nineteenth-century England.
- PHILLIPS, Miss SHEILA P., *Department of Geography, The University, Leeds, 2.*  
The palynological evidence for the impact of agriculture on the vegetation of the upland east of the Derbyshire Derwent.
- POSTAN, Professor M. M., *Peterhouse, Cambridge.*  
The agrarian history of England, 1100-1350.  
The rationale of land settlement.  
Second thoughts on heriots.
- POTTS, R. A. J., *78 Barbara Avenue, Humberstone, Leicester.*  
Cornish glebe terriers and allied documents, 1601-1746.
- PRINCE, H. C., *Department of Geography, University College, Gower Street, London, W.C.1.*  
Rural England in 1750.  
Richard Woods, eighteenth-century landscape gardener and surveyor.
- RAVENSDALE, J. R., *Homerton Training College, Cambridge.*  
North Cambridgeshire landscape.
- REYNOLDS, Mrs PATRICIA M., *57 Western Hill, Durham.*  
Rural depopulation in Warwickshire during the later Middle Ages and the early Tudor period (c. 1332-1583).
- RIDSDALE, J. H., *Westerlies, Bromsgrove Road, Hunnington, Halesowen, Birmingham.*  
Changes in land utilization in north-east Worcestershire since 1800.

- ROBERTS, B. K., *Department of Geography, South Road, Durham.*  
Settlement and field systems in the Forest of Arden, Warwickshire, prior to c. 1550.  
The development of settlement and soils in the Pennine dales of Co. Durham (in collaboration with K. Atkinson).  
Problems of planned village layouts, with reference to the 'green village' forms of Co. Durham.
- ROBINSON, G. G., *Ducie Technical High School for Boys, Lloyd Street North, Manchester, 14.*  
The warplands of Humberhead Level: a study in historical geography.
- ROGERS, A., *Department of Adult Education, The County Offices, 1 Market Place, Sleaford, Lincolnshire.*  
Lincolnshire gentry in the fifteenth century.
- ROLLINSON, W. R., *Department of Geography, University of Liverpool, 12 Abercromby Square, Liverpool, 7.*  
Settlement and agrarian history in Cumbria.
- ROTHWELL, Professor H., *Department of History, The University, Southampton.*  
Hampshire topography.
- ROWE, JOHN, *School of History, University of Liverpool, 8 Abercromby Square, Liverpool, 7.*  
Cornish agricultural history in the nineteenth century.
- ROWLEY, R. T., *Bordesley College of Education, Camp Hill, Birmingham, 11.*  
Landscape history in south Shropshire, with special reference to deserted and shrunken villages.
- RUSSELL, R. C., *11 Priestgate, Barton-on-Humber, Lincolnshire.*  
The Lincolnshire labourer in the nineteenth century.  
Parliamentary enclosure in Lindsey.
- RYDER, M. L., *Animal Breeding Research Organization, Field Laboratory, Roslin, Midlothian.*  
The history of sheep and their husbandry.
- SCHOVE, D. J., *St David's College, 29 South Eden Park Road, Beckenham, Kent.*  
Weather history since A.D. 800, with special reference to manorial accounts and local diaries.
- SERJEANT, W. R., *County Records Office, County House, High Pavement, Nottingham.*  
The Sherwood Forest Eyre Roll of 1334.
- SHARLAND, J., *21A, Hailgate, Howden, Goole, Yorkshire.*  
The rural landscape of Howdenshire in the eighteenth and nineteenth centuries.
- SHEAIL, J., *Department of Geography, University College, Gower Street, London, W.C.1.*  
The distribution of wealth and population in England, as indicated in the lay subsidy returns in the reign of Henry VIII.
- SHEPPARD, Miss JUNE A., *Department of Geography, Queen Mary College, Mile End Road, London, E.1.*  
Rural settlement and field systems in Yorkshire.
- SHORT, B. M., *North-Western Polytechnic, London.*  
Agriculture in the High Weald, 1750-1966.
- SIMPSON, E. S., *Department of Geography, University of Liverpool, 12 Abercromby Square, Liverpool, 7.*  
The nineteenth-century agrarian history of the Cheshire plain dairying region and of Delamere Forest.

SLACK, P., *Balliol College, Oxford.*

Epidemics in England, 1500-1640.

SMEE, Miss DORA K., *Bedford College, Regent's Park, London, N.W.1.*

The mapping and origin of ridge and furrow in Haselbech, Northamptonshire.

SMITH, Miss ANN, *Department of Geography, University of Liverpool, 12 Abercromby Square, Liverpool, 7.*

The inter-relationships between town and country in Lancashire in the eighteenth century.

SMITH, J. B., *Department of Welsh History, University College of Wales, Aberystwyth.*

The lordship of Senghenydd in the late medieval period.

SMITH, Mrs LL., *Department of Welsh History, University College of Wales, Aberystwyth.*

The lordship of Arundel in the late medieval period.

SMOUT, T. C., *Department of Economic History, 15 Buccleuch Place, Edinburgh, 8.*

The destruction of the Highland forests before 1850.

SPUFFORD, Mrs MARGARET, *101 Horwood, The University, Keele, Staffordshire.*

Land distribution, population movements, and inheritance customs in a sample of Cambridgeshire villages, 1550-1700.

Religious opinions and education amongst the Cambridgeshire peasantry in the sixteenth and seventeenth centuries.

STACY, N. E., *72 The Woodlands, Esher, Surrey.*

The estates of the abbey of Glastonbury, 1000-1200.

STANLEY, M. J., *Department of Geography, The University, Edinburgh.*

The historical geography of the Warwickshire hundreds of Stoneleigh, Kineton, and Marton.

STEED, Mrs V., *Lovells II, King's Sutton, Banbury, Oxfordshire.*

Field systems and assarts in Wychwood Forest, Oxfordshire.

STORRIE, Miss MARGARET C., *Department of Geography, Queen Mary College, Mile End Road, London, E.1.*

Landholdings and settlement evolution of the western seaboard of highland Scotland, with special reference to Islay and Arran.

STURGESS, R. W., *Department of Economic History, 15 Buccleuch Place, Edinburgh, 8.*

English landownership in the nineteenth century.

SWALES, T. H., *The Jolly Farmers, Yaxham Road, Dereham, Norfolk.*

Rectories appropriated to monastic and collegiate establishments in Norfolk.

SYLVESTER, Miss DOROTHY, *High Beach, 15 Park Drive, Wistaston, near Crewe, Cheshire.*

Land use and field patterns, past and present, in east Wales and the Borderland.

THIRSK, Mrs JOAN, *St Hilda's College, Oxford.*

The social and economic organization of the forest areas in England and on the Continent of Europe.

Customs of inheritance and their influence upon the occupation of land.

Agrarian change, 1640-1750.

THOMAS, A. C., *Churchtown, Gwithian, Cornwall.*

Celtic and medieval fields with associated settlements from prehistoric to present times at Gwithian and Camborne, Cornwall (in collaboration with others).

THOMAS, S., *Bishop Grosseteste College, Lincoln.*

Changing land utilization, occupation, and ownership in the parishes surrounding Lincoln, 1700-1965.

The agricultural labour force in Lincolnshire in the mid-nineteenth century.

The accumulation and dissolution of landed estates in south-west Carmarthenshire, 1300-1965.

THOMPSON, C. L. F., *Hertford College, Oxford.*

The estate and patronage of Robert Rich, second Earl of Warwick, 1619-58.

THOMPSON, E., *School of History, University of Warwick, Coventry.*

Problems of food marketing in the eighteenth century.

The food riot.

THOMPSON, F. M. L., *Department of History, University College, Gower Street, London, W.C.1.*

English agricultural inputs in the nineteenth century.

English landownership, 1750-1850 (for *The Agrarian History of England*, vi).

THORPE, Professor H., *Department of Geography, The University, Birmingham, 15.*

Comparative studies of forms and patterns of rural settlement in the British Isles and Europe.

The evolution of settlement and land use in the West Midlands generally and Warwickshire in particular.

Allotment holdings, past and present.

THRUPP, Professor SYLVIA L., *University of Michigan, U.S.A.*

Property values and indebtedness in West Suffolk in the fifteenth century.

TIERNEY, D., *Department of History, University College, Gower Street, London, W.C.1.*

The commercial sector of Irish agriculture, 1850-75.

TITOW, J. Z., *Department of Economic and Social History, The University, Nottingham.*

The estates of the bishops of Winchester, 1350-1500.

TRUEMAN, B. E. S., *History Department, Hereford College of Education, College Road, Hereford.*

The management of the Guy's Hospital estates to 1914.

TUBBS, C. R., *The Nature Conservancy, Shrubbs Hill Road, Lyndhurst, Hampshire.*

The ecological interpretation of former agriculture on acid soils in the New Forest and east Dorset.

TURNER, A. D. J., *Northgate, Christ's Hospital, Horsham, Sussex.*

The population of England in the sixteenth and early seventeenth centuries, 1520-1642.

VOLLANS, Miss ELEANOR C., *Department of Geography, Bedford College, Regent's Park, London, N.W.1.*

Agriculture and settlement in the Chilterns in the fourteenth century and later periods.

VOSE, E. K., *8 Westward Road, Malvern Link, Worcestershire.*

The estates of Worcester cathedral priory.

WALMSLEY, J., *School of History, The University, Birmingham, 15.*

The estates of Burton Abbey.

WARD, Miss SADIE B., *Museum of English Rural Life, The University, Reading.*

Farming communities in central southern England in the nineteenth century.

WHITING, N. E., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*

Changes in the agricultural geography of the Suffolk Sandlings since 1930.

- WILLIAMS, C. J., *Whitworth Hotel, Darley Dale, near Matlock, Derbyshire.*  
The Much Marcle (Herefordshire) enclosure award, 1797: the process of enclosure and its effect on small owners and tenants.
- WILLIAMS, MRS ENID, *Department of Geography, The University, Leeds, 2.*  
Changes in land-use in the northern part of the Vale of York since c. 1750.
- WILLIAMS, LAWRENCE A., *Department of History, Queen's College, Dundee.*  
The development of road transport in Cumberland, Westmorland, and the Furness district of Lancashire between 1800 and 1880.
- WILLIAMS, MICHAEL, *c/o Department of Geography, Downing Place, Cambridge.*  
The draining of the Somerset levels.  
The reclamation and enclosure of waste land in the West of England.
- WILLIAMS, MOELWYN I., *Ynys Wen, Sea View Place, Aberystwyth.*  
Agriculture and society in Glamorgan, 1660-1760.
- WILLIAMS, W. OGWEN, *Department of Welsh History, University College of Wales, Aberystwyth.*  
The gentry of Anglesey in early modern times.
- WILLIS, D. P., *Department of Geography, The University, Aberdeen.*  
The changing cultural landscape of Orkney from 1750.
- WILLOUGHBY, R. N. H., *Langford Way, Berwick St James, Salisbury, Wiltshire.*  
The watermills of Wessex after 1800, with special reference to Hampshire.
- WISE, M. J., *London School of Economics, Houghton Street, Aldwych, London, W.C.2.*  
The history of the smallholdings movement in England and Wales.
- WOODWARD, D. M., *Department of Economic History, The University, Hull.*  
The leather industry of Chester and its connexions with rural life, 1558-1625.
- WORDIE, J. R., *12 Blenheim Road, Caversham, Reading.*  
Aspects of management on the Leveson-Gower estates, 1691-1833.
- YELLING, J. A., *Department of Geography, Birkbeck College, Malet Street, London, W.C.1.*  
Worcestershire agriculture, 1500-1870.
- YOUNGS, MISS JOYCE A., *Department of History, The University, Exeter.*  
The dissolution of the monasteries.
- YOUNGSON, PROFESSOR A. J., *Department of Economics, 31 Buccleuch Place, Edinburgh, 8.*  
The economic reconstruction of the Highlands of Scotland, 1750-1840.

## Book Reviews

ALAN ROGERS (ed.), *The Making of Stamford*.

Leicester University Press, 1965. xiv+146 pp. 30s.

This interesting collection of essays came into being as a result of a bright idea on the part of the editor. Having heard that the Borough Council intended to celebrate the quincentenary of the granting of its Charter, he suggested that the celebrations should take the form, at least in part, of a series of lectures on the borough's history. The suggestion was accepted and the distinguished team brought together to give them received the support of the citizens of Stamford, four hundred of whom, on the average, attended the six lectures of the course.

The lectures are published here virtually as they were delivered. They do not claim (as the editor makes clear in his Introduction) to provide a history of Stamford: histories of Stamford have been steadily appearing from 1626 when the town clerk, Richard Butcher, wrote the first history of Stamford, and one of the earliest of all town histories to be written at all. But none of the local products attempted "to relate the history of the community; none places Stamford firmly within the context of English history." They were, indeed, examples of *local* history.

Mr Rogers's team of lecturers tries to rectify this. Professor W. F. Grimes writes on the Archaeology of Stamford, Mr H. R. Loyn on the Danish borough; Mr Rogers himself on Medieval Stamford, Dr Joan Thirsk on Stamford in Stuart times; Mr John Harriss on the architecture of the town, and Mr J. M. Lee on the nineteenth-century borough. Collected into a single volume, these separate and independent studies represent an excursion under expert guidance through the whole range of English domestic history, and though it must have been a strenuous experience for the four hundred Stamford citizens who listened to them, the adult classes who (it is hoped) use them as a basis for their courses will have been confronted with many

important general issues in their local context and also with a number of local problems of great general interest to which answers do not yet seem to have been found. Why for instance, should there have been a Stamford but not a Stamfordshire? Why, after the drama and splendour of the Middle Ages should it have suffered the anti-climax of the sixteenth and seventeenth centuries when it was described as a poor decayed town? How, after being a centre of international trade, did it contrive, in the eighteenth century, to adjust itself to the life of a market town and somehow learn to coin the piddling gains of the coaching and corn and cattle trades into the pure gold of Georgian Stamford? And of course, how far can the economic stagnation that descended upon Stamford in the nineteenth century (thereby saving its beauties) be laid at the door of Lord Exeter and his refusal, on political grounds, to enclose the open fields? The subject is a complicated one; more complicated, perhaps, than Mr Lee, who writes on it, would have us believe. Mr Stuart Elliott, who recently presented a Master's thesis on this subject, thinks that the evidence will bear a different interpretation. He argues that Lord Exeter's opposition to enclosure was actuated by the pursuit of purely dynastic and non-political ambitions, and that the fate of Stamford in the nineteenth century was determined by underlying economic factors which were outside Lord Exeter's control. Moreover, he suggests, other market towns in Lincolnshire were under the same influences and suffered the same fate. In spite of the six learned studies in this book, Stamford, it would seem, still has its secrets. All the more welcome, therefore, is the news, announced by Mr Rogers, that the Borough Council had already commissioned a larger study of the borough's history before these lectures were given. Would that some other towns we could mention were equally fortunate in the choice of their City Fathers.

J. D. CHAMBERS

GEORGE H. GREEN AND M. W. GREEN,  
*Loughborough Markets and Fairs (through  
 7½ centuries)*. Echo Press, Loughborough,  
 n.d. 80 pp. 4s. 6d.

In recent years several groups of extra-mural students have been encouraged by enthusiastic tutors to produce short composite volumes on the history of their town or village. This little book is the joint effort of a W.E.A. tutor, a market manager, and a group of 17 students at Loughborough. It is not quite the first history of the markets and fairs of an English town, as its authors tentatively suggest; others have appeared for York and Preston, and there have been a few regional studies, such as G. A. Tupling's account of the markets of Lancashire. But the work of Mr Green and his group is a pioneering effort in the amount of detail it has brought together. It makes no pretence to literary merit; it would have been easier reading if the material had been more thoroughly digested; but it is written with sympathetic understanding of the locality and its characteristics. The authors have shown that, despite the poverty of our records of internal trade in England compared with overseas commerce, much can be pieced together. And much ought to be, since for centuries the market town was the hub of provincial life. Anyone familiar with W. H. Hudson's account of what Salisbury meant to the villagers of the Wiltshire Plain at the turn of the century, in *A Shepherd's Life*, will realize how great a tract of English history still lies here virtually unexplored. Loughborough is not a prepossessing town; but it is one of a number in the Midlands, often poor in architecture but rich in life, whose markets are an unforgettable spectacle. The jostling crowds who throng the market places of Leicester, Northampton, Newark, and Grantham still go about their business with the same utterly unselfconscious absorption as their forebears under the Tudors.

Loughborough's earliest market grant dates from 1221, in that expansive time when markets were being founded in hundreds all over England. Altogether at least 31 medieval

markets were founded in Leicestershire, though only six or seven have had a continuous history to the present day. Most of these 31 are mentioned in the authors' informative notes on pp. 7-11, although Stapleford seems to be omitted and Harborough (founded, as Professor Hoskins has shown, by 1203) is incorrectly attributed to the fourteenth century. In some cases little evidence of original status survives except a street-name, such as the Market Places still extant, though now empty, at Belton, Kegworth, and Shepshed. Loughborough has been more fortunate. Although it has lost its Huckster Row—the line of shops and booths which developed on an island site in the market place, as in so many towns in the time of Tudor expansion—its streets still include a Market Place, Baxter Gate, Wood Gate, and Cattle Market, whose names indicate their commercial origin. Such names are sometimes an important clue to a town's development. The wool trade, of which Loughborough was a flourishing centre in the fifteenth century, does not seem to have left a memento; but the cattle trade which succeeded it, and for which Leicestershire was famous, is commemorated in the Cattle Market, where Robert Bakewell and other famous Hanoverian figures sold their livestock.

Possibly quite as important at Loughborough was the trade in corn and malt. This seems to have been the occasion of the interminable toll dispute in which, like so many corn-markets, the town was involved in the seventeenth century. Until the navigation of the River Soar was carried up to Leicester, Loughborough was nearer than any other town in the county to a navigable river, apart from which no English market was likely to develop as a major entrepôt for grain. In all probability Loughborough's supplies came from East Anglia *via* the River Trent, as they did to Nottingham, Derby, Burton, and other north Midland towns. By the 1770's Loughborough's great trade in malt had fallen away to a purely local traffic; but the bakers of Leicester were still journeying to the town week by week to buy their grain, and the corn trade remained an important feature

of the town's commerce until Queen Victoria's reign and the advent of railways.

Long before that date, however, Loughborough's predominant characteristic had become its many inns, centres as much of trade and social activity as of eating and drinking. By 1770 there were no fewer than 43 inns and alehouses in the little Leicestershire town. Many of them were typically grouped around the market square, from whose breezy spaces they had attracted to their spacious chambers much of the town's trade in corn. A contemporary described this development as a recent one, due to the "artful management and iniquitous combinations of avaricious farmers." In fact there had been a general tendency all over England, from the latter years of Queen Elizabeth I onwards, for trade to leave the 'open market' and take place 'privately' in the halls and corn-chambers of provincial inns. On winter mornings a roaring fire and a pint of ale provided a more genial atmosphere for big commercial transactions than the market square. More important, as trade expanded, dealers and factors travelled ever farther afield in search of customers or products; they naturally met one another and their prospective suppliers in the inns where they spent the night, and bargaining followed as a matter of course. Needless to say, innkeepers were quick to respond to their customers' requirements by supplying the facilities of trade: store-rooms for their goods, stabling for their horses, yards for their wagons, private chambers for their business dealings, sometimes rudimentary banking facilities, and, of course, all the information of a gossiping countryside to extend the channels of trade.

Quite apart from all this, the inns of Loughborough, like those of more sophisticated places, became the centres of every form of social activity for the farmers and gentry of the surrounding countryside. Assemblies, balls, concerts, florists' feasts, cockfights, property auctions, anti-slavery meetings, and a hundred other activities all took place in the comfortable rooms of the

George, the Anchor, or the Bull's Head, and all are recorded in that vast untapped source of provincial history, the advertisement pages of the local newspaper. What a world it was, so full of uninhibited vigour and vitality, so rooted in its region, so full of individuality and independence! It was just such a world that George Eliot depicted in *Middlemarch*, for it was the same environment that had given her birth, not many miles away, at Nuneaton. All the more saddening, then, to read of recent proposals to banish Loughborough's market from the historic spot where it has been held for seven-and-a-half centuries, and substitute for it a municipal square, with seats, fountains, and flowerbeds. The town will then be able to vie with its nondescript neighbours in respectable inanity: and the bourgeois revolution which in 1926 transformed its toll-gatherer into a Market Superintendent will be complete.

ALAN EVERITT

SIR FRANCIS HILL, *Georgian Lincoln*. Cambridge University Press, 1966. xvii+336 pp. Plates. 8os.

"An old, dying, decay'd, dirty city," reflected Defoe in 1719, "yet it stands in a most rich pleasant, and agreeable country." He recognized a short vestibule of urbanity between cathedral and castle but the splendours of the medieval city had been draining away ever since the somewhat mysterious collapse of the city's wool trade and cloth industry over a century before. Lincoln probably never seemed more sterile or decrepit. The Restoration had led to some building of gentlemen's houses, but to almost all other appearances the urban economy was nearing stagnation. Without the response of the slowly improving countryside to distant demands for wool, meat, and corn, it would probably have gone soon into deep decline. The power of the surrounding farmland to restore the city's prosperity was scarcely yet regarded even as latent, but imperceptibly this capacity did become specific, the cathedral city was redeemed by its markets, and these became the dominant influence not only on the economy of the

town but on the whole structure and disposition of its society. The chief theme of this brilliantly lit account of Lincoln's scramble out of moribund glory concerns the way in which this economic renaissance remodelled the social hierarchy of the town, inflected its politics, and changed its very geography. It is the third volume in what is already the most remarkable piece of individually sustained research and writing to have been directed at the whole history of a single English town in this century.

On the left bank of the Witham, where it pierces Lincoln Edge, the elevation of the city which Defoe inspected rose two hundred feet within half-a-mile to reach the minster, the castle, and the gentry—to a hilltop occupied by a provincial microcosm of upper class society, a community which, its own frivolities apart, bestowed leadership, patronage, parliamentary representation, and a certain propriety, on the city at large. Under the hill, across its flat back, and on the right bank lay *congeries* of market streets and lanes, mean churches, shops, inns, port facilities, piggeries, the multiplying poor, tradesmen, civic officials—all the paraphernalia, smells, and pursuits of a market town hemmed tight by fields. Somewhat imprecisely defined though they are here, each community had its own social distinctions; but none was so indelible as the division between them. Nor did the middling and lower orders make the ascent when turnpikes gave the gentry their opportunity to vacate the Hill more than seasonally late in the eighteenth century, and to abandon it to clergy, convicts, and genteel women. The centre of gravity of local power, if not of prestige, slid instead downhill, where it was to be anchored during the Victorian period. The turnpikes were first to subdue Lincoln's extraordinary insularity; sluggishly the stage-coaches followed; but it was the scouring out of the ancient Fosdyke and the Witham itself which threw down the real barriers. They not only attached the city to the whole vale of the Trent and thence to the West Riding in one direction and to East Anglia and London in the other, but centred the county's diverse

agrarian economy more emphatically on Lincoln itself.

The discussion of these crucial innovations, derived as it is from some important new sources, is often illuminating, particularly on the competitive tensions they produced with other towns and between agrarian and mercantile users of water. The skill with which the author has squeezed significance from other scraps of information—more sure-handedly on matters of poverty than of progress—is also at times very discerning, and distinctly reminiscent of the great Clapham. But it is something of a paradox in a book of this kind to have the agrarian economy of the region better handled than the urban economy of Lincoln itself. Though somewhat more penetrating here than the earlier volumes, the author has still not been able to conjure from the sources open to him very much about the ordinary life of the town. We can recognize its *quartiers* but know few addresses; the letters and reminiscences of abovehill society give gossip its head and politics its feet; but earning a living does not come so vividly through the civic records and family papers, despite their impressive range, and the image of belowhill society is left rather smudgy and faintly magisterial. There is some unevenness, too, in contextual reference. The interconnections between city and shire come through clearly on several levels, but the author is much more diffident over placing economic and social developments in their national setting than he was in treating the evolution of the borough and Lincoln's rôle in the Middle Ages: there are a few telling glances at other towns, but no sustained comparisons. For a city set so plainly on a hill it is a pity, too, that its physical mutations should not have been examined and mapped with something of the passion that marked the author's first volume, a regret made sharper by the fine contemporary drawings of some late-Georgian streets reproduced in the plates. What is unquestionably authoritative is the painstaking record of authority itself. The focus is now on the decline of the old corporation, losing control of its own affairs but uncontrolled by the towns-

people at large. Yet how unlike the Webbs' stereotype of an association merely of producers it had become long before its reform in 1835!

Within its own limits this volume must be regarded as a distinguished and scholarly achievement, somewhat more analytical than its predecessors, and its author as a quite outstanding and intrepid amateur historian. His grand design began to unfold almost absent-mindedly: yet *Medieval Lincoln* (1948) and *Tudor and Stuart Lincoln* (1956) have been occupying the author for forty years and now he promises to make a quartet with a final volume on Victorian Lincoln—all this in the midst of a busy professional and public life on the spot. It should have a peal of bells.

H. J. DYOS

M. A. HAVINDEN (ed.). *Household and Farm Inventories in Oxfordshire, 1550-1590*. Historical Manuscripts Commission, H.M.S.O., 1965. viii+366 pp. 100s.

In this volume we have the transcription of 259 manuscript probate inventories from Oxfordshire, now housed at the Bodleian Library. The earliest is dated 4 February 1550, the latest 16 January 1591; four inventories were undated. Wills and inventories are usually very rewarding sources for agricultural history, but relatively little of this kind of material has so far been printed, certainly for the period before 1600. Thus Mr Havinden and those who helped him (their names appear in his Editorial Note) deserve our sincere thanks for adding to the collection.

As to the geographical distribution of the material within Oxfordshire, "almost every other village on average" (p. 4) is represented by at least one inventory. While about half the county's parishes are thus included, a little more scrutiny should be given to the statement that the inventories "come from a fairly even distribution of villages and towns throughout the county." Some qualifications as to their uneven *density* are made, but perhaps not sufficiently clearly. The facts are that 105 inventories, or 40 per cent of the total, come from the extreme northern angle of the

county, north of a line from Deddington to Hook Norton, an area representing about one-ninth of the whole county. What really matters about this weighting in "the northern tip around Banbury" is that its parishes are represented *in quantity* in what was a special and distinctive variant of the kind of mixed farming practised in the county at large. Mr Havinden acknowledges this distinctiveness when he writes (p. 31) of the "fertile and densely populated red marlstone loams of the Banbury region." Studies of farming regions in Tudor England, notably by Dr Joan Thirsk, suggest that the Oxfordshire clay vales shared a type of mixed farming that was widespread in the Midlands. Farmers grew and sold the main cereal crops, almost half the sown land being under barley and a quarter under wheat; most of them reared cattle, some being fattened for the butchers, others being added to dairy herds; smaller numbers of sheep, horses, and pigs were also kept.

In the variant found around Banbury, however, corn and pulses were used to fatten cattle which could then walk to market, e.g. to London. This was a sensible response in a geographical location which put the region at some distance from water transport down the Thames. (This may be the answer to the point made about the fewness of dairy cattle (p. 39), as distance from river carriage as well as nearness to a town market could affect the farmers' interest in butter and cheese production.) There were also good-sized flocks of sheep, and farmers made most of their money from beef, wool, and mutton. It would be interesting to tabulate the Banbury region's inventories against those for the rest of Oxfordshire.

Mr Havinden's concise analysis of, and commentary on, the inventories runs to forty pages. Its composition may be summarized as follows, each item being given in order of magnitude: Houses (i.e. vernacular architecture), thirteen pages, seven of them consisting of statistical summary tables; what might be termed the agrarian status and occupations of those whose inventories are

printed here, eight pages; a comparison of living standards between the 1550's and the 1580's, eight pages; farming ('The size of farms', 'Crops', 'Livestock'), seven pages; general discussion and scene-setting, four pages. Mr Havinden hopes "that readers will wish to study the inventories in more detail for themselves", so let us begin with something prompted by remarks in fact made in the introduction itself. This is fair play, because, as he says, "it has not been possible to comment on all the details contained in these absorbing documents." Consider the rôle of meadow land and hay-making in Tudor Oxfordshire. Mr Havinden is in good company when he ignores the hay-crop, so many agricultural historians having established the precedent for him! We are told that in many open-field (should this be 'common-field'?) villages "the supply of meadow and pasture land on which the livestock fed were (*sic*) scanty" (pp. 35-6). In certain manors the meadows and enclosed pastures made up only 10 to 20 per cent of the farmed land, and although their areas of common pasture are not known, "it is clear that grass was in short supply." (Incidentally, common grazing over Port Meadow may well have had a bearing on the Wolvercote farmer's regime, p. 34). Obviously these were manors untouched by the drastic and localized enclosure that led to the destruction of no fewer than 100 Oxfordshire villages, chiefly during the century after 1420. The whole question of grazing and livestock must be approached with this phase of early enclosure in mind, but even if we simply take these inventories at their face value, some rethinking may be indicated.

For instance, a surprisingly large number of farmers had a hay-crop. If we examine at random the last 59 inventories (i.e. no. 200 and all those following), we find that hay figured in 23 of them, i.e. in nearly 40 per cent of the cases. In the majority, moreover, hay is specified in its own right, not simply merged as "corn and hay" together. "A stack of Hay" could be worth as much as £1 out of a total estate of £8 (no. 241), or "Hay in the house and the rick" worth £2 (no. 251). In

some cases it stood in quantity in stack, rick, cock, or parcel; in others it was stored in hay-loft or hovel; it might even be just "a little hay fodder" (no. 223). It seems to have been fed to all kinds of animals: no. 205 records a large flock of sheep "with hay for them"; hay was stored in the loft over the stable (no. 238), and in the ox-house in no. 246 (this man also had a hay-loft). Attention should also be given to the seasonal incidence of references to hay; in this sample of 23 inventories, they ranged from 30 July, at the earliest, to 13 April at the latest; ten of them ran into the period January-March, when the need for hay was at its most stringent.

The Glossary of terms that crop up in the inventories is very useful. To see how adequately it covered the large span of 'problem words', three inventories were selected at random (nos 7, 76, 152) and their contents checked against the Glossary. It was found that only the following words were not treated: 'baken', 'upstone', 'coperye ware' (very common in the inventories in general), 'kyver' (twice), 'hackney Saddle', and 'cesterne'. In view of the frequent inclusion of cisterns in the inventories, and their rôle in this malting country, perhaps they should be given. One or two minor queries and spelling mistakes may be noted: grease (p. 326); coarse, Tournai (p. 323); is 'sorrell' obsolete (p. 333), or 'ted' dialect (p. 335)? Arras is in Artois (p. 317), and 'Caulses' (p. 260) should be 'Caulfes' (i.e. calves). While we are told that wagons began to appear in Oxfordshire after 1650 (p. 32), a 'Waynebedd' was listed with the other implements in Richard Busby's inventory (no. 251), in 1590. "The poles at the hoppe yarde" are mentioned as being "at the Rivers syde" at Witney in 1590 (p. 307).

F. V. EMERY

A. M. EVERITT, *The Community of Kent and the Great Rebellion, 1640-1660*. Leicester University Press, 1966. 356 pp. 35s.

The Civil War came in the middle of the great age, three centuries long, of the English counties. To all but the small minority who lived in a large town or city, the county was a

unit as significant, practically and emotionally, as the country: indeed the two words were not always clearly distinguished. The alliances, rivalries, and ambitions of the gentry were largely circumscribed by county boundaries, within which they dominated every political and judicial activity. Inevitably the county was and is the most relevant unit of local history; and most of them can add to the massive volumes on the manors and parishes a humbler work on the Civil War. Usually the battlefields, the garrisons, and the heroic decisions have been all-important: it is only very recently that the effect of the war on county government and county society has become a subject for serious and comparative study. Dr Alan Everitt has already established himself as the leading authority on the County Committees. Now, taking his earlier monograph on the Committee of Kent as a core, he has built round it the first thoroughly documented study of the community of a county throughout the twenty-year upheaval.

By 'community' he means the rulers, in the broadest sense—the gentry and those who contrived to share their power and move in their political sphere. It is dangerously easy to assume that the community was everywhere much the same. One of Dr Everitt's great merits is that he knows other counties well enough to make confident comparisons. Kent had exceptionally many gentry, three-quarters of them with only one or two manors each. There was no dominant magnate like the Earl of Derby in Lancashire, no leading family connection like the Barringtons in Essex. More surprisingly, it was not closely involved with London. The notion that Kent belonged to a solid block of 'home' counties where London merchants acquired estates and from which county families most readily sent their sons to the capital for wealth and brides does not survive Dr Everitt's scrutiny. The community was self-contained, not very 'mobile', and devoted to decentralization even within itself: the ancient independence of the lathes asserted itself as strongly as ever in the wartime committee region.

Comparative isolation from London and from the main areas of battle did not mean that Kent had a minor part in Civil War politics. Few counties illustrate so well one of the principal themes of current studies of the conflict—that the fight between cavalier and roundhead was only one of a multitude of divisions. United opposition to Charles reached its peak in 1640: there was not much of the confident puritanism that in some counties helped it to move forward. It was conservative opposition, directed against the innovations of the personal rule and the Laudian church, led by the cultured and energetic but politically fumbling Sir Edward Dering.

Having introduced the Root and Branch Bill into the Commons without realizing what he was doing, Dering made amends by organizing the much-imitated Kentish petition of 1642, which called for a "solemn free debate" to settle religion and for the political compromises that were now impossible. By the time fighting began he had become a royalist, while many of his former allies among the top gentry were parliamentarians. Dr Everitt's analysis of this situation leaves hardly a surviving shred of the simple cavalier and roundhead story. There were three 'parties' (though he abandons the word in favour of 'groups') in the county. Much the largest was the moderates, "who shaded off into mild parliamentarians . . . on the one hand and mild royalists . . . on the other." The "genuine cavaliers and parliamentarians" were "hardly more than cliques." Perhaps the case is overstated a little: Kentish gentlemen "essentially in unison in their basic convictions" did not risk their lives or even their estates for the sake of groups into which they had "shaded off" if the only real difference was between two equally unacceptable extremist positions. But it is made clear how much the war itself, even in an area remote from most of the fighting, created both new enthusiasms and new doubts that led some to abandon neutrality and others to revert to it. While Sir George Soudes told how he "boggled" at the change from king-in-parlia-

ment to parliament-and-no-king, Dering in his distress at the godless life of the cavaliers and the court resigned his commission and submitted to Parliament.

If Dr Everitt is right the fact that Parliament controlled the county fairly effectively until 1648 depended largely on the quick invasion by Colonel Edwin Sandys with troops raised in London. Once the leading royalists were arrested or driven out, "many of the old county families" gave their tacit support to Parliament. The evidence about this and the other splits, detailed though it is, is impressionistic rather than statistical. Despite the notorious dangers of any counting of heads in ill-defined categories, we sometimes need clearer terms than the variants of "few" and "many." For the 170 families picked out as "dominant," or for the "genuine parliamentarians" who are said to outnumber the "older landed families" by at least six to one, there must be some lists that would help to test the claims.

Dr Everitt has little sympathy with either the uncompromising royalists or the puritans. The former, Lovelace among them, were "a group of angry and frustrated young men" of "precarious economic fortunes." Parliamentary initiative came from the "malcontents" of Wealden wool villages, from "scattered groups of minor gentry," and from men of "violent temperament," notably Sir Anthony Weldon, the bitter expelled courtier, and Sir Michael Livesey the comparative newcomer outside the family network. The story of their struggles on the County Committee bears out the unidealistic view of the original division. It is here that we can see, and to some extent measure, the cleavage within the parliamentary side between those who came to support an all-out centrally directed war and those who continued to seek peace and the preservation of county society. It coincided demonstrably, though of course not simply nor rigidly, with a social division. One difficulty in presenting this conclusion statistically is that what changed was not so much the listed membership of the committee as the active 'core'. The leading county names were re-

placed in leadership by those of parochial gentry, townsmen, and lawyers. But the work of any institution becomes for some men an end in itself, and throughout the war a good many moderates continued to work alongside future regicides. Weldon, finding at last an outlet for his political skill, worked hard to hold the committee together. The eventual take-over by the extremists was strikingly similar to events in some—we cannot yet say how many—other counties. But Kent was unique in the complete defection of moderate parliamentarians that made possible the rebellion of 1648. This first act of resistance by a county community to the half-established parliamentary government deserves the detailed treatment it gets. It repeats in yet another key the theme of the conflict between national and county loyalties. But it showed also how much the solidarity of the county community itself had been broken: Kent remained predominantly hostile to the republic and the protectorate, but too weak and divided to rebel any more.

Seeking the 'deeper causes' of the failure in 1648, Dr Everitt mentions casually the blame put on the "yeomanry and poor labourers" who deserted the rebels to return to their homes and families. It is one of the few occasions when such people appear in the book at all. True, the subject is the propertied community. But the attitude of tenants and labourers to the war, and the effects of the war on their fortunes, must have been very much in the minds of the gentry who depended on their labour and their loyalty. A good deal of Dr Everitt's material comes from the Commonwealth Exchequer Papers which can yield a lot of information about the burdens imposed on all but the very lowest levels of society. And in 1648, in the "rising not of a single clique or class" but of a "whole countryside" their actions are well documented. Perhaps some day Dr Everitt will turn back to Kent and give us a supplementary chapter on the men who wielded the muskets while their horses were stolen, their crops ruined, their security threatened as much as that of the gentry. But the book as it stands

is a major addition to seventeenth-century studies which ought to be the model for many more.

D. H. PENNINGTON

M. A. HAVINDEN, *Estate Villages: A Study of the Berkshire Villages of Ardington and Lockinge* (with contributions by D. S. Thornton and P. D. Wood). Percy Lund, Humphries, for the University of Reading, 1966. 210 pp. 50s.

This is an interesting and unusual study in great depth of a remarkable phenomenon in the English countryside of the recent past—Lord Wantage's Berkshire estate in Ardington and Lockinge. Here was a large compact estate built up as late as the second half of the nineteenth century, where in the agricultural depression of the 1880's and 1890's the bulk of the property was taken into hand by its owner and managed as an experiment both in large-scale estate farming and in social welfare.

The last four chapters of the book are concerned with the development of the estate since 1945, its system of farm management, and the adaptation of agricultural production to recent conditions, followed by a detailed study of the present social structure of the villages, the living standards of the inhabitants, their incomes and housing, mobility of the population into and out of the area, and their educational facilities and social activities.

All of this makes absorbing reading and readers of this journal will find much of interest in the account of recent trends, but the earlier chapters are, of course, more directly relevant to historians. After details of the physical environment of the villages and their local communications, there follow chapters dealing with the villages' early history, enclosure, the structure of landownership in the nineteenth century, and the building up of the estate by the Loyd-Lindsay family. When the depression struck, the effects were disastrous: the net rental fell from £44,000 to £12,000 and many tenants gave up their farms; by 1895 Lord Wantage was farming nearly

13,000 acres. In Ardington and Lockinge the home farm expanded to some 4,000 acres and included all but one of the farms in the two parishes. But by making economies in working the land, by developing the livestock enterprises, particularly the fattening of cattle and the Lockinge stud, and by accepting a return on his capital less than might have been obtained in other fields of investment, Lord Wantage kept his estate afloat.

This achievement meant a great deal to the inhabitants of Ardington and Lockinge, and indeed it is clear that Lord Wantage based on the expansion of his home farm and its viability as an economic organization his schemes for the improvement of life in the villages. He believed that the farm workers ought to have "a practical and tangible interest in the successful workings of the farm." To this end he encouraged the men to comment on the cultivation of the land, and began a rather ill-fated profit-sharing scheme. Believing also that the rural population should be the farmers' best customers, he successfully established a village bakery and a co-operative retail store. The one village inn was run by Lord Wantage through a salaried manager, who was required to provide soup, coffee, and tea as well as alcoholic refreshment; and the profits of the inn went to pay for a reading room and street lighting. In addition, he provided model housing, allotments, and a savings bank, and opened a Friendly Society branch. Although many of his innovations have now disappeared or declined in importance, the tradition of providing for the welfare of the workers on the estate has continued to the present in the form of rent-free cottages and small cash pensions for retired workers of long service. Of course, the obtrusive paternalism of Lord Wantage had its critics and there was a certain loss of individual independence and political liberty; but the compensating gain in economic and social security in a peculiarly difficult and uncertain period must have been enormous.

Not all readers will agree with the author's interpretation of national developments in wages, working conditions, and the Poor Law,

where these are sketched in as background, and the section taking the story on from the very fully treated late nineteenth century to the detailed examination of the estate and villages in the post-1945 era seems by contrast thin and sketchy. But these are minor weaknesses which do not seriously affect the value of the study as a whole.

The book is lavishly illustrated with photographs, maps, and diagrams, and the detailed findings are admirably set out in numerous tables. Such a well-produced and attractively printed volume must be reckoned a bargain as books go today, but even if this were not so this study would still constitute essential reading for all those with a serious interest in the period, and indeed for anyone interested in village life over the last hundred years. Mr Havinden and his collaborators must be congratulated on producing so valuable and many-sided a picture of their Estate Villages.

G. E. MINGAY

A. H. JOHNSON, *The Disappearance of the Small Landowner*, with an Introduction by Joan Thirsk. 2nd edition. O.U.P., 1963. xiv + 164 pp. 21s.

To most of us, A. H. Johnson's *Disappearance of the Small Landowner* means the discussion, which it inaugurated, of the evidence of the land-tax assessments. As Dr Joan Thirsk reminds us in her Introduction, this was only part, and by no means the major part, of a wider study the significance of which deserves greater recognition than it has received. Johnson began his lectures with a reference to the difference in the distribution of land-ownership between France and Belgium on the one hand and Britain on the other and went on to declare that his aim was to "explain how and when this remarkable divergence occurred." It would be too much to claim that he succeeds in this ambition; but it would also be difficult to assert that his successors have advanced very much further. British agrarian history is only now emerging from the insularity which marked it when Johnson wrote; and the reissue of his book has a value over and above its intrinsic usefulness

in drawing attention to the work that has still to be done. The field is sketched out in Dr Thirsk's Introduction, and it is hoped that this clear directive will not be lost now that agrarian history is at last beginning to take its rightful place in the study of English social evolution. Johnson, of course, confined himself to the study of the legal aspects of estate consolidation; but he realized that customary practices of inheritance also had a part to play. On this only sporadic and mainly local investigations have been made since his day, but sufficient has been done to show that here is an unwritten chapter on the English peasantry, and one that has a bearing on the evolution of industry (as Dr Thirsk has herself shown) as well as on the distribution of land.

In most other respects, Johnson's book is a useful and stimulating but not necessarily a safe guide. On sixteenth- and seventeenth-century enclosures the modern student has a gentle—perhaps too gentle—warning by Dr Thirsk; and his account of eighteenth-century enclosures is distinctly dated. On the subject of land-tax assessments Dr Mingay has put us all in his debt by his recent article in *The Economic History Review* (Oct. 1964) where it is shown that while these documents remain a valuable source of agrarian history, they should not be made to bear the weight of statistical speculation that Johnson and his successors (including the present reviewer) have placed upon them. That is not to say that they can be ignored; on the contrary, to the village historian they are indispensable; and the agrarian historian must take account of the general picture that has emerged from them. Johnson would still be constrained to say, with Sheridan, as he said in 1908 "these damned facts are knocking the bottom out of my notions;" but he would be less prepared to advance precise statistical notions to take their place. As he so clearly demonstrated himself, the title of his book was a misnomer; the small landowner did not disappear and the land-tax assessments are an indispensable but imprecise aid to the study of his survival.

J. D. CHAMBERS

W. G. HOSKINS, *English Local History; the Past and the Future*. Leicester University Press, 1966. 22 pp. 3s.

This inaugural lecture falls into three parts, of which the longest and central section deals with currently important fields of local study, in two of which the author has himself been a pioneer. The page or two on town topography, or those on boundaries and hedgebanks—as might be expected—are vignettes of charm and reflective depth. But what has happened before and after? Perhaps it would be as well to advise the reader to turn first to the final two lines, rather like cribbing the dénouement of a thrilling novel in the early stages. It will be seen that Professor Hoskins, who has charmed and inspired so many thousands by his books, lectures, and broadcasts, still has his heart in the right place.

Turning back to the beginning, however, one may ask what the author is grouching about. Is it that no “massive contribution” has yet come from amateur effort? Is it that his own department has less spent on it than “the glass palaces” of new science blocks? Or does he need more than he realizes to get off his chest “the scandalous history of his native place”? Whatever it may be, he seems to be hitting out wildly at the work of the amateur local historians of the past with their interests so different from those of today’s historians. Involved in this cloud over amateur effort seem to be many currently active enthusiasts at the very moment when some of their work is being so successfully harnessed to professional schemes. One thought for a moment that Professor Hoskins had somehow left out of account the lively and devoted extra-mural work in progress all over the country: but the next paragraph showed that this was not the case.

Perhaps your reviewer has misunderstood some of the points, but it was not for want of reading the lecture several times over, so extraordinarily out of character did it seem in several places. After all, Professor Hoskins’s reputation is deservedly so great that he tends to be always—perhaps wrongly—taken as speaking *ex cathedra*. This is why it

seems necessary to go into some detail. The author praises his pioneering predecessor at Leicester for his work on Anglo-Saxon charters but makes no mention—was this intentional?—of Professor Finberg’s immensely influential Inaugural of 1952 which has caused so many societies and classes to clear their decks and chart new courses. One wishes too that Professor Hoskins had given his views on the jubilee project of the Women’s Institutes, which seems to your reviewer a magnificent and widely spread piece of amateur effort at its best.

Surely it is not amateurishness and class consciousness that have held local history back. We can be grateful for the help of any who have assisted in recording the past from any angle, however different their viewpoint from the changing contemporary one. Perhaps a greater influence has been the struggle for history of any kind to be accepted as an academic discipline, and, when accepted, its long immobilization in a national and constitutional mould. Professional historians—not least Professor Hoskins himself—are giving a lead now, and encouraging a widely spread amateur effort. Some historians have found enthusiastic support and speak with gratitude and affection of the work done by their amateur students and helpers, many of them, perhaps mercifully, never candidates for ‘O’ levels in G.C.E. Their contribution may not be ‘massive’, but there is a favourable climate of opinion now and many schemes can be undertaken which depend on the co-operation and participation of the people themselves, like the Leeds dialect studies. Tutors recognize how much their students contribute to and refresh their classes, knowing when to become students themselves for a while.

With this in mind, it seems nonsense to hold that class distinctions are putting a brake on local history. Indeed, this appears to be in the same class as Professor Hoskins’s Burnham Thorpe guide which your reviewer knows well, as laughter over it nearly involved him in a car accident some years ago. The computer, too, which the author seems to resent or perhaps to envy, can give much to the

study of demography, meeting the need to reduce multitudinous facts to order so as to provide generalizations of limited truth. The computer fortunately emphasizes the limitations by only working on the precise instructions fed into it. We certainly need investigation of the demographic facts: in the period 1584-1603 Professor Hoskins's ancestor had ten children, all of whom grew up and had families: a century before, Sir Henry Colet had twenty-two children, only one of whom grew up, imbued with a lasting sense of how precious children were. We need to know whether either was typical.

Is it still necessary to say that the local story can easily be independent of and different from the national generalizations? Comparatively few of the remoter villages—like Eyam, for instance—find themselves closely linked with events that reach the textbooks. And there is fortunately gossip to be found in odd places which throws light on reality in spite of there being no attempt at systematic record. Was it not outside a Buckinghamshire alehouse that two drunken women referred to Anne Boleyn as “a goggle-eyed whore” and were not prosecuted in spite of a council informer? There appears a deal of local and national history in such trivial incidents.

These notes and glosses will show how perplexing your reviewer found this lecture. In it he feels that the past is unfairly though accurately criticized, the present assessed with somewhat ungenerous hesitation, and the future presumed to be an extension of this last. It must be difficult to live up to *The Making of the English Landscape*, and this lecture is disappointing: it inadequately represents the dynamism which Professor Hoskins has infused, and no doubt will continue to infuse, into local history studies.

P. D. WHITTING

WILHELM ZORN, *Die Geschichte der Landwirtschafts-Wissenschaft in Schlesien*. Beiheft zum Jahrbuch der Schlesischen Friedrich-Wilhelms-Universität zu Breslau, II. Holzner-Verlag, Würzburg, 1964. 144 pp. No price stated.

Wilhelm Zorn taught in the agricultural department of the University of Breslau from 1908 to 1945 and was director of the institute of animal breeding and milk production. In 1945 he fled westwards with his ten best cows, some fine karakul sheep, and specimens of good seed stock. Until his retirement he worked in West Germany near his birthplace in the Allgäu but separated by two frontiers from the scene of his life's work which is now in Poland. He has written a sad work of piety and nostalgia in the form of a bare record of facts, places, professors, and subjects of study.

Research in Breslau helped to make Silesia an area with a food surplus. Before the eighteenth century farmers relied upon the lore of the old writers on husbandry, the so-called Hausväter, but in the eighteenth century experiments on horses, fine wool sheep, clover, potatoes, and sugar beet began. A sugar beet factory was built in 1802: the original sugar beet produced 1 per cent sugar, but as a result of research it now produces 18 per cent. In the course of the nineteenth century true agricultural textbooks were written, e.g. J. A. von Rosenberg-Lipinsky of Öls, *Der praktische Ackerbau*, 2 vols., 1862. In 1847 a 1,000-acre farm was used by the agricultural academy near Oppeln. A herd book was established. Russia and the West had much to teach the Silesians. In 1881 it was necessary to open a department in Breslau University using rooms owned by the local agricultural society. But this led to a drop in student numbers: Halle attracted the academic students, and few practical students went to the university. Interest grew when the philosophical faculty of the university encouraged agriculture. The institutes within the agricultural department multiplied, often directed by distinguished scientists, and specialized in general farming techniques, plant and animal breeding, agricultural chemistry, bacteriology, veterinary science, agricultural engineering, agricultural economics, and agricultural history (R. Krzymowski). A new university farm was obtained at Schwoitsch. By 1913 one-third of the students were Polish. In 1921 the agricultural department obtained its own premises, main-

taining its links with eastern Europe, and did much work directly under the Prussian agricultural ministry.

Professor Zorn enumerates a long list of teachers, pupils, technical assistants, and patrons, and follows their fates during two world wars. The generation that worked in

Silesia is slowly being depleted by death. Those that survived the flight work, for the most part, in West Germany, some few in East Germany. None remain in Poland, though Professor Zorn speaks kindly of the Poles who took over in Silesia.

D. J. DAVIS

---

#### NOTES AND COMMENTS *continued from page 112*

##### FUTURE CONFERENCES

Owing to the disappointing attendance at the last December conference it was decided not to arrange a conference this year, but to circulate the membership about the purpose

and frequency of future December conferences. The 1968 Spring conference will probably be held at the University of East Anglia, Norwich, from 8 to 10 April. Further details will be circulated later.

---

#### NOTES ON CONTRIBUTORS

Julian Bartyś is docent in the Institute of Material Culture at the Polish Academy of Science, Warsaw. He has published many articles and books on the history of Polish farming from the eighteenth century to 1914.

Ian Beckwith, B.A., is Lecturer in History at Bishop Grosseteste College of Education, Lincoln. He is engaged in research on rural life and conditions in Lincolnshire, 1600-1914, and has in preparation an edition of the Gainsborough Court Leet Book, 1614-1714.

E. J. T. Collins, B.A., is an Assistant Keeper at the Museum of English Rural Life, Reading University, and is working on agricultural production in the eighteenth and nineteenth centuries.

E. L. Jones, M.A., D.Phil., is a Research Fellow of Nuffield College, Oxford, and is also working on agricultural production in the eighteenth and nineteenth centuries.

R. W. Sturgess, B.Sc.(Econ)., Ph.D., is a lecturer in economic history at Edinburgh University, and is carrying out research on English landownership in the nineteenth century.

Graeme Whittington, B.A., Ph.D., is lecturer in geography at St Salvator's College, University of St Andrews. He has published articles on strip lynchets and other agricultural topics, and is now working on the evolution of farm and field boundaries on the Isle of Bute.

## ESSAYS IN AGRARIAN HISTORY

## Volumes I and II

Edited by W. E. Minchinton, *Professor of Economic History, University of Exeter*

David and Charles (Newton Abbot, Devon), under the auspices of the British Agricultural History Society, will issue in January 1968 two volumes of essays on agrarian history covering the period from Anglo-Saxon times to 1950. They comprise more than twenty articles, which have appeared in various learned journals, and are considered to be major contributions to the subject written in the twentieth century. They cover a wide range of topics, including techniques of husbandry, landholding, prices, rents, and the course of agricultural prosperity. Among the contributors are J. R. Bellerby, H. J. Habakkuk, W. G. Hoskins, A. H. John, E. L. Jones, Gordon Mingay, M. M. Postan, F. M. L. Thompson, and Edith Whetham.

These volumes can be bought at a specially reduced price by members of the British Agricultural History Society. Order forms are enclosed in this issue of the REVIEW.

## Books Received

- ADAMS, L. P., *Agricultural Depression and Farm Relief in England, 1813-52*. New Impression. Cass. xiv + 192 pp. 1965. 35s.
- CHRISTENSEN, AKSEL E. and DAHLERUP, TROELS, *Aasum Herreds Tingbog, Register, 1640-48*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen, 1962. 104 pp.
- CHRISTENSEN, AKSEL E. and DAHLERUP, TROELS, *Aasum Herreds Tingbog, 1640-3; Aasum Herreds Tingbog, 1643-5; Aasum Herreds Tingbog, 1645-8*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 290 pp. 1957; 104 pp. 1962; 352 pp. 1956; 318 pp. 1960.
- GISSEL, SVEND, *Sjællands Stifts Landebog, 1567*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 260 pp. 1956.
- HANSEN, C. R., *Præsteindberetninger om Fæstegods M.V. I. Vendelbo Stift, 1568 og 1599*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 304 pp. 1964.
- HILL Sir FRANCIS, *Medieval Lincoln*. Reprint. C.U.P. xviii + 488 pp. 1965. 70s.
- HØJRUP, OLE, *Levnedsløb. I. Sørbymagle og Kirkerup Kirkebøger, 1646-1731. I. Biografierne*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 146 pp. 1963.
- KUMAR, DHARMA, *Land and Caste in South India. Agricultural Labour in Madras Presidency in the Nineteenth Century*. C.U.P. 212 pp. 1965. 45s.
- OLSEN, KAREN M., *Herlufsholm Birks Tingbog, 1616-19; Herlufsholm Birks Tingbog, 1630-33*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 158 pp. 1954; 390 pp. 1957.
- PEDERSEN, OLE K., *Sokkelund Herreds Tingbøger, 1621-2; 1625-8*. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 360 pp. 1957; 340 pp. 1960.
- RASMUSSEN, POUL, *Skast Herreds Tingbog, 1640*. Vols. 2, 3, 4. Udgivelse af Kilder til Landbefolkningens Historie, Copenhagen. 128 pp. 1963; 192 pp. 1964; 256 pp. 1964.

*Photo-reprint by The Broadwater Press Limited, Welwyn Garden City,  
Hertfordshire, England.*