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*

PRINCIPAL CONTENTS

Agricultural Changes in the Chilterns, 1875-1900

by J. T. COPPOCK

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Lancashire Livestock Farming during the Great Depression

by T. W. FLETCHER

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East Yorkshire's Agricultural Labour Force in the mid-Nineteenth Century

by JUNE A. SHEPPARD

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Agricultural Changes in the Chilterns

1875-1900¹

By J. T. COPPOCK

WHILE the broad outlines of the agricultural depression which affected British agriculture from the late 1870's until the end of the century are well known, few local studies have been made. The Chilterns and the adjoining clay lowlands (Fig. I) provide a suitable area for investigating the changes which occurred, for they contain a wide variety of country within a small compass. The Chilterns themselves, rising to over 800 feet, have stony soils of low fertility, the clay lowlands to north and south are poorly drained and difficult to cultivate, while the gravel terraces of the Thames and the Icknield belt below the escarpment have free-working loams which make good arable soils.

In the 1870's the Chilterns were primarily rural. It is true that many of the towns were growing rapidly, but they were still small, and most of the land, though much interrupted by blocks of woodland, was used for agriculture. In those parts nearest London there were also numerous parks and mansions. The clay vales to the north, where there were few parks and little wood, were almost entirely farmed, but south of the Chilterns parks were again numerous. There were marked regional differences in the kind of farming practised, differences of fairly long standing, determined mainly by soil and by nearness to London markets. The easily worked loams of the Icknield belt and the Thames terraces were almost entirely arable, as were the Chilterns, where the only extensive stretches of grass lay in the landscaped parks or along the few streams. The amount of grass decreased with elevation; a typical farm at Swyncombe, for example, had only 7 out of 372 acres under grass. On the clays to the north, more land was under permanent grass, though the proportion varied from all-grass farms in the low-lying Vale of Aylesbury to mixed farms with a preponderance of arable around Bletchley. Generally between one and two-fifths of the land was under the plough, and a farm at Waterstock, with 208 acres of grass and 118 of arable,

¹ The cost of extracting the statistical data on which this paper is based was met by a grant from the Central Research Fund, University of London. The author is grateful to Mr J. Bryant who drew the maps. Statements which are not supported by references are either derived from the parish summaries of the agricultural returns (which have been extensively used in the preparation of this paper) or generalizations made from sources too numerous to list.

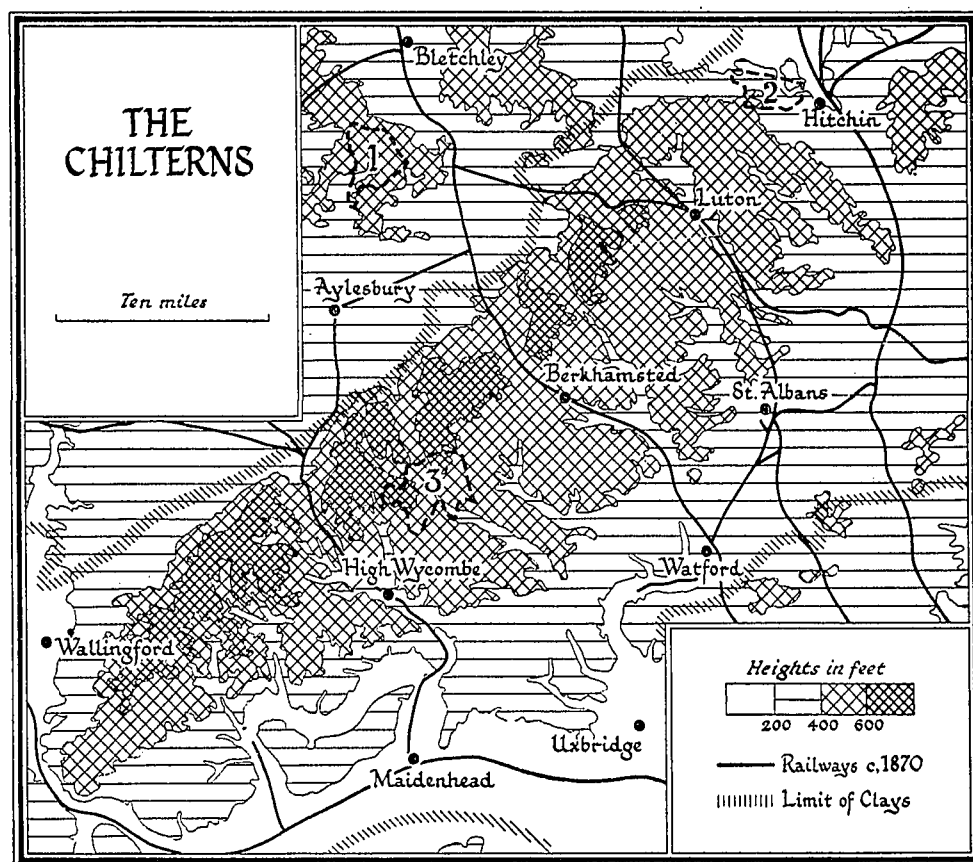


FIG. I

was fairly representative.¹ The clays of south Hertfordshire and Middlesex were nearly all under permanent grass, but the reason for this was only partly the heavy soil. London, with its large population of horses and dairy cattle, made heavy demands on the adjacent counties for hay, straw, and other fodder crops, and four-fifths of the grass was cut for hay each year (Figure IIa).

The stock kept and the crops grown also varied considerably. On the Chilterns and in all the main arable areas, the Norfolk four-course rotation, or some variant of it, prevailed (Figure IIb). Cereals, turnips, and clover accounted for four-fifths of the arable, the remainder being occupied by other fodder crops such as peas and vetches. On Hoo Farm, Kimpton, for example, there were in 1870 113 acres of wheat, 88½ of barley, 73 of clover, 20 of beans, and 99½ of turnips.² The better land supported an additional

¹ *Second Report, Commissioners on the Employment of Children, Young Persons, and Women in Agriculture*, Appendix, Part II, Parliamentary Papers, XIII, 1868-9, p. 326.

² Accounts, Hoo Farm, Kimpton, Hertfordshire Record Office.

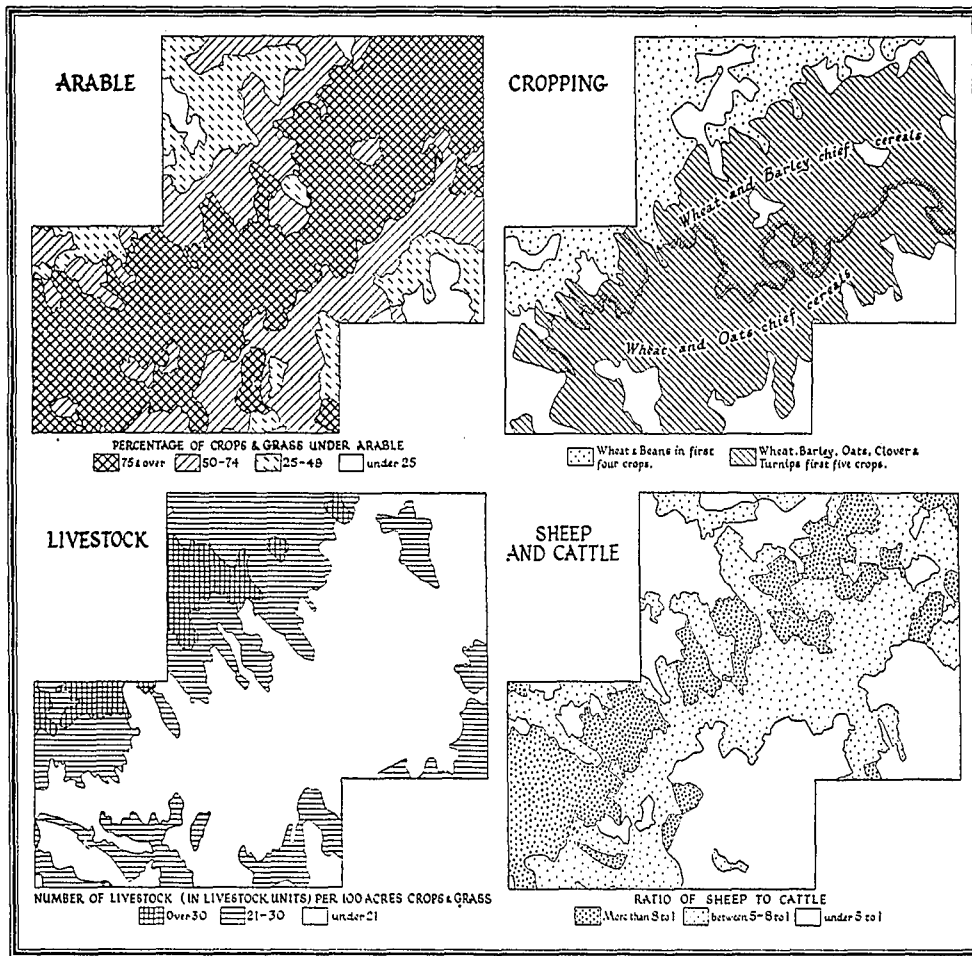


FIG. II

corn crop and usually carried more wheat and barley than oats. Thus, in the Hertfordshire Chilterns, where soils were generally better than further west, a five-course rotation was common and wheat and barley were the leading cereals;¹ in the poorer Oxfordshire Chilterns, a four-course rotation, with oats the second cereal, was general. On the clays, cropping was more varied, and rotations often longer.² Wheat was everywhere the chief crop, occupying a third or more of the arable. Beans were also a characteristic crop, and a larger proportion of land was bare-fallowed; but some oats, barley,

¹ H. Evershed, 'Agriculture of Hertfordshire', *Journal of the Royal Agricultural Society*, XXV, 1864, p. 272.

² *Second Report on the Employment of Children, etc.*, loc. cit., p. 75; *ibid.*, *First Report*, Appendix, Part I, Parliamentary Papers, XVII, 1867-8, p. 124.

clover, and turnips were also grown. On Manor Farm, Upper Stondon, wheat, occupying 99 acres, and beans, 52 acres, were the leading crops in 1868, the remainder of the arable being occupied chiefly by 50 acres of clover, 37 of turnips, 24 of barley, 22 of oats, and 18 acres of fallow.¹ On the little arable on the clays to the south of the Chilterns, wheat was again the leading crop.

Specialized cropping was rare. Market gardening was important only on the Middlesex gravel terraces and potatoes were grown only in small quantities, except in the market-gardening areas and on the sandy soils around Leighton Buzzard. Wheat and barley were the principal cash crops; on one Hertfordshire farm they accounted for 84 per cent of crop sales.² Within easy reach of London, however, oats, hay, roots, and straw were sold; the importance of oats in south Hertfordshire was probably due to the demand for oats and oat straw rather than to the quality of the soil.

Most observers noted the considerable uniformity of cropping on farms, particularly in the Chilterns, and their impressions are supported by the agricultural returns. To what extent this uniformity was due to lease restrictions it is impossible to say; clauses in leases ranged from general injunctions to cultivate the land in a husband-like manner to specific instructions to follow a particular rotation, as on a farm at Mapledurham, where the farmer was enjoined to cultivate the land on a four-course system and was forbidden to take two crops of the same kind of grain in succession or to crop more than half the land with grain.³ There were limitations on growing other crops; a tenant of a 640-acre farm on the Ashridge estate was prohibited from growing more than two acres of potatoes.⁴ There were also restrictions on the disposal of hay, straw, and roots grown on the farm. It is true that such restrictive covenants were not necessarily enforced and practice seems to have varied from estate to estate; only one specific example of the enforcement has been noted, where a tenant on a farm at Chenies was ordered to plough up and fallow a field sown to oats because of "too great a liberty in the extent of his White-Strawed Cropping."⁵ The object of the covenants was, of course, to protect the land, and farmers were usually allowed to sell crops, hay, and straw when sufficient dung could be brought back to replace their manurial value.⁶

The importance of livestock varied inversely with the proportion of

¹ Bedfordshire County Record Office, DDX 159/3.

² 'Remarks concerning a Herts Farm', *Herts Illustrated Review*, I, 1893, pp. 647-8.

³ Agreement, April 1883, Blount MSS., Bodleian.

⁴ Hertfordshire County Record Office, Leases, Ashridge Estate.

⁵ Bedford Office, Bedford Estate Reports, 1887.

⁶ Evershed, *loc. cit.*, p. 284.

arable,¹ except on the clays to the south of the Chilterns where the hay crop severely limited grazing (Figure IIc). On the Icknield belt and on the Chilterns sheep were the principal livestock, especially on the higher parts where water was scarce. They were arable sheep, folded on roots, and were kept primarily to manure the soil. Horses accounted for one third of the total livestock, and a few dairy cattle, beef cattle, and stores were also kept. Stocking on these farms is exemplified by Hoo Farm, Kimpton, which carried 702 sheep, of which 408 were breeding ewes, 32 cattle, 23 horses, and 75 pigs. Lower down the Chilterns, where water was more abundant, fewer sheep and more cattle were kept (Figure IIId). South of the Chilterns farms kept mainly cattle, and nearer London some dairying was practised. The chief areas of livestock farming were, however, the clay lowlands to the north, especially the area around Aylesbury, which Read had called "the pastoral garden of the county."² Cattle were the chief livestock, but both arable and grass sheep were kept. The mainly grass farms near Aylesbury fattened beef cattle, particularly Herefords, but the mixed farms, which covered most of the clays, practised dairying and rearing as well as fattening. Dairying was typical of the poorer grassland and was still largely concerned with butter production; only in well-placed areas was much milk sold.³

Stocking, too, was affected by lease restrictions, though less frequently than the use of the arable land. Some leases merely enjoined the farmer to stock the farm adequately; but occasionally restrictions were more specific, as on Park and Rose Farms, Mapledurham, where the tenant was required to keep a sufficient flock of sheep and to pen and fold them on the farm.⁴

This brief statistical account inevitably minimizes the rich variety of farming; nevertheless, the prevailing impression is one of considerable uniformity within regions which differed markedly from each other.

In the late 1870's a series of bad harvests coincided with a period of falling prices. Although the weather improved, grain prices, particularly of wheat and barley, continued to fall; they were joined in the 1880's by a similar, though smaller, fall in the prices of livestock and livestock products. These falling prices were met in two main ways; part of the burden was shouldered by landlords, who remitted and later reduced rents, and part by farmers, who

¹ No winter returns of livestock were made, but there is evidence of fattening of cattle in winter in the arable areas.

² C. S. Read, 'Report on the Farming of Buckinghamshire', *Journal of the Royal Agricultural Society*, xvi, 1855, p. 281.

³ J. C. Morton, 'Dairy Farming', *Journal of the Royal Agricultural Society*, 2nd Series, xiv, 1878, p. 689, and report of Daily News Special Commissioner, reproduced in *Bedford Times*, 13 September 1879.

⁴ Agreement, April 1883, Blount MSS.

attempted to reduce their losses by farming less intensively, by avoiding expensive cultivations, and by concentrating on those products which were least affected by the fall in prices. But none of these remedies was adopted uniformly over the whole area.

The reductions in rents are the best documented of the changes and were almost universal. At first landowners granted temporary remissions; in 1880 for example, the duke of Bedford allowed 25 per cent off the year's rent to all tenants on the estate.¹ But gradually, as it became clear that this was not a temporary recession, there were permanent reductions. These were made necessary both to retain existing tenants and to attract new, and it was said that in parts of Hertfordshire no rent at all was paid, the landowners being glad merely to keep a tenant on the farm.² There was often a succession of reductions; the rent of Flint Hall Farm on the West Wycombe estate, for example, was reduced by £30 in 1882 and by a further £40 in 1886. Revenues from rents fell steadily; on the West Wycombe estate the rental fell by 19 per cent between 1876 and 1888,³ and on the Bedford estates in Bedfordshire and Buckinghamshire average farm rent fell by 48 per cent between 1876 and 1895.⁴ Reductions were most marked on heavy arable clays, which were expensive and difficult to work, and on poor soils which gave a low return; on the thin soils of the Oxfordshire Chilterns, for example, rents fell by 50 per cent between 1880 and 1893.⁵ On good grassland, or where there was easy access to a market, reductions were much less; in the Vale of Aylesbury reductions were generally 20–25 per cent, and near the railways south of the Chilterns from 10–25 per cent.⁶

The most general of the agricultural adjustments was an extension of the grass acreage (Figures IIIa and b). Since wages changed little, labour costs, the largest single item in the outgoings of the arable farmer, could be reduced only by curtailing expensive cultivations. It is difficult to be sure how much land was laid to grass. The agricultural returns show a progressive increase in the amount of permanent pasture; and while this may be due in part to a more complete enumeration of the smaller holdings, which would tend to be largely grass, there is no reason to suppose that it does not reflect an actual

¹ Bedford Estate Reports, 1880.

² *Royal Commission on Agriculture, Reports of Assistant Commissioners*, Parliamentary Papers, xvi, 1881, p. 368.

³ Rentals, West Wycombe Estate papers.

⁴ Duke of Bedford, *The Story of a Great Agricultural Estate*, London, 1897, p. 224.

⁵ *Royal Commission on Agriculture, Minutes of Evidence*, Parliamentary Papers, xvi, Pt. I, 1894, p. 57.

⁶ *Royal Commission on Agriculture, Report of A. Spencer on the Vale of Aylesbury and the County of Hertford*, Parliamentary Papers, xvi, 1895, p. 17.

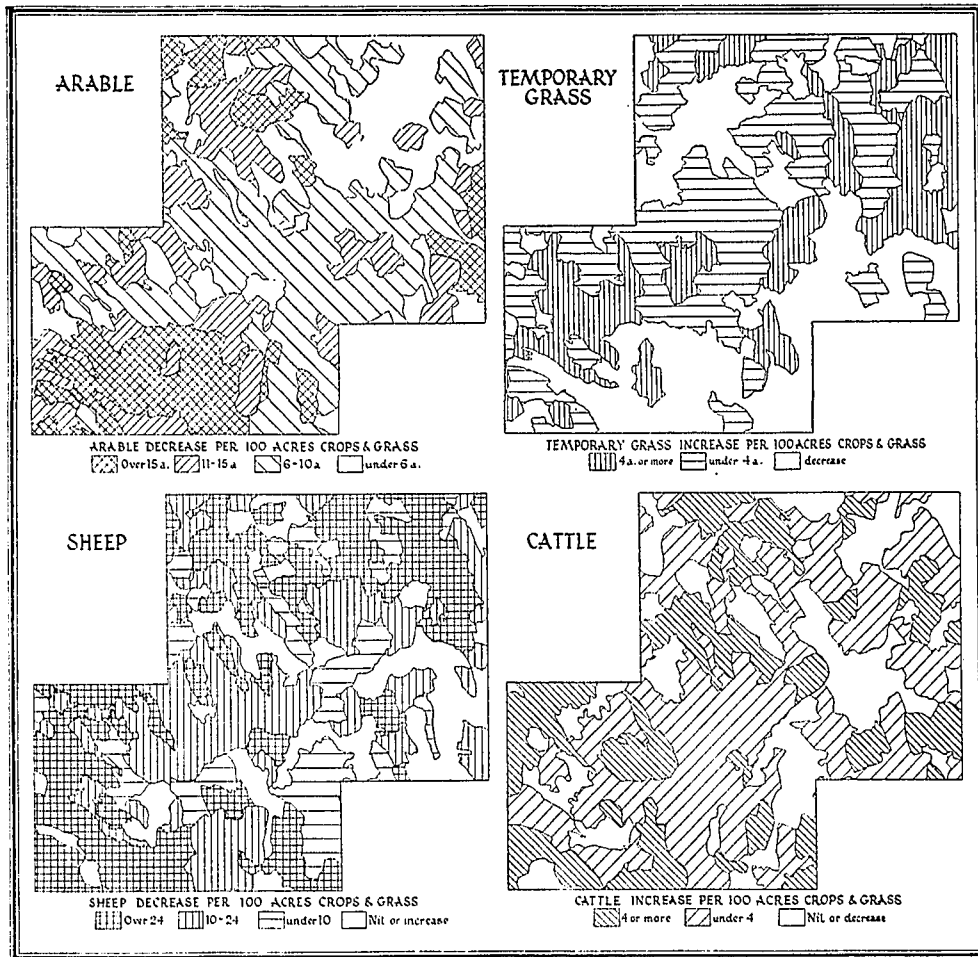


FIG. III

trend. Naturally the permanence of price reductions was not appreciated at first and many farmers simply left leys down for more than one year; these would be returned as temporary grass, and only later would they be regarded as permanent. It is true that the assistant commissioner who reported on Bedfordshire in 1895 thought that the amount of permanent grass was being overestimated and that of temporary grass underestimated;¹ but the returns themselves suggest that an expanded temporary grass acreage often concealed the extent of the conversion of arable to permanent pasture. His observation that fields were allowed to lie in grass for a number of years with the intention of ploughing them when prices improved is probably correct;

¹ Report of H. Pringle on the Counties of Bedford, Huntingdon, and Northampton, Parliamentary Papers, xvii, 1895, p. 41.

but prices did not improve, and the fields remained in grass. The point at which such leys should be regarded as permanent is in any case debatable; cropping records on a number of farms on the Panshanger estate show fields which, having been under a ley for two or three years, are recorded in the succeeding year as pasture.¹

Farmers increased their acreage under grass in a number of ways; by sowing more temporary grass and allowing it to stay down longer, by laying down arable to permanent pasture, and by abandoning arable to colonization by self-sown grasses and weeds. The contribution made by each varied in importance in different parts of the area. The proportion of the arable occupied by leys increased nearly everywhere, and in the Chilterns the increases were on such a scale that, despite the diminishing arable, the acreage of temporary grass expanded (Figure IIIb). The Chilterns were said to be unsuited to permanent grass, though they could support leys of up to three years.² But these leys were left down and subsequently recognized as permanent pasture; in 1901 Rider Haggard noted that most of the grass in the Oxfordshire Chilterns was originally seeded as two- or three-year leys.³ On the clays the increase in temporary grass was often ephemeral, and after bad seasons had passed the acreage was reduced (Figure V, Stewkley).

On better land, particularly the claylands where mixed farming was practised and the establishment of good grass was known to be possible, land was intentionally laid down as permanent grass, either directly or under a nurse crop. But "it is a very expensive luxury;" the seeds alone cost 30s. an acre, and the duke of Bedford estimated the total cost at £15 an acre.⁴ It is likely to have been widespread, therefore, only on the estates of wealthy landowners. The duke himself laid down 1,308 acres on the 28,274 acres of his Bedfordshire and Buckinghamshire estates between 1880 and 1897. The landowner usually provided the seeds and the tenant the labour; in 1880, for example, two arable fields on stiff clay at Hill Farm, Potsgrove, were laid down to permanent pasture, the duke of Bedford providing the seeds on condition that the fields were not again ploughed up.⁵ The farmer himself sometimes provided both seeds and labour, though he had frequently to obtain the landowner's consent first. In general, once the fields were laid down to permanent grass they were subject to the same prohibitions on ploughing up as the existing grass; a lease on a Datchworth farm stated that the tenant was not

¹ Panshanger Estate Papers, Hertfordshire County Record Office.

² *Royal Commission on Agriculture, Minutes of Evidence*, 1894, *loc. cit.*, p. 57.

³ Rider Haggard, *Rural England*, London, 1902, II, p. 118.

⁴ *Royal Commission on Agriculture, Minutes of Evidence*, Parliamentary Papers, XVII, 1881, 618, and Duke of Bedford, *op. cit.*, p. 197.

⁵ Bedford Estate Report, 1880.

to break up fields which at the determination of the tenancy should have been under seeds for six years.¹ Increases in permanent grass were widespread, particularly on the clays, and in the Oxfordshire Chilterns and in north-east Berkshire (though here accessibility to markets rather than the nature of the soil was the important consideration).

Much was made by contemporaries of the abandonment of cultivated land and of fields that "tumbled down to grass." Agricultural historians have perhaps been too influenced by the "terrible map, dotted thick with black patches" (Clapham's phrase) which accompanied Pringle's report on Essex in 1893. But there is no evidence that abandonment was widespread here; a return in 1881 of abandoned farms and fields in Buckinghamshire, for example, gave a total of 1,102 acres, out of 403,673 acres of agricultural land.² It is possible that abandoned land might escape enumeration (though there was no fall in the total acreage returned); but Pringle himself could find none in Bedfordshire. Some of the farms on owners' hands through lack of tenants may well have been neglected; land on such farms at Wallington and Bygrave was said to be almost out of cultivation.³ But even the extent of land on landowners' hands seems to have been exaggerated. Although one witness reported, at second hand, that on Lord Camoys's estate in the Oxfordshire Chilterns only two out of thirty tenants remained in 1882, this area seems to have been exceptional.⁴ Spencer suggested in 1895 that rather more than 20 per cent of the cultivated area was in hand in Hertfordshire, and agricultural returns for 1887 of the acreage of land farmed by owners suggest that over most of the area the proportion was even smaller.⁵ Moreover, farms were sometimes taken in hand to prevent the land being neglected by tenants who had lost heart or resources. This seems to have been the practice on the Bedford estate. What is clear is that standards of farming fell. Lord Macclesfield's agent said in 1892 that he did not know a parish where the land was being well farmed, and that he had just taken over one farm without a clean acre.⁶ A bad season might lead to temporary abandonment; this is suggested by the laconic entry "thistles" in the cropping record of one farm in 1880.⁷ The increase in the acreage of bare fallow, particularly in the Chilterns (Figure IVc), may also conceal such temporary neglect. Fields did tumble

¹ Hertfordshire County Record Office, Abel Smith Papers.

² Manuscript figures, parish summaries 1881, Ministry of Agriculture.

³ Spencer, *loc. cit.*, p. 22.

⁴ *Royal Commission on Agriculture, Minutes of Evidence*, 1881, *loc. cit.*, p. 847.

⁵ Spencer, *loc. cit.*, p. 22.

⁶ *Royal Commission on Labour, Report upon the Poor Law Union of Thame*, Parliamentary Papers, xxxv, 1893-4, p. 52.

⁷ Panshanger Papers, Digswell Lodge Farm.

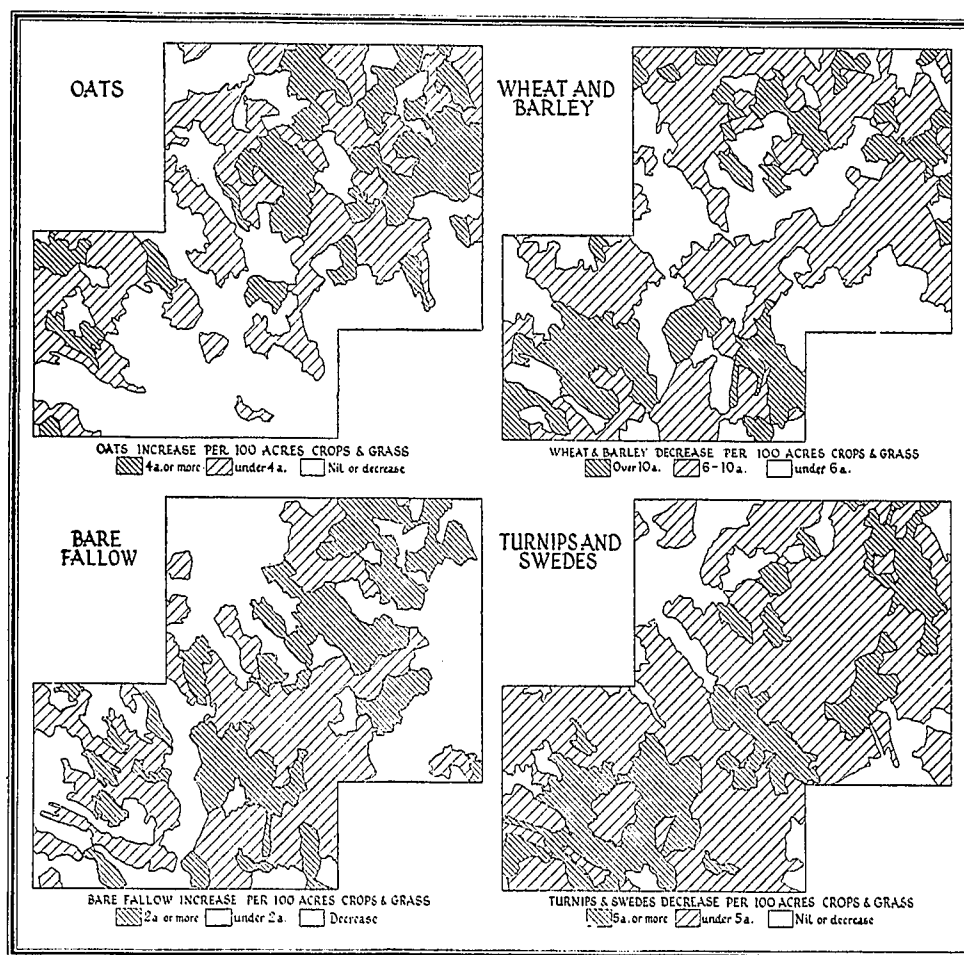


FIG. IV

down to grass; one such field is recorded on Great Green Street Farm at Chenies in 1887, where the land became covered with couch and weeds which provided only poor herbage. Self-sown grass was auctioned annually in Bedfordshire and was let at very low rents;¹ but even here the extent was exaggerated and an observer who had been told that a good deal of land around Toddington was "laying itself down with twitch" found the fields fairly clean.² It seems likely that in so far as self-sown grass was widespread, it was to be found chiefly on poor arable clays and on very light land.

In whatever way land was converted to grass there was everywhere a reduction in the tillage acreage. The fall was least on the free-working loams

¹ Pringle, *loc. cit.*, p. 22.

² *Royal Commission on Labour, Report upon the Poor Law Union of Woburn*, Parliamentary Papers, xxxv, I, 1893-4, p. 18.

at the foot of the escarpment, and on the predominantly pastoral clays around Aylesbury and in south Hertfordshire, where the need and scope for additional grass were limited. It was greatest on mixed farms on the clays and on the steep slopes and stony soils of the western Chilterns, especially in Oxfordshire. Three sample parishes show the range of variation, Stewkley (Bucks.) representing the heavy clays, Pirton (Herts.) the Icknield belt, and Great Missenden (Bucks.) the Chilterns (Figure V). That they are fairly typical of

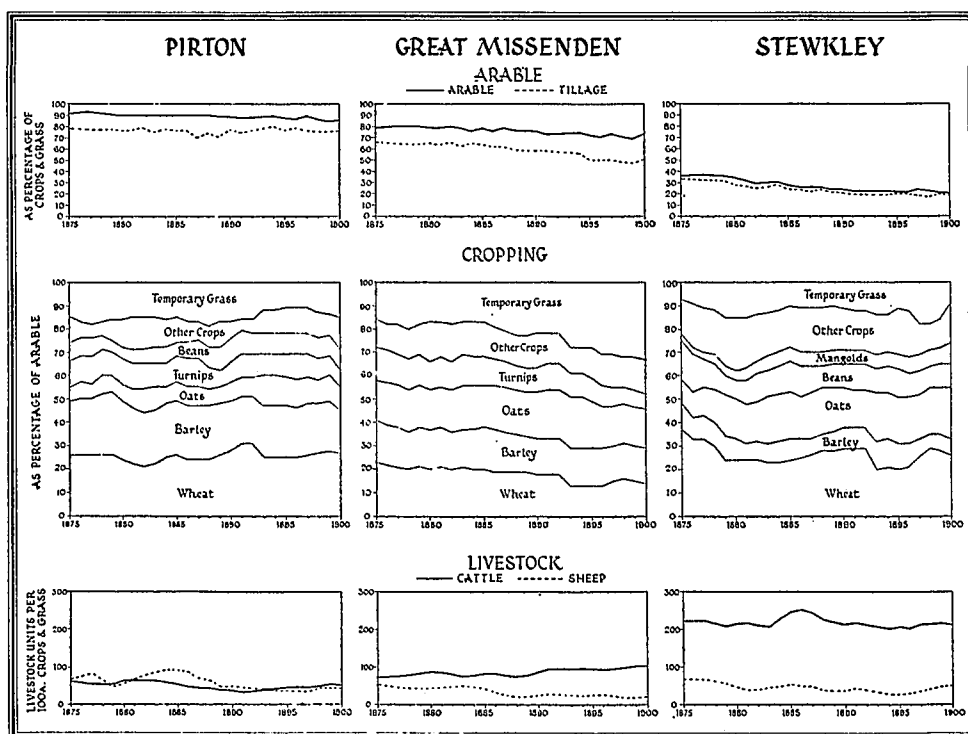


FIG. V

the areas in which they lie is confirmed by the maps in Figures III and IV.

Of course, these averages conceal considerable variation between different farms. It is possible to find farms which delayed conversion of arable until the 1900's. Furthermore, the process on any one farm was not as continuous as the graphs suggest; fields would be laid down at intervals between which the arable acreage was constant. A change in tenancy was frequently the occasion for an increase in the grass acreage since it was hard to find good tenants for arable farms on indifferent or heavy soils. Thus, on the 260 acres of Lodge Farm, Chenies, 81 acres were laid down to grass for a new tenant in 1884. The change in emphasis is well seen in a sale catalogue for the War-

grave Manor Estate, which, though largely arable in 1876, was advertised in 1896 as being mainly grass and having only 100 acres of arable, and that of high quality.¹ The great majority of farms increased their grass acreage between 1878 and 1900, and although the sequence of events and the proportion of arable converted to grass varied from farm to farm, there seems to be no doubt that the picture of steady conversion was true of the farms of any area as a whole.

In so far as it was deliberate, this increase in the grass acreage was effected primarily to reduce labour costs; but it was generally accompanied by changes in the stocking of farms. With less arable fewer sheep were needed to fertilize the land, and numbers fell, particularly where sheep had been most numerous, on the High Chilterns, below the escarpment, and in the clay vales (Figure IIIc). There was a corresponding increase in the number of both store and dairy cattle, save in the areas which remained largely arable (Figure IIId). In favoured parts, such as south Oxfordshire, the numbers of cattle increased at a faster rate than the grass acreage, suggesting that here the increase in stock was the cause and not the consequence of more abundant grass; but more commonly the increase in numbers of cattle seems to have been a by-product of the expanding grass acreage.

The extension of dairy farming was the most significant of the livestock changes; progressive farmers like Lawes established dairies because, as he put it, "foreign nations cannot so easily sell us milk."² Dairying had tended to increase in the traditional livestock areas on the clays north of the Chilterns ever since 1865, when the cattle plague decimated the population of the London cowhouses. Transport was the chief limitation on the production of milk for sale, and within two or three miles of a railway station farmers began to substitute milk-production for butter-making. With the decline in arable farming, other favourably placed farms along the railway lines adopted dairying as their grass acreage expanded, though they had frequently to await the construction of suitable buildings; a prospective tenant at Digswell insisted on a cowhouse for forty cows as a condition for taking over the farm. In addition to the London market, local markets for milk were provided by the condensed milk factory at Aylesbury and by the biscuit factory at Reading; the considerable increase in dairying in the Oxfordshire Chilterns is undoubtedly due in part to this local demand. The growing towns in the area, such as Watford, also provided local markets. The absence of water precluded dairying in the higher parts of the Chilterns, and the chief areas in which dairying increased lay in the lower south and in the major

¹ British Museum, Wargrave Manor Estate, Maps 137 c. 13.

² *Royal Commission on Agriculture, Minutes of Evidence*, 1881, *loc. cit.*, p. 949.

valleys. Figure VIa shows the general correspondence between areas of greatest increase and the major valleys, most of which carried railway lines from London. In the clay vales to the north there were both an increase in the number of dairy cattle and a further switch from butter-making to milk-

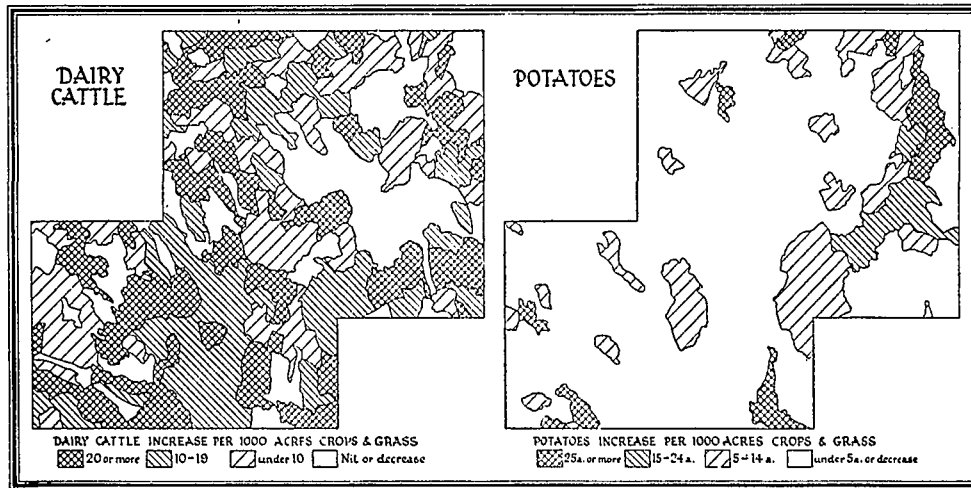


FIG. VI

selling, especially for the London market.¹ Unfortunately there are no records by which this change in the use of milk can be measured; but one contemporary writer reported that in 1888 some 60,000 gallons of milk were sold each week out of the Vale of Aylesbury, more than half of it to London, and that "Aylesbury butter has lost its prestige."²

The increased interest in cattle-keeping was partly due to the immigration of livestock farmers from the west country and from Scotland, who were attracted by the low rents and the ease with which farms could be got. On the Knebworth estate, for example, in 1895 Scottish farmers outnumbered English by nine to six,³ and so numerous were the newcomers when Rider Haggard made his survey of Hertfordshire in 1901 that he was led to ask "But where are the home people?"⁴ The Scots were particularly associated with dairying while the Devon and Cornish farmers were said to be more concerned with stock-rearing.

On the reduced acreage of arable there were also adjustments in cropping (Figure IV). Restrictive covenants could no longer be enforced, both because of the difficulty of finding tenants and because farmers' working capital had

¹ Evidence of Mr Perkins, *Journal of the British Dairy Farmers Association*, vi, 1890, p. 126.

² R. Gibbs, *A History of Aylesbury*, Aylesbury, 1888, pp. 666-7.

³ Spencer, *loc. cit.*, p. 14.

⁴ R. Haggard, *op. cit.*, i, p. 510.

been reduced; on the Bedford estate, where the strict enforcement of cropping restrictions has previously been noted, there was relaxation,¹ and on the claylands convenience had become "the controller of rotations."² Apart from the increase in temporary grass, the most general changes were the greater emphasis on oats at the expense of wheat and barley, and the marked reduction in the acreage of other fodder crops, especially turnips on light land and beans on heavy land. Oats replaced wheat as the leading cereal over most of the western Chilterns, and replaced barley as the second cereal in the Hertfordshire Chilterns, where the oat acreage increased despite the falling arable. Fewer sheep were one cause of the reduced turnip acreage, but high labour requirements were also a factor, and the place of turnips in the root break was partly filled by an increase in the acreage of bare fallow. On the clays beans occupied a smaller proportion of the diminished arable and the acreage under mangolds rose; but while there was a marked increase in bare fallow in the early years of the depression, this expansion was not maintained (Figure V, Stewkley, other crops). The least change in cropping occurred on the loams of the Icknield belt.

As with the laying down of land to grass, these generalizations conceal differences between farms. These can be illustrated by the Panshanger estate, where cropping records for a number of farms in close proximity permit comparison of the average acreage under different crops for the periods 1874-6 and 1889-91. On Lower Handside Farm, for example, the acreage under wheat fell 8 per cent, while the acreages under barley and oats rose 5 per cent and 8 per cent respectively. On Digswell Lodge Farm the wheat acreage declined less than 1 per cent, the barley acreage 11 per cent, while the oat acreage increased 10 per cent. At Attimore Hall the oat acreage rose 2 per cent, and acres under wheat and barley declined slightly, while on Birchall Farm the wheat acreage rose 5 per cent, the barley 1 per cent, and the oat acreage fell 4 per cent. Nevertheless, although there was much variation from farm to farm, the trend on most farms was similar.

While in many parts of the country farmers met falling cereal prices by growing potatoes and vegetables, few farmers in the Chilterns adopted these crops. Market gardening spread westward along the Thames terraces in south Buckinghamshire, and southward from the mid-Bedfordshire market-gardening area towards the foot of the Chilterns. But on the Chilterns and in the clay vales soils were either too poor or too heavy to encourage vegetable growing, while much of the area was too inaccessible; even Barton-

¹ Royal Commission on Labour, *loc. cit.*, p. 17, and J. Caird, *English Agriculture in 1850-1*, London, 1852, p. 436.

² Pringle, *loc. cit.*, p. 40.

in-the-Clay, little more than three miles from the nearest station, was held to be too far away for it to be suitable for market gardening.¹ The stony soils of the Chilterns were also unsuited to potato growing, which increased mainly in the Vale of St Albans and the Hitchin Gap (Figure VIb). Three causes promoted this expansion: the lighter soils, the immigration of Scottish farmers, who brought not only dairying but potato growing and ley farming, and the abundant supplies of manure which London provided. It was this last consideration which restricted potato growing to a narrow belt near the railway lines; manure cost only 4s. 6d. a ton at the station, but its price was more than doubled five miles away by transport charges.² Figure VIb shows how highly localized this expansion was, though the parish returns, which include more distant farms which did not grow potatoes, minimize the size of the increase. On the 340 acres of Digswell Lodge Farm an average of 43 acres of potatoes was grown in 1882-9 by a new Scottish tenant, whereas none had been grown in 1873-9 by the former tenant, a local farmer whose family had occupied the farm for six generations.³

There were other minor changes. Although fruit-growing never became a major activity in the Chilterns, additional orchards were planted, often by smallholders, along the foot of the escarpment, particularly between Totternhoe and Ivinghoe, and in places such as Holmer Green on the plateau. Poorer soils were sometimes taken out of cultivation altogether and planted with trees, usually conifers; many small parcels of arable were planted in the western Chilterns and are usually distinguished from the surrounding beechwoods by their conifers, their straight boundaries, and their names, e.g. Jubilee Plantation (Hambleton).

It is clear that the regional pattern of agricultural change was determined mainly by the nature of the soil and by accessibility. Where land was easy to cultivate and moderately fertile it remained in arable, often with little modification in its cropping; where soils were heavy arable fields were laid down to grass and pastoral farming was widely adopted; and where soils provided poor arable but were also unsuited to grass, pastoral farming was adopted almost involuntarily by leaving temporary grass unploughed. On the flatter terrain and somewhat better soils of the Hertfordshire Chilterns changes were less marked than further west, and the differences were accentuated by the relative ease with which manure could be got. While the importance of the supply of manure is probably exaggerated by the farmer who said that

¹ Bedfordshire County Council, Smallholdings File, Bedfordshire County Record Office.

² Minutes of Evidence, Select Committee of the House of Commons on Railway Bills, Ques. 9223, 1881, BTC 899, in British Transport Commission Archives.

³ Panshanger Papers.

without the abundant supplies of dung he would not have the land as a gift,¹ Spencer in his report on Hertfordshire did not see how the poorer land could have remained in cultivation without the advantages conferred by the railways.² The closer network of lines in Hertfordshire (Figure I) reinforced the advantages of greater nearness to London and better soils which the county enjoyed over Buckinghamshire and Oxfordshire. Railways facilitated the adoption of dairying and potato growing, and their importance was generally recognized in higher rents near railway lines, away from which, said one farmer, was "agricultural death."³

The effects of other factors are more difficult to estimate and their incidence was probably more localized. Wages fell little, but there was continued emigration to the towns and many complaints of the quality of the remaining labour. How far the adjustments in farming were caused by labour shortage or by high labour bills is uncertain; but it seems probable that the need for economy was more important than the shortage of labour.⁴ The presence of immigrant farmers, introducing new ideas, also affected the local pattern of change; they were among those most successful in riding the depression, partly because their farming suited the new conditions, partly because they were less conservative than the local farmers, and partly because they worked hard and lived hard. Adjustments also depended on landlords; wealthy landowners might retain tenants by temporary remissions of rent and facilitate change by providing necessary buildings, while tenants of poorer landowners would have been left to fend for themselves. But this consideration, while it undoubtedly modified local details, can hardly have determined the broad regional pattern of change.

The main effect of the events of this twenty-five year period was to emphasize differences which had only been latent before, and to diversify further the pattern of farming. The agriculture of 1875 could still be recognized in the hay-making on the London Clay, the corn and sheep farming on the Chilterns, and the pastoral farming in the clay vales; but these differences were becoming muted, and other differences were arising in their place. The contrast between the arable Chilterns and the grasslands to the north and south became less marked, but that between the eastern and western Chilterns and between valley and hilltop farm increased. A further thirty years were required to complete the process; but the foundations of change were clearly laid in this period.

¹ Rider Haggard, *op. cit.*, I, p. 542.

² Spencer, *loc. cit.*, p. 22.

³ Rider Haggard, *op. cit.*, I, p. 511.

⁴ H. Rew, *Report on the Decline of the Agricultural Population of Great Britain*, Parliamentary Papers, xcvi, 1906, p. 37.

Lancashire Livestock Farming during the Great Depression

By T. W. FLETCHER

THE phrase 'Great Depression' fairly describes the usual view taken of the condition of agriculture during the last quarter of the nineteenth century. The ruin of her farmers was the price paid by Britain for the benefits she obtained, and conferred, as the great free trading nation of the world. Such is the usual verdict.¹ Of course depression did not press equally heavily on all farmers. According to Clapham, "north of the Humber . . . there was not so much wreckage as further south;" Lancashire was in the "half-light" and Cheshire, long famous for its dairies, "suffered less than any county."² But this was somehow marginal; depression was universal; it was merely that some luckier areas suffered less than the majority.

This paper explores the impact of the Great Depression upon the livestock farmers of Lancashire, the home of the cotton industry, of Cobden, Bright, and Free Trade, and, perhaps less widely appreciated, one of England's leading agricultural counties. It ranked sixth among English counties in area of agricultural land (c. 1890), and at least as high in terms of gross output per 100 acres. Like its neighbours, Cheshire, Derbyshire, the West Riding, Westmorland, and Cumberland, Lancashire was predominantly a livestock district, but unlike them, it contained within its borders an area of extremely intensive arable farming concentrated on the sands and mosses of the south-west. So different was, and is, this arable culture from the livestock farming of the north-west that it has been excluded from this study. As an example of pure arable farming that weathered the depression unchanged it merits separate treatment.³

LANCASHIRE FARMING

South of the Ribble and east of the arable plain, Triassic sandstones give

¹ The standard work is R. E. Prothero (Lord Ernle), *English Farming Past and Present*, 4th ed., 1927, ch. xviii, 'Adversity'; typical of the general historian is R. C. K. Ensor, *England 1870-1914*, 1936, p. 115: "British agriculture . . . was thrown overboard in the storm like an unwanted cargo" (eighteen-seventies); and p. 284: "Agriculture was ruined a second time over" (eighteen-nineties).

² J. H. Clapham, *An Economic History of Modern Britain*, 1951 ed., III, pp. 80, 81.

³ Contemporary descriptions may be found in *Journal of the Royal Agricultural Society*, xxxviii, 1877, pp. 462-526; XLVI, 1885, pp. 547-90; XLVII, 1886, pp. 120-71.

way to the coal measures and gritstones of the east Lancashire Pennines where the towns and villages of the cotton trade are strung along the valley bottoms, and in their interstices and on the hillsides are squeezed the small grass farms of the east Lancashire cowkeepers, men specializing in the retail sale of milk to the customers at their farm gates.

Agricultural writers of the nineteenth century say little of east Lancashire.¹ The best brief description is Rothwell's of 1850. "The district . . . is principally occupied as small dairy farms, there being a great demand for milk and butter; and not much adapted, from the nature of its soil and climate, for arable cultivation."² The system had not changed at the end of the century; the agent of an estate in the Blackburn-Oswaldtwistle area described his tenancies in 1895 as "all milk and butter farms." "They [the farmers] barter the products themselves in the large, adjoining towns; they retail it as you will understand."³

Although arable farming was only to be found in the south-west, milk production south of the Ribble was not confined to east Lancashire. Every town was supplied by producer-retailers on its outskirts whose methods were similar to but less intensive and more flexible than those of the east Lancashire men in that some crops were grown, to be sold when relative prices were favourable but otherwise fed to their cows. Such mixed farming was common in the Leigh-Wigan-Bolton-Chorley belt of country between the hills and the arable plain proper.

Lancashire, north of the Ribble, was a "purely agricultural district."⁴ The Fylde plain between the gritstone hills of Bowland on the Yorkshire border to the east and the coast to the west had been the county's granary in the eighteenth century but by 1870 was an important dairying district and, like Cheshire, specialized in cheese production.⁵ Milking stock were reared and

¹ For example, J. Holt, *General View of the Agriculture of the County of Lancashire*, 1795, p. 210: "Capital, labour, ingenuity and attention are in this county diverted from agriculture;" G. Beesley, *A Report on the State of Agriculture in Lancashire . . .*, Preston, 1849, p. 7: "Occupiers of land in this district can scarcely be considered farmers;" W. J. Garnett, *Prize Report of the Farming of Lancashire*, Preston, 1849, p. 8: "Altogether a coal district" with "not much to interest a farmer."

² W. Rothwell, *Report of the Agriculture of the County of Lancaster*, 1850, p. 20.

³ *Royal Commission on Agricultural Distress, 1894-97*, Q. 40,649-50 (J. Howson); the Alphabetical Digest (C. 8146 of 1896) enables individual witnesses to be traced to their appropriate volume.

⁴ Garnett, *op. cit.*, p. 16.

⁵ W. Smith, 'Agrarian Evolution since the Eighteenth Century', *Brit. Assoc. Report*, Blackpool, 1936, Appendix, p. 44; *Royal Commission on the Depressed Condition of the Agricultural Interest, 1880-82*, C. 3375-IV (Coleman's Report), p. 40; J. P. Sheldon, *The Future of British Agriculture*, 1893, p. 114.

dry cows fattened for the butcher. It was also famous as a horse-breeding centre, well situated for supplying the industrial towns to the south.¹

North of Lancaster stretches a narrow coastal strip, partly of limestone, where oats, roots, and seeds were grown for consumption on the farm by sheep and cattle on a system similar to the Scottish. Cattle were mainly of the dairy type, though at Holker, north of the sands, the duke of Devonshire maintained a celebrated herd of beef shorthorns. But, as Beesley had noted long before, "pedigree, shorthorned stock . . . are confined to gentlemen, or amateur farmers;"² 'Booth's shorthorns were too beefy; in Lancashire milk was demanded. The extraordinary growth of Barrow-in-Furness during the last third of the nineteenth century would yet further concentrate interest on the dairy rather than the beef animal. In the hills of Bowland and Furness, sheep and cattle rearing was universal. Butter was made on most farms, and with the increasing demand for milk cows, the by-products were used to rear dairy stock rather than children. Lamb, mutton, butter, and dairy heifers constituted the main output of these farms.³

Farms generally were small in Lancashire. The average size of 'holding' over 5 acres of crops and grass in 1875 was 40 acres compared with an average for England of 80 acres. In east Lancashire the comparable figure was 30. Only 8 per cent of all holdings over 5 acres were larger than 100 acres although accounting for more than 30 per cent of the total agricultural acreage of the county. Associated with the small size of farm was the importance of family labour. According to the 1871 Census the proportion of farmers and farmers' relatives to farm workers was 43 : 57, which was not very different from that of twenty years earlier (41 : 59) when Danson and Welton discovered to their surprise that south Lancashire was more densely populated with agriculturalists than any of the 'agricultural' counties.⁴ Because of the relatively large contribution to the total labour force made by farmers themselves, the money cost of labour was a less important farm expense in Lancashire than on the larger farms of the arable east, even though pastoral

¹ *Preston Guardian* (hereafter *P.G.*), I. 4. 1885: article on the development of shire breeding in Lancashire; *R.C.* 1880-82, Q. 67,733-4 (J. Clay).

² Beesley, *op. cit.*, p. 47.

³ Information from the Kelsall family's diaries and notebooks relating to the hills of the Lancaster area which have been kindly lent to the writer by Mr W. Kelsall of Quernmore.

⁴ T. A. Danson and J. T. Welton, 'On the Population of Lancashire and Cheshire, 1801-1851', *Historic Society of Lancashire and Cheshire*, XII, 1859, p. 63: "No facts are here before us which would justify an attempt to indicate the circumstances under which this ratio of agricultural population has been obtained, in the very heart of our district, usually regarded as pre-eminently, if not exclusively, favourable to manufacture and commerce. But the fact must be noticed as one of the most remarkable of those yet divulged by this enquiry."

settlement and industrial development had brought high farm wages. Wilson Fox's wage indices show that in 1867-71 average wages in the northern counties were 14s. 9d. a week compared with 11s. 11½d. in England and Wales and 11s. 4¾d. in the eastern counties.¹ Lancashire wages, particularly south of the Ribble, were frequently higher than Wilson Fox's average for the northern counties.²

The pattern of Lancashire's farm output is shown by the Agricultural Returns first collected in 1866.

TABLE I
CROPS AND STOCK PER 100 ACRES OF CROPS AND GRASS

Average of 1870, 1874, 1875 ³	CROP ACREAGES				LIVESTOCK NUMBERS			
	Arable	Corn	Oats	Potatoes	Cattle	Milk Cows	Sheep	Pigs
England	57	32	6	1	17	7	81	8
Lancashire	31	14	7	4	30	16	43	5
East Lancashire	5	2	1	—	37	22	46	4
North Lancashire	27	13	7	2	32	15	61	5

Compared with England on the eve of the depression, Lancashire possessed more permanent grass, and a greater proportion of its corn acreage was devoted to oats for feed. The county was relatively densely stocked with cattle and particularly so with milking stock, but there were relatively fewer sheep and pigs. County totals, like England's, conceal fundamental regional differences. Lancashire's 31 per cent of arable was an average of extremes, of 5 per cent in east Lancashire and of 60 per cent in the arable south-west; north of the Ribble about a quarter of the agricultural acreage was under the plough.

The leading products of Lancashire's livestock farms were milk, sold retail and wholesale, butter, cheese, and mutton and lamb. Poultry were kept in increasing numbers, but information is scanty for the nineteenth century. Most of the beef production in the county was cow beef, a by-product of dairying; more important was the rearing of milking stock, mainly by

¹ 'Agricultural Wages in England and Wales During the Last 50 Years', *Journal of the Royal Statistical Society*, LXIV, 1903.

² Wages of labourers on the Park farm of the Hesketh estate ranged up to 16s. (County Record Office, DD He/62/31, 32, 33, 1867-71); cowmen near Manchester were paid 18s. (*Manchester Guardian*, 9. 2. 1872).

³ The years 1870, 1874, and 1875 (the intervening years are unavailable) were chosen to avoid using the earlier, more unreliable, years; data were abstracted from the original parish and 'collection' summaries in the possession of the Ministry of Agriculture.

hill farmers north of the Ribble whose fortunes during the Great Depression were thus linked with those of the milk sellers of the Fylde and south Lancashire.

Among farmers' expenses other than labour, feed and rent predominated. Milk producers in the county had long been familiar with purchased feeding-stuffs, and the plentiful supply of brewers' wastes and the accessibility of imports at Liverpool encouraged a growing dependence on purchased feed by grassland farmers wishing to produce winter milk. The price movements of this crucial purchase during the Great Depression are of primary concern. Rent, as befits its many-sided character, is treated separately.

DEMAND

The population of Lancashire increased by some 50 per cent between 1867-71 and 1894-8; other things equal, demand for food would increase pro rata. But other things were not equal. Whatever form the Great Depression took, it was not a period of depression for the working classes, by comparison with whom the inhabitants of Lombard Street were insignificant as consumers of food. Earnings in the Lancashire cotton trade rose by some 25 per cent between 1867-71 and 1894-8¹ at a time when retail prices fell by about 26 per cent.² Per capita real income thus increased by some two-thirds, an annual rate of growth appreciably greater than during the 'good years' of 1850-70. Associated with rising income was the growing preference for protein rather than starch, for livestock products rather than cereals and potatoes. The oatmeal, coarse bread, cheese, and fat bacon of the farm labourer no longer sufficed for the more delicate appetites of the less robust cotton workers. Tea with milk, white bread and butter, meat, and eggs were their favourite dishes.³

Most vital to the Lancashire farmer because of its immunity from foreign competition was the demand for milk. On the conservative assumption that per capita intake of liquid milk in the county increased by a quarter between

¹ G. H. Wood, *The History of Wages in the Cotton Trade during the Past Hundred Years*, 1910, p. 128.

² W. T. Layton, *An Introduction to the Study of Prices*, 1912, p. 150.

³ See *P.G.* 28. 4. 1894: of the "operative classes in our large towns"—"their fondness for eggs, tea and other 'luxuries' having taken the place of their liking for the plain and wholesome tuber." Lancashire budgets collected by G. von Schulze-Gaevernitz in 1891 illustrate the prominent place of dairy products and meat in the diet of cotton operatives. The average of five detailed family weekly budgets shows 6s. 4d. spent on bread, flour, cereals, and potatoes, 9s. 5d. on milk, butter, eggs, and cheese, and 6s. 8d. on beef, mutton, pork, bacon, and ham.—*The Cotton Trade in England and on the Continent*, 1895, trans. O. S. Hall, pp. 178 ff.; see also W. E. Bear, 'The Food Supply of Manchester', *J.R.A.S.*, LVIII, 1897, p. 511.

1867-71 and 1894-8 (see Appendix A), total demand would rise by 88 per cent. Depending on quality and price relative to the imported product, the demand for lamb, eggs, and butter may well have risen to a similar, if not greater, extent. Lancashire farmers were keenly aware, as they had been for generations, that their prosperity was linked with that of trade and industry as reflected in consumer demand rather than with the protectionist policies of the 'agricultural interest' who seemed mainly concerned with the effects of weather and imports on the home wheat crop.¹

SUPPLIES AND PRICES

By contrast with demand, more specific information about farm supply is available as a result of the decision to collect agricultural statistics in 1866. In view of acreage uncertainties due to the declining use of local measures such as the Lancashire and Cheshire customary acres during the Great Depression, Graph A shows simply the numbers of the various classes of livestock in Lancashire between 1867 and 1900. Table II gives figures for the 'nineties comparable to those shown in Table I for the eighteen-seventies. Assuming that the increase in area of agricultural land from 748 to 823 thousand acres resulted from the displacement of customary measure by the statute acre,² it is clear that little change occurred in Lancashire farming during the last thirty years of the nineteenth century other than an intensifying of existing systems.

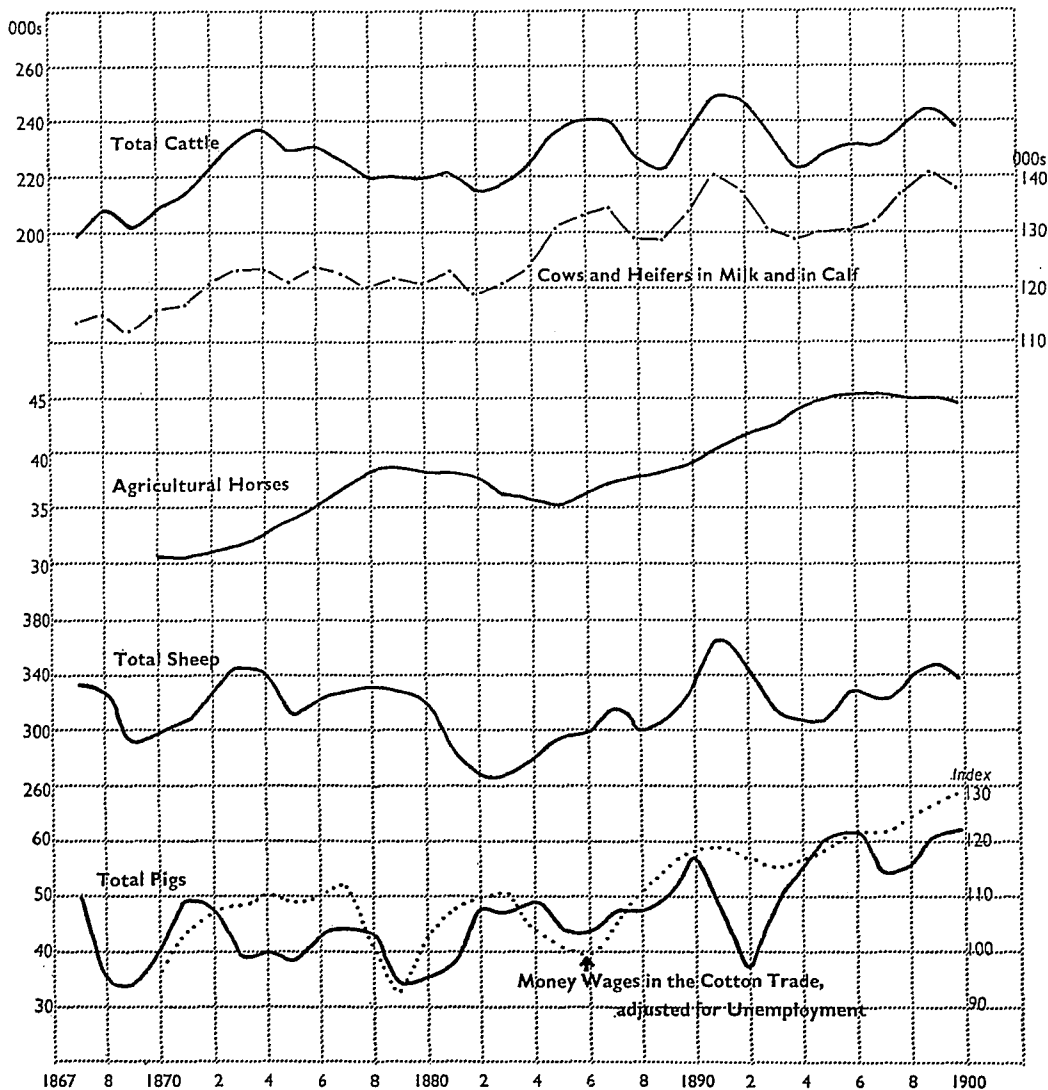
TABLE II
CROPS AND STOCK PER 100 ACRES OF CROPS AND GRASS

Average of 1894-8 inc.	CROP ACREAGES				LIVESTOCK NUMBERS				
	Arable	Corn	Oats	Potatoes	Cattle	Milk Cows	Sheep	Pigs	
England	47	23	8	1	18	8	64	9	
Lancashire	31	13	10	5	31	18	44	8	
East Lancashire	2	1	1	—	39	27	38	8	
North Lancashire	23	10	7	3	37	19	70	8	

¹ For example, a Brindle producer-retailer complained that "since business became bad at Gregson Lane Mill things have not been half so good for the farmers in the district" (*P.G.* 20. 4. 1895); cf. the Burnley milk-producer of fifty years earlier who was converted to a "corn-law repealer" by the discovery that the "closing of a mill in his neighbourhood suddenly deprived him of all his best customers."—W. Cooke Taylor, *Tour of the Manufacturing Districts*, 1842, p. 87.

² The most common customary measures used in Lancashire were of 2.1 and 1.6 statute acres; see E. H. Smith, 'Lancashire Long Measure', *Historic Society of Lancashire and Cheshire*, cx, 1958, pp. 1-14.

A. LIVESTOCK 1867-1900



(i) *Dairy Produce.* The total number of cattle rose from 226 thousand in 1870, 1874, and 1875, to 230 thousand in 1894-8, an increase of some 2 per cent; the number of cows and heifers in milk and in calf increased by 10 per cent.¹ This concentration on the productive milk cow was most noticeable in east Lancashire, where, with total cattle numbers rising no faster than in the county as a whole, cows and heifers increased by some 20 per cent. Nevertheless, the number of milk cows per 1,000 of the population of Lancashire,

¹ The growth of cattle numbers in north and east Lancashire was partly offset by a decline in the arable south-west of the county.

which in 1871-5 was 42, fell to 32 in 1894-8. Lancashire's milk supply could thus only be maintained by increasing yield per cow, by increasing the output of liquid milk at the expense of butter- and cheese-making, or by importing milk into the county.

If the yield per cow in Lancashire is assumed to have been 350 gallons per annum in 1870 and to have increased by 20 per cent to 420 in 1894-8, if per capita consumption is taken as $\frac{1}{4}$ pint a day rising by 25 per cent, and if 30 per cent of total milk production was sold in the form of butter and cheese in 1870 with absolute output remaining constant thereafter, an overall picture emerges which is shown in Table III.¹ Considerable latitude may be allowed in the assumptions without affecting the general position.

TABLE III

Lancashire— million gallons	(i) Milk Production	(ii) Butter and Cheese	(iii) Milk Sales (i—ii)	(iv) Liquid Consumption	(v) Import (iv—iii)
Average of 1870-1	32.7	9.7	23.0	32.8	9.8
Average of 1894-8 inc.	47.1	9.7	37.4	61.2	23.8

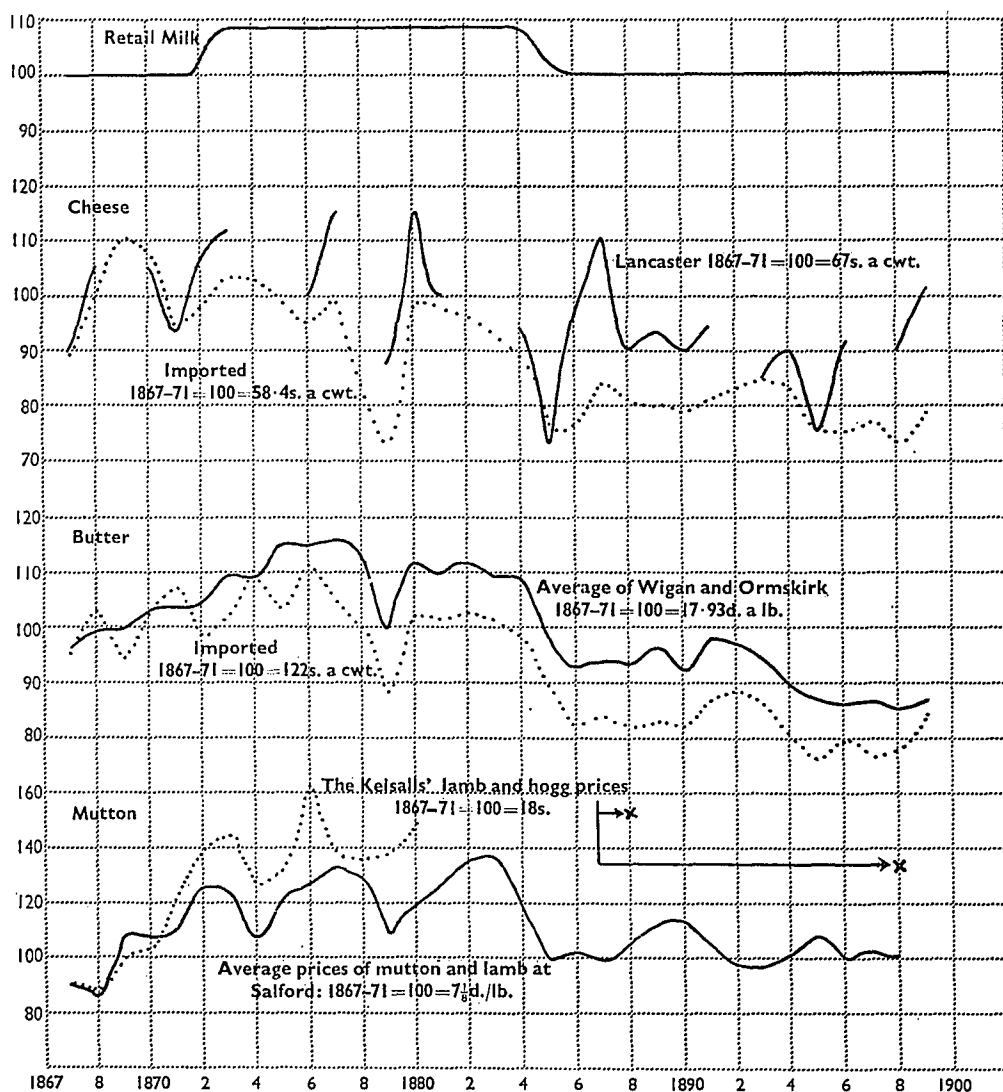
The import of milk into Lancashire was not easy: little was produced in the hills to the north and north-east, while over the Pennines to the east the industrial West Riding was barely self-sufficient. To the south the famous dairying county of Cheshire supplied the bulk of Lancashire's needs. The demands of other concentrations of consumers, however, notably the Great Wen itself, facilitated by the railway companies' use of differential rates to encourage the long haul, were, by the eighteen-seventies, stretching into Staffordshire, Derbyshire, and many parts of Cheshire.²

Local producers had thus every incentive to increase their output of liquid milk, and most butter- and cheese-makers in Lancashire, like those of Cheshire, were within competitive range of the large liquid markets of Manchester and Liverpool at a time when their dairy produce was subjected to growing import competition. But, as may be seen from Graph B, Lancashire farm cheese and butter did not fall in price to the same extent as imports; the inflexibility of supply, given the attraction of the liquid market, and the

¹ For a discussion of these estimates see Appendix A.

² See E. A. Pratt, *The Transition in Agriculture*, 1906, pp. 18-23; R.C. 1880-82, Q. 5,777-800, Q. 30,491; R.C. 1894-97, Q. 35,345-6; *Report from the Select Committee on Railways*, H.C. 374 of 1881, Q. 8,029; *Agricultural Gazette*, 11. 10. 1880.

B. PRICE INDICES



growing consumer preference for better quality, account for the relative rise in price of the superior Lancashire grades. Evidence of change in the quantity of butter and cheese made on Lancashire farms is contradictory. Farmers are reported to have abandoned cheese-making for the more lucrative sale of liquid milk; they are also said to have improved and increased their output of Lancashire cheese, which did not reach Manchester market until the early eighteen-nineties. It was then mostly supplied from Preston, where in response to demand from urban south Lancashire the cheese market was at this

time growing rapidly and supplanting that of Lancaster.¹ Local farm butter was unknown in the Manchester market; it was mainly sold retail in the producing areas, either by producer-retailers to their milk customers—the usual method of disposing of surplus milk—in the local market, or by private contract to customers who preferred fresh farm produce and were prepared to pay a higher price for it.² Those hill farmers of north Lancashire who were unable or unwilling to sell liquid milk continued to produce butter for local sale.³

Price movements in Lancashire seem to have been as follows. The price of butter rose, as did liquid milk, during the eighteen-sixties and seventies and did not significantly break until 1878. The fall of 1879 was acute but of short duration: by 1880 butter and cheese prices seemed normal enough. But with the trade depression of 1883–6 prices fell, touching bottom in 1886 and bringing down both wholesale and retail milk prices. Recovery was hesitant and partial, and the break of 1890–3 in the upward surge of real wages checked demand and some prices gave way again after 1892.⁴ Demand picked up in 1894, and the Lancashire milk-cow population, which had fallen steeply from a suspiciously prominent peak in 1891, resumed its increase.⁵ The price of imported butter and cheese, like that of meat and eggs, fell sharply after 1893 to a minimum in 1897–8 and impressively larger quantities were imported. While milk prices held, local butter and all but top-quality cheese prices continued to sag until import prices recovered in 1898.

The most significant feature was the stability of the retail milk price and the limited movement of the wholesale price. As milk production was the most important single activity of Lancashire farmers, and as approximately

¹ *R.C.* 1894–97, Q. 11,320 (A. Wilson Fox); cf. *M.G.* 29. 3. 1883: "It is a notorious fact that the demand for milk in our largest cities is increasing at a rapid rate, so much so that many who have made cheese and more who have been making butter have given up both for milk selling." *P.G.* 12. 10. 1895; Bear, *loc. cit.*, p. 513; *P.G.* 1. 12. 1894: cheese fairs were instituted at Preston in 1879; in 1881 the total pitch was 769 cheeses, in 1893 17,618, and in 1894 18,622 cheeses.

² *R.C.* 1894–97, Q. 40,650 (J. Howson), Q. 12,593 (T. Worthington); *P.G.* 18. 4. 1891, 24. 1. 1891; Graham, *op. cit.*, p. 144.

³ Kelsall Diaries; but even in Furness whole milk selling was common, with that surplus to market requirement being made into butter, the skim milk "finding a ready sale" (*P.G.* 22. 9. 1881).

⁴ This is true of market butter but not of better quality cheese which held its price until 1895, when it suffered from a 'record' supply due to the hot summer (*M.G.* 3. 10. 1895, *P.G.* 18. 4. 1896), a diminishing demand as a result of the cold spring (*R.C.* 1894–97, Q. 62,411), and the cheapness of frozen mutton (*ibid.*).

⁵ "Suspicious" because there is nothing in the state of trade or the movement of prices in 1888–91 to account for the steep fall in cow numbers after 1891. A possible explanation put forward at the time is that high meat prices led to abnormal slaughterings: certainly dairy stock were highly priced and in short supply in 1893–4 (*P.G.* 7. 10. 1893, 10. 11. 1894).

three-quarters of the total dairy output took the form of liquid milk, the maintenance of the milk price during a period of generally falling prices was clearly a powerful factor in supporting farmers' incomes and encouraging expansion of output.

It seems that a fair degree of equilibrium existed between farmers' net returns from the sale of milk and the making of cheese or butter, except for poor quality cheese and, after 1885 possibly and after 1893 almost certainly, for butter sold in the local market.¹ In these circumstances the less efficient producers would be persuaded to improve the quality of their product, particularly in the case of cheese where relatively high returns might be achieved,² improve its marketing, more feasible in the case of butter,³ or enter the liquid market. A shift to liquid sales was also encouraged by a fall in rail transport costs which, between the eighteen-seventies and the eighteen-nineties, approximately halved within the area supplying Manchester.⁴

Normally butter was made on the farm all the year round, frequently from milk surplus to retail liquid requirements, whereas cheese-making was usually a seasonal occupation when the cows were out at grass. Thus price relationships varied seasonally, as they did in different parts of the county, and local opportunities offered scope to the enterprising to market their milk in its most profitable form. Peter Blundell, the well-known Fylde farmer and horsebreeder, made cheese all the year round, whereas some of his neighbours confined their cheese-making to spring and autumn; in the height of the summer they sold liquid milk into the spreading seaside resorts.⁵ Others combined cheese with winter butter or winter milk; all depended upon circumstance. Intermittent developments of this nature during the Great Depression, the fruit of innumerable decisions by thousands of small farmers, produced a remarkable increase in the supplies of liquid milk and improved the quality of farm butter and cheese.⁶ The existence of local preferences for farm produce should warn the unwary against the use of import prices to measure farmers' receipts.

¹ Cf. Ruth Cohen, *A History of Milk Prices*, pp. 21 et seq.

² For example, even in the eighteen-nineties 70s. a cwt was obtained at Preston in the spring (*M.G.* 29. 3. 1893, 29. 3. 1894, 27. 3. 1895).

³ For the advantages of marketing butter privately, see *P.G.* 24. 1. 1891, 18. 4. 1891, and *R.C.* 1894-97, Q. 21,761, 35,331-48.

⁴ *Manchester Courier*, 28. 3. 1872; *Report from the S.C. on Railways*, 1881, Q. 8021, 8029; *Report on Railway Rates and Charges Provisional Order Bills*, 1891, Q. 8499 and p. 946; Bear, *loc. cit.*, p. 508.

⁵ *P.G.* 20. 4. 1895, 13. 10. 1894.

⁶ Some help was given by both County Council and private landowners in the form of attempts to improve the quality of farm butter and cheese, mainly in the direction of standardization by the encouragement of scientific methods; see, e.g., *P.G.* 18. 4. 1891, 30. 4. 1892.

(ii) *Sheep*. The remaining livestock product of importance in Lancashire was mutton. The total sheep population of the county was 319 thousand in 1870, 1874-5; it fell steeply to a trough in 1882-3 from natural causes of weather or disease common throughout the country, and recovered by 1894-8 to some 4 per cent above its original level. Sheep numbers declined in east Lancashire owing to the growing industrial exploitation of these hills as quarries, reservoirs, and gathering-grounds, and to the competition of retail milk selling. Most of Lancashire's sheep were to be found north of the Ribble in the hills of Bowland and Furness, and here total numbers increased by over 20 per cent.

There was a fundamental difference in the type of sheep kept on arable and hill farms in the nineteenth century. The former were heavy, often long-woolled breeds, and their owners suffered from the extreme fall in wool prices and the import competition, particularly of frozen mutton after 1883, which lowered the price of their fat mutton. In contrast, wool was less important to the hill farmer; it was only of carpet quality, and even when it fetched a shilling a pound in the early 'seventies brought in but 3s. a ewe as against 25s. for her lamb. The lean horned hill ewe and her crosses bred the small lambs and lightweight mutton that were in growing demand and with which, during this period, the foreign supply was not directly competitive. It is significant that the ratio of lambs to total sheep in Lancashire increased by almost 10 per cent during the Great Depression, and the explanation of this shift from wether mutton to lamb production is to be found in the relative movement of their prices which reflected the impact of changes in consumer demand upon the supply situation. As with cheese, the better quality home produce was considered superior to the imported and priced accordingly. Newspaper reports of Salford market, the largest livestock market in the county, stress throughout the period the high demand for lamb and lightweight mutton.¹ Fat wether mutton, like the live and frozen imported, sold at well below the price of English and Scotch lamb.² The difference was particularly wide in 1895 when frozen imported mutton could be bought in London for 2d. a lb. at a time when first quality English lamb was fetching up to 11d. at Salford. The general position was that particularized by the market reporter in 1895: "Choice small sheep were scarce and in good de-

¹ For example, *M.G.* 8. 1871: "Choice lambs . . . were very scarce and much sought after;" *ibid.* 3. 10. 1894: "Good demand for choice lightweight sheep."

² For example, *M.G.* 8. 1871: "Foreign sheep were of such indifferent quality that they were almost unsaleable;" *ibid.* 4. 10. 1871: foreign sheep were a "drug on the market;" *ibid.* 3. 6. 1885: "inferior qualities sold slowly at a reduction;" *ibid.* 3. 6. 1896: "heavy and fat sheep not quotable."

mand at late full rates, but heavy and inferior sold slowly at lower [compared with the previous week] prices."¹ Mutton (including ewe) prices at Salford fell slightly from 7·2 to 7·1 pence a lb. between 1867-71 and 1894-8; lamb prices rose from 7·5 to 8·1d.

Lancashire sheep farmers would undoubtedly agree with the Yorkshireman who, quoting the price of "small mutton" as "well worth 8d. a lb." to the Royal Commission in November 1895, admitted "we have not been doing badly at all. Taking the depression during the last twenty years the sheep have held up wonderfully."² Following consumers' preference and increasing their rate of turnover in the process, sheep farmers abandoned the rearing of heavyweight, low-priced wethers in favour of an annual crop of lightweight, high-priced lambs.

(iii) *Poultry and Pigs*. The number of pigs in Lancashire increased by about a third during the Great Depression; the number of poultry also increased but no figures are available. Total imports of pigmeat into the U.K. more than doubled between 1871-5 and 1894-8, and prices of imported fresh pork and bacon fell by 8 per cent and 13 per cent respectively; no local quotations have been found. From 1867-71 import prices of eggs rose in the early 'seventies but gradually declined to about the original level by 1894-8; unlike import prices local prices at Stockport did not fall after 1886. The profit to be derived from poultry and their growing importance in Lancashire were frequently discussed.³ In that feed accounts for some 80 per cent of production costs, as with pigs, the steep fall in purchased feed prices during the Great Depression constituted a clear profit incentive for the farmer to increase his output, particularly of eggs, which, as the price indicates, were in high demand and, as today, were preferred fresh from the farm.⁴

The Yorkshireman's verdict was applicable to all the main output products of the Lancashire farmer during the Great Depression when considered in relation to the general course of prices. Even the price of his poorest cheese did not sink to the depths reached by the wheat price. The decline in world cereal prices certainly affected Lancashire livestock farmers, but most agreeably, as the note on feed prices indicates.

(iv) *Labour*. Lancashire Census data provide only a crude picture of variations within the agricultural population which in total fell from 51 to 40 thousand between 1871 and 1901. The changes recorded in the numbers of both farmers and their relatives are suspect, but whereas the decline in the number of farmers is exaggerated a spurious increase is shown in the number

¹ *M.G.* 2. 10. 1895; cf. *P.G.* 2. 1. 1892.

² *R.C.* 1894-97, Q. 61,014 (P. Norfolk).

³ For example, *J.R.A.S.*, 1877, p. 492; *P.G.* 11. 4. 1885, 2. 4. 1892, 15. 9. 1892, 20. 4. 1895.

⁴ See *R.C.* 1894-97, Q. 62,166-230, and *Final Report*, p. 254.

of relatives.¹ The total of farmers and relatives is perhaps not too inaccurate and its proportion to that of male farm workers rose slightly from 43 : 57 in 1871 to 47 : 53 in 1901. The number of farm workers in the county fell by 28 per cent during these years, from 29·4 to 21·1 thousand. Alternative employment was close at hand south of the Ribble, if less so to the north, and the exodus of labour from farms was facilitated by the gradual introduction of mowing machines, 'hay collectors', and other machinery to cope with the haytime peak of the grassland farmer's year. As always, farmers' sons and daughters were "flocking to the towns," bringing home in 1894 "from £2 to £3 10s. a week."²

Farm wages in the northern counties, already higher than elsewhere in 1867-71, were raised yet further during the Great Depression. In 1894-8 they stood at 17s. 4½d. a week, an increase of 18 per cent compared with average wages in England and Wales which had risen by only 12 per cent to 13s. 4½d.³ Wages throughout the country rose in the 'seventies but whereas in the north gains were consolidated in some areas a slipping back was evident. Almost all Wilson Fox's Lancashire evidence was collected from the Fylde where the weekly wages of a stockman were 17s.-18s. in both 1891 and 1901. South of the Ribble £1 a week was commonly quoted in the 'nineties.⁴ To the farm worker the period was one of slowly growing comfort. Like the cotton operative he benefited from the fall in retail prices, but increases in his cash income of 18 per cent compared unfavourably with the 25 per cent increase of an initially higher income enjoyed by his fellows in the factory: here was the continuing incentive to leave the farm.

With a decline of 28 per cent in the number of paid workers and an increase of some 18 per cent in average wages, the total wage bill paid by Lancashire farmers declined by 15 per cent during the Great Depression. Many Lancashire farmers employed no regular labour other than their families, and of those who did, almost all worked alongside their men. Their whole way of life contrasted vividly with that of the large tenant farmers of the corn-growing areas.

(v) *Feed*. On dairy farms feed was much the most important cash outlay. A Fylde farmer in 1885 spent £651 10s. 1d., or approximately £13 a cow, on

¹ Exaggerated by the exclusion of retired farmers after 1871; decennial numbers of farmers from 1861 to 1901 were, in thousands, 16·8, 16·0, 14·8, 13·5, 12·2; female relatives were included in 1901 in contrast to the preceding three Censuses; for a critical analysis of these figures see Lord Eversley, 'The Decline in Number of Agricultural Labourers in Great Britain', *J.R.S.S.*, LXX, 1907, pp. 267-319.

² *R.C. 1894-97*, Q. 14,274 (J. Barlow).

³ Wilson Fox, *op. cit.*, p. 332.

⁴ *R.C. 1894-97*, Q. 12,580 (T. Worthington): "19s. to £1"; Q. 27,290 (T. Mercer): "£1"; *P.G.* 20. 4. 1895: "20s."

feed for his cows, which numbered between 48 and 52; his rent and rates for 98 acres were £338 8s. 6½d.¹ On more intensive dairy farms expenditure on feed was relatively greater. Thomas Barlow of Rossendale in east Lancashire spent £400 a year on provender in the 'nineties for 31 milking cows, which again averaged some £13 a cow but at prices lower than those of the preceding decade. His farm was 44 acres and probably rented at about £90.² Such intensive stocking was not uncommon among the producer-retailers of east Lancashire:³ the hill farmers of the north were more self-sufficient.

The Royal Agricultural Society's judges remarked in 1877 on the "abundant supply of feeding stuffs in the great port of Liverpool,"⁴ where imports of maize increased from an average of 4·3 million cwt for the years 1867-71 to 13·1 million in 1894-8, and of oilcakes from 18·2 to 97·5 thousand tons. The fall in price was the factor mainly responsible for this increase in the quantity of feed purchased by farmers, which was in turn, apart from slow advances in breeding and management, the means whereby milk and livestock output was so signally and, it would seem, profitably expanded. In the case of the two important items maize and oilcakes, overseas trade figures for the U.K. show a fall in price of 45 per cent and 37 per cent respectively between 1867-71 and 1894-8, and it seems reasonable to suppose that the cost of feed to the Lancashire farmer fell by at least a third during this period.

With labour an overhead on the ubiquitous family farm, many dairy farmers on the plain both north and south of the Ribble continued to grow oats and other crops for livestock feed. In such circumstances the market price of his oats was not the farmer's chief concern; more apposite was the relationship between the oat price and the cost of a comparable feed. As the Wiltshire man explained to the Royal Commission in 1895, he had grown and sold oats at 24s. 6d. a quarter and purchased Russian barley for "13s. 9d. delivered."⁵ It is unlikely that such opportunities escaped the Lancashire man. Twenty years earlier south-west Lancashire arable farmers were purchasing maize at 6s. 6d. a cwt to feed their farm horses; their oats they sold for 8s. 9d.⁶ If the Lancashire farmer in search of profit dared deprive his horses of their oats, he would certainly experiment with the diet of the more accommodating cow as opportunity prompted. These considerations partly

¹ *J.R.A.S.*, XLVII, 1886, p. 146.

² *R.C. 1894-97*, Q. 14,280 (T. Barlow); the rent is estimated.

³ Stocking on the Thwaites's estate was equivalent to "one head for every 1 ac. 1 r. 35 p. of land."—*R.C. 1894-97*, Q. 40,661 (J. Howson).

⁴ *J.R.A.S.*, XXXVIII, 1877, p. 504.

⁵ *R.C. 1894-97*, Q. 15,821 (Sir G. Goldney).

⁶ *J.R.A.S.*, XXXVIII, 1877, p. 486.

explain the maintenance of the county's oat acreage during a period of falling oat prices, although more to the point in arable south-west Lancashire, where the bulk of the county's oats were grown, was the relationship between the prices of wheat and oats.

RENT

Rent is of peculiar interest. Net rent represents the income of the landowner; it may be thought of as the return on his investment. Gross rent is both a cost to the farmer and a measure of the demand for land and thus indirectly of the changing prospects in agriculture. Rent is somewhat insensitive in this last respect as landlords and their agents do not necessarily accept the highest bidder and the rent of a farm tenanted by the same family for decades is slow to change. Landlord-tenant relationships were important in Lancashire where the owner-occupier was a negligible figure. Owners farmed less than 10 per cent of Lancashire's agricultural land; the comparable figure for England was 20.¹ In east Lancashire, the most industrialized part of the county, the percentage was as low as 7.² The landowning families of Lancashire, with the Stanleys and the Molyneuxs at their head, were of ancient descent and clung tenaciously to their estates.³ Manufacturers who invested in land either purchased small properties within the county or, like Sir Robert Peel the elder, looked elsewhere.⁴

The lease and the covenant were rare, particularly south of the Ribble. The country-wide survey conducted by the *Mark Lane Express* in 1876 into the effects of the Agricultural Holdings Act of the previous year summarized the position in Lancashire;⁵ few leases were to be found other than on Crown property north of Lancaster; nor were they desired by the tenantry who, perhaps like Peter Blundell, had "no desire for either a lease or tenant right, regarding Lord Derby as the best landlord in England."⁶ If this sentiment be thought to represent a survival of 'feudal' instinct in rural north Lan-

¹ Estimates from *Agricultural Returns* 1890-8 inclusive.

² 'Collection' figures; complicated by the existence of Honour of Clitheroe copyholders whose unique tenure was, in practice, almost indistinguishable from freehold.

³ Of 24 estates in south Lancashire of over 3,000 acres in the eighteen-seventies 19 were in the hands of families who could trace their occupation back at least as far as the reign of Henry VIII; the remaining five were also ancient estates of inheritance.—J. Bateman, *The Great Landowners of Great Britain and Ireland*, 1879 ed.

⁴ For example, Mr Earnshaw, a cotton manufacturer of Bury, bought a small estate in the Fylde of "one farm or more" (*P.G.* 20. 10. 1894); another Bury manufacturer, "Squire" Mucklow, purchased 7,000 acres in Cornwall in the mid-nineteenth century (*P.G.* 29. 9. 1894).

⁵ W. E. Bear, *The Relations of Landlord and Tenant in England and Scotland*, 1876, Appendix, pp. 104-31, where the findings of the survey are usefully summarized.

⁶ *R.C. 1880-82*, Coleman's Report, p. 38.

cashire, at the other extreme was Thomas Worthington of Wigan who declared before a Royal Commission, "I have taken my farm like taking a house. When I have paid the rent I am master of the show."¹

In spite of what might appear to be a lamentable absence of security, Lancashire farmers were prepared to sink large amounts of tenant's capital into their farms.² They found that it paid to farm intensively even though under six months' notice to quit should the land be required for building.³ The tenant's security was rooted in "confidence in his landlord."⁴

The concomitant of the annual tenancy in Lancashire was the freedom from restriction. As early as 1876 every Lancashire farm mentioned in the report of the Prize Farm Competition was noted as being an "annual tenancy" with "no restrictions."⁵ This informality between landlord and tenant was partly due to the presence of manufacturers. The main economic incentive of many ancient families in retaining their south Lancashire estates in the nineteenth century was the prospect of mineral rights, coal royalties, ground rents, and the other 'casual profits' that industrial development and the growth of population brought to the landowner.

Dr H. A. Rhee's index of national farm rents rises from 100 in 1870-1 to a peak of 113 in 1877 and then slowly declines to 75 in 1899.⁶ Lancashire rents were higher throughout than Dr Rhee's average for the country and ranged between 30s. and 68s. per acre.⁷ Moreover no fall is apparent when 1870 is compared with the end of the century. Total 'agreed' rents on the Derby estates in Fylde and Bowland rose from £16,346 in 1884 to £20,212 in 1904 with arrears running at the rate of 14 and 15 per cent respectively. In view of the possibility of addition by piecemeal purchase, a contingency not without

¹ R.C. 1894-97, Q. 12,774 (T. Worthington).

² R.C. 1880-82, Q. 67,501 (J. Coleman): "Tenant's capital of £15-20 an acre . . . very much larger than ordinary capital;" *J.R.A.S.*, xxxix, 1886, p. 109: "the extraordinary development of land values at their own risk by yearly tenants."

³ *Ibid.*, Coleman's Report, p. 32; cf. *ibid.*, pp. 33-4: a Stretford tenant of Sir Humphrey de Trafford had "no special agreement as to tenant right and does not appear to want it. He said that if he knew that he was going to leave next year he could not afford to alter his management."

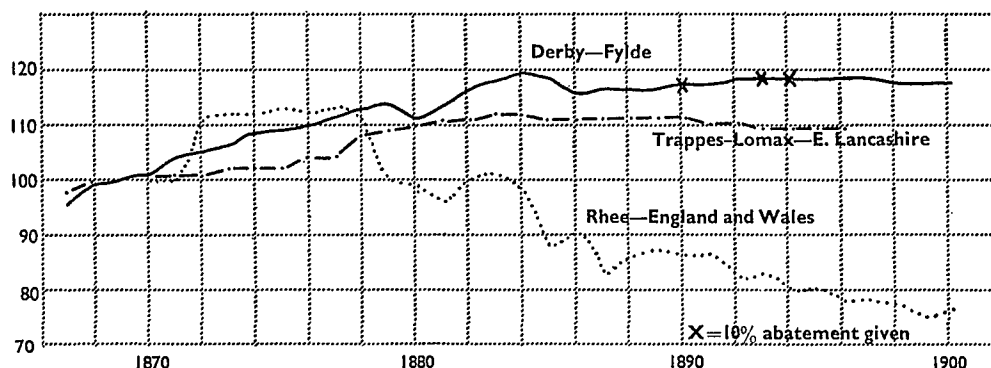
⁴ R.C. 1880-82, Q. 67,505-7 (J. Coleman); cf. R.C. 1894-97, Q. 27,283 (T. Mercer): "Lord Sefton and Lord Derby own all for miles around, so we have confidence, I believe every tenant has, that they will not disturb a tenant."

⁵ *J.R.A.S.*, xxxix, 1877, p. 467.

⁶ *The Rent of Agricultural Land in England & Wales, 1870-1943* (Central Landowners' Association, 1949), Table II, pp. 44-6.

⁷ See, for example, R.C. 1880-82, Coleman's Report, pp. 31-41; *J.R.A.S.*, xlviii, 1886, pp. 146, 165; *P.G.* 29. 10. 1892; Schulze-Gaevernitz, *op. cit.*, p. 174; *Agricultural Gazette*, 17. 10. 1892; R.C. 1894-97, Q. 9,991 (W. Smith), Q. 12,526 (T. Worthington); *ibid.*, C. 7400 of 1894, Appendix A IV, 413, Appendix A. XIII, 429.

C. RENT



Derby, 1867-71=100=£4,634=index of agreed rents from the manor of Trayles, Roseacre, and Quarles.

Trappes-Lomax, 1867-71=100=£3,009=index of agreed and paid rents from 40 identical farms.

Rhee, 1870-1=100=26s. 7d.=index of average agricultural rent per acre in England and Wales.

significance in itself, the rents of the large manor of Trayles were scrutinized. The gross rent increased from £4,452 in 1867 to £5,478 in 1884, from which figure there was little significant change up to 1904. Arrears stood at the formidable figure of £4,996 in 1867, fluctuated downward to £2,870 in 1882, dropped sharply to £745 in 1883, and did not reach four figures again until 1900; in 1904 arrears were £862. Only a small fraction of these arrears were 'carried out', viz., written off as bad; the bulk were eventually paid. Ten per cent abatements were given in 1890, 1893, and 1894.¹

On the Trappes-Lomax estates of Clayton and Allsprings in east Lancashire gross rents from 40 farms rose from £2,942 in 1867 to a maximum of £3,368 in 1883, declined slightly to £3,270 in 1893, and remained at this figure until the end of the rental in 1896. No abatements are mentioned and arrears were negligible throughout, perhaps because almost all these rents were paid in cash, as might be expected in an area of producer-retailers.² On the nearby Thwaites's estate, agreed rents remained at an average of £2 5s. 3d. an acre from 1875 to 1895, remissions of perhaps 15 per cent being granted in 1892 and 1893.³ Immediately over the county boundary on the Lister estate near Halifax rents remained unchanged, after allowing for industrial loss of acreage, between 1870 and 1900.⁴

Evidence of this nature, corroborated by contemporary opinion such as

¹ C.R.O., DDK (Fylde Rents).

² C.R.O., Trappes-Lomax Rentals.

³ R.C. 1894-97, Q. 40,841 (J. Howson); the percentage remitted is not given as such.

⁴ Shibden Hall, Halifax, Lister MSS.

Smith's to the effect that "permanent reductions were very few, they were the exception,"¹ and by comment in the *Preston Guardian* suggesting that a 10 per cent abatement in an occasional year after 1890 was as much as the Lancashire tenant could expect,² is indicative of the firmness of farm rents in Lancashire during the Great Depression. It is extremely doubtful, after all allowance has been made for reduction and remission in the 'nineties, whether by the end of the century rents actually paid had fallen to the level of 1867-71. The Tithe Act of 1891, which enforced the payment of tithe by the landowner by transferring to him the legal responsibility for its payment, appeared to make no change in the tenants' position in Lancashire. Evidence from the Derby and Hesketh (south-west Lancashire) rentals corroborates Thomas Worthington's statement in 1894 that the invariable practice after 1891 was to add the Tithe or Tithe Rent Charge to the rent;³ this has been discounted in the Derby rent series which is net of tithe throughout.

The net income position of the landowner is obscure. Little is known about estate maintenance costs and investment, but such evidence as has been found indicates that at least on some estates the level of investment was maintained,⁴ even though, as was claimed, interest-free improvements were effected by the landlord in lieu of rent reductions.⁵ Any appreciable fall in net income was improbable and an impoverished landowner was unlikely to be found in Lancashire, albeit his property were confined to agricultural land, which was rarely the case.⁶

As evidence of depression within the county rent reductions and abatements in the eighteen-nineties should be treated with caution. The activities of the newly formed Lancashire farmers' associations during a period when

¹ *R.C. 1894-97*, Q. 9,979 (W. Smith); cf. President Rimmer's complaint at the Lancashire Tenant Farmers' meeting that there "had been few reductions in Lancashire rents."—*P.G.* 10. 12. 1892.

² See, e.g., *P.G.* 4. 2. 1893, 7. 10. 1893, 13. 1. 1894, 28. 4. 1894.

³ *R.C. 1894-97*, Q. 12,527-9 (T. Worthington).

⁴ See, for the Thwaites's estate, *R.C. 1894-97*, Q. 40,856 (J. Howson); Sir Charles Tempest, *P.G.* 7. 10. 1893; Trappes-Lomax, C.R.O.; Derby, *P.G.* 25. 9. 1886, 14. 10. 1893; Sefton, *P.G.* 14. 10. 1893; Duchy of Lancaster, *P.G.* 14. 10. 1893, *R.C. 1894-97*, C. 7400 of 1894, Appendix A XIII, p. 429; Crown, *ibid.*, Appendix A IV, p. 413. Land reclamation continued; 500 acres of the Rawstorne property at Hutton and Howick were reclaimed from the marsh in 1887 when the rent was £1 an acre; in 1894 it was £3 10s. and "cheap at the price" (*P.G.* 19. 5. 1894).

⁵ This was alleged by J. Kay, an official of the Lancashire Federation and an ex-tenant of the Thwaites's estate, before the Royal Commission in March 1894 (Q. 14,009) and vehemently denied by the agent Howson in the following February (Q. 40,661).

⁶ *P.G.* 7. 2. 1891: tenants were "forthcoming" and "nothing is heard of landlords being obliged to farm their estates themselves;" *R.C. 1894-97*, Q. 11,313 (A. Wilson Fox): "Land agents say the land has not gone back . . . and that farms will let easily."

agricultural depression was widely assumed to be endemic were inevitably affected by national and political considerations.¹ Lancashire farmers were not protectionists² and local price changes offered only a small target; there remained the landowner, for long the recipient of criticism from urban radicals.

A continuous campaign was mounted by this vociferous minority of organized farmers against the level of rents. It was well publicized by local newspapers whose editors tended to look at agriculture through eyes conditioned by the national press, which in turn reflected the view of the corn-growing interest. Vivid contrasts and "lessons for Lancashire landlords" were drawn between the fall in rents in the eastern counties and their immobility in Lancashire. The challenge was reiterated that "if the price of land did not come down in Lancashire and Cheshire, it would have to do."³ Such a campaign, though conducted by a minority, could not but have some effect on tenants and landlords and their agents as they engaged in their bi-annual commiseration over the dearth of coin in the pockets of each. The relative stability of Lancashire rents under such pressure suggests not only a continuing demand for agricultural land, which may conceivably have been misguided, but the absence of any fundamental depression.⁴

CONCLUSION

The experiences of Lancashire livestock farmers during the Great Depression are graphically illustrated by the movement of their product prices which, unlike Sauerbeck's curve of general prices in terms of which the Great Depression is seen as a period of continuously falling prices from the plateau edge of a Golden Age in 1873-4 to the trough of the mid-nineties,

¹ The main body was the Lancashire Tenant Farmers' Association founded in January 1892; a short account of the origins and development of the various local associations since their effective beginning in 1890 is given in *P.G.* 10. 12. 1892.

² The agricultural correspondent of the *Preston Guardian*, after a tour of the Fylde, "was surprised to find that most of the gentlemen I called upon were staunch Free Traders" (*P.G.* 13. 4. 1895). Lancashire farmers considered that the Great London Agricultural Conference addressed by Chaplin in 1892 was a "profound disappointment in that it was throughout PROTECTIONIST."—*P.G.* 10. 12. 1892.

³ *P.G.* 5. 10. 1895; repeated 3. 10. 1896; attributed to Chaplin, December 1892.

⁴ See the exchange between Giffen and Wilson Fox (*R.C.* 1894-97, Q. 11,313-22), particularly Q. 11,322: "Why should they compete for farms . . . unless it is the case that it pays them to do it in Lancashire?—One would think that would be the case. One is loth to believe them unbusinesslike, and to bid higher than they can pay." Cf. *P.G.* 16. 10. 1897: "So far the number of farms to be let in north Lancashire may be counted on the fingers of one hand, and yet have some to spare, and the small acreage of land that has this year been sold in public sales has made very good prices."

climbed steadily upwards into the early 'eighties to fall back to approximately the 1867-71 level by the 'nineties. With the price of feed roughly following the price of wheat and falling throughout, livestock farmers enjoyed a double incentive to expand output, namely, a fall in production costs and a continually rising demand for their products, most of which enjoyed a degree of protection, derived from transport difficulties and quality differences, against the competition of imports.

At a crude estimate the value of gross output from Lancashire livestock farms increased by a third during the Great Depression. On the other side total labour costs fell by some 15 per cent and rent may be taken as unchanged. If it be assumed that in 1867-71 expenditure on feed equalled the combined cost of labour and rent, then with a fall of a third in the price of feed, the maintenance of total costs in 1894-8 at their earlier level would permit an increase of 60 per cent in the quantity of feed purchased. As total milk output, in all forms, increased by less than 50 per cent, it would seem that such an increase of expenditure on feed was ample for the expansion envisaged. A rise in the value of output with no increase in total costs indicates a larger gross profit margin, to be divided moreover between a smaller number of farmers if Census data are even approximately correct.

Thus considering the evidence of output, prices, the movement of rent, and the lack of concrete evidence of distress during a period when such evidence was specifically requested by successive Royal Commissions, it must be concluded that no great depression of agriculture existed in Lancashire during the last quarter of the nineteenth century. On the contrary, the evidence indicates substantial prosperity until 1884 and the mitigation of any subsequent adverse impact from declining output prices by a relatively steeper fall in feed costs and by an expansion of output.

In explanation of this immunity from distress a number of factors may be cited, all to some extent recognized both by contemporary and post-mortem investigators. They include the keeping of livestock, particularly milk cows, sheep, pigs, and poultry; a reliance on grassland and purchased feed rather than the plough; the existence of small farms largely independent of hired labour; the presence of adjacent urban markets; the practice of direct sale to the consumer; and freedom of the tenant from restrictive covenants.

But these factors were not peculiar to Lancashire. They were to be found in various combinations throughout the country, even in the arable areas. "Looking forward to what was coming," Sir John Lawes reluctantly installed a dairy herd and gave up a "great deal of corn growing" at the beginning of the 'seventies.¹ The earl of Leicester, son of the great Coke, aban-

¹ *R.C. 1880-82*, Q. 57,619 (Sir John Lawes).

doned the four-course, laid down his corn land to grass, and fattened sheep at a profit.¹ Even in East Anglia small farms predominated; in Norfolk, Suffolk, and Essex taken together, almost a half of the total number of agricultural holdings over 5 acres were under 50 acres in size and less than 10 per cent were over 300 acres. By the eighteen-nineties few parts of the country were beyond the reach of either a local market or the ever spreading demand of the conurbations, in particular that of London. Lord Vernon in the midlands, like Mr Miller of Singleton Park in the Fylde, supplied regular customers with fresh butter at a price higher than that in the retail markets.² Lastly, long leases and restrictive covenants were disappearing as opinion turned against them and legislation endeavoured to give formal protection to the annual tenant.

It may be argued that such alternatives were perhaps feasible on the light lands of Hertfordshire and Norfolk but impracticable for heavy land farmers like those on the clays of Essex, acknowledged as the worst hit county. But even in Essex there was scope for initiative.³ The Scottish dairying on the run-down Essex clay may be paralleled by the less publicized experiences of Lancashire men who took with them, besides milking cows, a tradition of freedom, both from technical dogma and restrictive landlords, a keen eye for opportunities and a willingness to farm according to the dictates of the market. As a Fylde farmer observed after touring Essex, "new-comers are going in for milk, cheese, butter, fruit, and sheep, but with the average Essex farmer it is corn, corn, corn." The prices of milk, butter, and cheese were as good as if not better than in Lancashire, thanks to the proximity of London which constituted a "ready and paying market which they cannot flood." "Look at the hay they want in London," the Fylde man expostulated, "the butter, the beef, the milk, to say nothing of the cheese and eggs. But when we were down in Chelmsford we learnt that the town was often short of milk and didn't hear of any farmer who made cheese."⁴

Perhaps the fundamental explanation of Lancashire farmers' prosperity during the depression is not the presence of favourable circumstances—after all these did not appear fortuitously—but the character of the farmers themselves. In the eyes of Essex men, Lancashire farmers were "more

¹ *R.C.* 1894-97, C. 7400-IV, Appendix E, pp. 597-8.

² *R.C.* 1894-97, Q. 21,761, 35,332; *P.G.* 18. 4. 1891.

³ See R. Hunter Pringle's series of articles on the change from corn to meat and grass in Essex during the eighteen-eighties in the *Agricultural Gazette* of 1887, July onwards, esp. 10. 10. 1887.

⁴ *P.G.* 24. 10. 1896: Report of the tour of Essex organized by the *Preston Guardian* for Lancashire farmers; see also September to December inclusive in the same year for accounts of Lancashire emigration to Essex.

boisterous, more energetic in temperament than our people. The same enters into your work, I have noticed. Our folk want to work genteelly; they don't put that energy, that enterprise, that wholehearted zeal into it that you do."¹ Undoubtedly the "mercantile enterprise of Liverpool and Manchester merchants . . . imbued the agriculturalists of the district with the same impetus,"² but the "pregnant wit"³ of the Lancastrian long antedated the Industrial Revolution, however subsequently it may have been sharpened by the economic fluctuations of the nineteenth century which not only closed cotton mills but thereby deprived the milk-selling farmer of all his best customers. But granted these virtues in the Lancashire farmer, it can scarcely be maintained that with the exception of a scattered handful beyond the Lyme he enjoyed a monopoly of vision and enterprise. The question thus arises: to what extent was the period really as tragic as the orthodox picture claims? Have the agonized cries of corn-growers and the simple symbolism of the wheat price continued to hypnotize twentieth-century observers as they did nineteenth-century participants? A study of more relevant evidence than that considered by the Royal Commissions of 1880-2 and 1894-7 and viewed with rather more impartial eyes might suggest a radical reappraisal of the accepted view.⁴

APPENDIX

A. MILK OUTPUT AND CONSUMPTION

Yields per cow in Lancashire are taken to be greater than those assumed by Dr E. M. Ojala for the U.K. (*Agriculture and Economic Progress*, 1952, pp. 204-5) in view of the greater proportion of specialist milk producers in the county. The general pattern of milk consumption estimates between those of J. C. Morton (*J.R.A.S.*, 1865, 1878) and those of A. R. Prest (*Consumers' Expenditure in the U.K. 1900-1919*, 1954) suggests a rise from about $\frac{1}{4}$ pint to $\frac{1}{3}$ pint a head each day. Assuming the more conservative increase of 25 per cent between 1870 and 1894-8 and using *Agricultural Returns* for the number of cows, and Dr Ojala's U.K. estimate of yields, the output of farm butter and cheese in England and Wales appears to have constituted about 45 per cent of total milk production in 1870, falling to 30 per cent in 1894-8 and 23 per cent in 1907 (this latter figure is taken from the *Agricultural Output of Great Britain*,

¹ *Ibid.* ² *J.R.A.S.*, xxxviii, 1877, p. 464.

³ A. A. Mumford, *The Manchester Grammar School, 1515-1915*, 1919, p. 11: in the School Statutes of 1525. Professor Redford kindly drew my attention to this point and provided the reference.

⁴ For example, much evidence furnished to the Commission of 1894-7 received scant attention; see the *Minority Reports* of G. Lambert and F. A. Channing, both of whom complained that the majority ignored examples of successful farming.—*Final Report*, pp. 204-376, C. 8540 of 1897.

1908, Cd 6277 of 1912) but with absolute output changing little. For Lancashire with its many liquid milk sellers a proportion of 30 per cent was assumed for 1870 with absolute output unchanged thereafter.

B. MILK PRICES

(i) Retail. Of 29 Lancashire retail milk quotations covering the Great Depression, 16 give 3d, 5 less than 3d, and 8 over 3d a quart as the ruling price. Prices were higher in the larger towns, reaching 4d at Liverpool, and lower in the more rural areas, but little significant change in the average level of prices occurred until 1909-10 when a general rise to 3½d took place. For sources see *Manchester Guardian* and *Manchester Courier* for February and March 1872, and *Preston Guardian*, 29. 9. 1892.

It appears that a general rise occurred in or about 1872, a time of rising prices, and that some, if not all, of this increase was lost before 1891 when, as in 1900-1 outside the Liverpool and Manchester areas, the commonest price was 3d a quart. As it is doubtful whether all the gain of 1872 was lost by the 'nineties, e.g. the Manchester price was above 3d in 1897 and 1901 and very probably so in 1891, and as moreover it seems that outside the largest centres of population the price rose to 3d *circa* 1872 and never thereafter fell, it follows that the retail price of milk could scarcely have fallen between 1867-71 and 1894-8.

For the purpose of Graph B a price of 3d has been taken for 1867-71 rising to 3½d (in practice 3d in summer and 3½d in winter) in 1872 and falling again to 3d in 1886, the trough year of the trade cycle. In corroboration of the view that the retail price was constant over a long period was the practice before 1910 in east Lancashire of using pint measures permanently marked internally into thirds: at a price of 3d a quart, milk could thus conveniently be sold in pennyworths and halfpennyworths (information from Mr E. Fitton of Bury; cf. also *Preston Guardian*, 25. 1. 1936).

(ii) Wholesale. Price quotations of wholesale milk in Lancashire are scarce.

Date	Source	Comment	Price in pence per gallon		
			Summer	Winter	Average
1871-2	<i>Manchester Courier</i> , 14. 2. 1872	near Manchester	6-6½	7-7½	6¾
1876	<i>J.R.A.S.</i>	near Lancaster	-	-	8
1880-2	<i>R.C.</i>	near Stockport	8	10	9
1886	<i>J.R.A.S.</i>	near Lancaster	-	9	(8)
1894	<i>P.G.</i> , 13. 10. 1894	{Blackpool	10	-	-
		{Fylde	7-8	-	-
1897	<i>J.R.A.S.</i>	a Manchester dealer (so probably refers to Cheshire supplies)	6	7½-9	7½

If, as seems probable, quoted prices are those paid by buyers and nominally received by producers, then the fall in rail transport costs between the 'seventies and the 'nineties of approximately ½d per gallon would offset by that amount any fall in price. The evidence is slender, but such as there is falls into the familiar Lancashire product curve pattern, rising in the 'seventies and falling back in the 'eighties. No Lancashire witness before the Royal Commission of 1894-7 who gave evidence in the years 1894 to 1896 complained of a fall in the price of milk, either wholesale or retail. On the contrary, it was specifically stated by the Assistant Commissioner for the county that the "price of milk had not fallen" (*R.C. 1894-97*, Q. 11,396, A. Wilson Fox; and see *Preston Guardian*, 14. 10. 1893); in the context Wilson Fox was referring to the period since the mid-'eighties. The milk price in Cheshire was said to have fallen by about 10 per cent from 1880 to June 1894 (*R.C. 1894-97*, Q. 26,014, T. Parton). Prices at the former date were significantly higher, perhaps 20 per cent, than ten years earlier,

so that after allowing for cheaper carriage it is difficult to see how any overall net fall could have occurred between 1867-71 and 1894-8. It is just possible that some temporary unrecorded reduction took place in 1895 and (or) 1896 in the trough of the general price cycle.

C. BUTTER AND CHEESE PRICES

(i) Butter. The original series of Lancashire butter prices was taken from the *Wigan Observer* in the absence of any continuous Preston series. It is an annual unweighted average of prices at Wigan market on the first market day of each calendar month throughout the year. The spread of prices on any one day was narrow— $\frac{1}{2}$ d or 1d a lb.; very frequently only one price was quoted. Comparable prices at Ormskirk market were taken from the *Ormskirk Advertiser*; here too the spread was narrow or non-existent. North Cheshire butter and egg prices were published in the *Manchester Guardian* and the *Stockport Advertiser* from 1884-5 onwards. Stockport prices moved conformably with those at Wigan and Ormskirk. Prices at Wigan declined by 15 per cent between 1867-71 and 1894-8; at Ormskirk by only 11 per cent as a result of an advantage that was gained between 1873 and 1876 and never thereafter lost. The Kelsall butter prices, which are an annual average of fifty-two weekly quotations weighted by weekly quantities sold, fit the Ormskirk-Wigan pattern. The average of 1872-77 inclusive = 110 = the average of Wigan prices in the same years; the mean of the 1896 and 1900 prices = 87. It may be tentatively concluded that farm butter prices at Lancashire markets declined by some 13 per cent between 1867-71 and 1894-8.

(ii) Cheese. No unbroken single source of Lancashire farm cheese prices has been found. Some Preston prices were occasionally published in the *Preston Guardian*. The *Manchester Guardian* quoted prices at various markets, including Lancaster, Preston, Crewe, Derby, Nottingham, and Leicester, sporadically throughout the period. The *Agricultural Gazette* gives some Preston and Lancaster prices between 1888 and 1894. The *Wigan Observer* abandoned the reporting of cheese prices at Wigan after 1882. A Staffordshire cheese factory price series, from 1874 to 1893 inclusive, is the most complete annual series discovered but is of limited value in assessing changes in the price of Lancashire farm cheese.

Market prices were usually quoted for two or three grades, variously defined, but this was not universal. The spread of prices in any one year may be considerable, e.g. William Kelsall made 80s. in May 1875 but only 60s. in October, or again at Preston in 1886 April prices ranged from 50s. to 65s. whilst October prices were 70s. to 80s. As between adjacent districts price movements could vary widely; the *Manchester Guardian* (10. 10. 1892) reported of Chester October fair: "As compared with last year there was a downward tendency of 5s. per cwt. for fine and 10s. to 15s. for other qualities," whereas two days later at Lancaster the "prices realised were from 5s. to 10s. per cwt. more than at the last October fair." A further complication is the suggestion of a shift during the Great Depression from late maturing cheeses which were stored on the farm over winter to the quick-ripening cheese consumed in the season of its manufacture (see *Preston Guardian*, 12. 10. 1895).

In these circumstances the best single series, although incomplete, is that of prices each year at Lancaster autumn fair and this has been graphed. William Kelsall's prices in the eighteen-sixties and 'seventies have also been shown. A price curve of inferior qualities has not been drawn but a decline of some 20 per cent is indicated.

D. MUTTON AND LAMB PRICES

Mutton and lamb prices are taken from Salford Tuesday market reports published in the *Manchester Guardian* and the *Manchester Courier*. Salford was the largest market in the county and dealt mainly in native live sheep; the numbers and prices of foreign and Irish sheep were

usually given separately. The aim has been to obtain a price series applicable to Lancashire sheep, almost all of which were sold off grass; the majority were hill or hill-crosses lambing during March, April, and early May (see *Preston Guardian*, 31. 3. 1894). In some years, particularly the later, *Manchester Guardian* reports are sufficiently detailed to provide a seasonal picture of sources of supply. The best representation of Lancashire prices is obtained by averaging weekly prices during July to October inclusive. Prior to July few Lancashire lambs were marketed, and there is, moreover, the difficulty of distinguishing shorn sheep from those "in the wool;" after October numbers at the market fall off rapidly.

Prices were quoted in pence per pound except occasionally when lambs were quoted per head. Graph B is the mean of two price series, one for lamb and the other for mutton, excluding imported sheep but including ewes. A typical October report reads (*Manchester Guardian*, 3. 10. 1894): "good Cheviot wethers and well finished North Country lambs 8½, strong North Country sheep 7¾-8, Cheviot and Half-Bred ewes 6¼-6½, 1st class Irish wethers 7¾, heavy ditto 6¾-7¼, ewes 6; (number at market 10,376)."

Letter to the Editor

HITTING SHEEP ON THE NOSE

SIR,—As a boy in 1941 I watched sheep being dipped at Buckden in Upper Wharfedale, Yorkshire, and was intrigued to see the shepherd give each one a sharp knock at the base of the snout with a stone. This observation remained in my memory without explanation until I began to work with sheep at the Wool Industries Research Association ten years later. A colleague there said that he had observed this custom in Nidderdale, Yorkshire, about 1953, and had been given the explanation by those who carried it out, that young sheep were hit in this way in order to prevent a bone in the skull from developing at the expense of the rest of the body. A young sheep farmer of Bell Busk, near Malham, Yorkshire, told me in 1956 that he had carried out this practice, and gave a similar explanation, but said that he no longer agreed with it.

Mr K. J. Towers, senior lecturer in veterinary science at Leeds University, told me that he was familiar with the custom, which in fact breaks the outer plate of the frontal bone, but he considered that there was no basis for the belief that this would allow better growth of the body. Such primitive customs

often do have a basis, and Mr T. Mason of Reynard Ing, Ilkley, also familiar with the practice, gave me the interesting suggestion that damage of the frontal region might stimulate growth by causing an increased secretion of pituitary growth hormone. There is no evidence that this could happen, but a stress mechanism involving hormone secretions is triggered-off by bone fracture, and this could conceivably influence the metabolic state of the animal.

I write, however, to put this almost extinct custom on record, and also to inquire whether others have seen it in other parts of Britain, or seen references to it in old agricultural works. Associate Professor J. V. Evans of this Faculty met a farmer in Cumberland who spoke of this custom and explained that it was to remove bot from the nasal passages, as well as to prevent attack from this parasite, the larva of *Oestrus ovis*. The books, such as Youatt (1837), with which I am familiar make no mention of the practice, although Youatt gives detailed descriptions of various methods for the removal of bot by wire and other instruments.

(continued on page 54)

East Yorkshire's Agricultural Labour Force in the mid-Nineteenth Century

By JUNE A. SHEPPARD

AN interesting aspect of agricultural history about which we have little information is the size and composition of the agricultural labour force. Some general impressions may be obtained from records of specific farms or estates at certain dates, but comprehensive information for extensive areas, that would allow regional comparisons to be made, is less frequently available. This limitation is as marked for the nineteenth century as for earlier periods. The agricultural writers often describe the labour position on particular farms, but these were frequently chosen for their special characteristics, and cannot be regarded as typical of their own regions, let alone the many parts where quite different types of farming occurred. It was not until 1921 that farmers were required to indicate on the June 4th returns how many labourers were employed, and even this information is not so full as we would wish, for no distinction was made between different types of workers, and members of the farmer's own family were not included.

There is, however, a source of information concerning the agricultural labour force which can be used, in conjunction with other sources, to give a reasonably detailed and accurate picture of conditions in the middle years of the nineteenth century. This is the manuscript books of the enumerators for the 1851 census.¹ These books provide very full information on the composition of the population in every township of England and Wales. The date is a particularly convenient one for the study of the agricultural labour force, for the rural population was then at about its peak, and farming was relatively prosperous, but the mechanization of agriculture had hardly begun. Hence the numbers employed in agriculture were at about their maximum.

The 1851 Enumerators' Books have been analysed for the East Riding of Yorkshire, a county which has the advantage of a variety of soils and types of farming, and where therefore some regional contrasts in the size and composition of the labour force would be expected.

THE ENUMERATORS' BOOKS

It is essential before considering the results of an analysis of the Enumerators' Books to assess the reliability and limitations of the data. Each

¹ P.R.O., H.O. 107.

township was enumerated separately, and within the township each household was numbered and clearly distinguished. For each member of the household, the details given were name, relationship to head of household, age, sex, marital status, occupation, and place of birth. Additional information of considerable relevance is given for farmers: the acreage farmed and the number of workers employed.

Agricultural workers are easily recognized in the occupation column, and three main groups may be distinguished. First, there are farmers and their male relatives working on the farm. The principal difficulty of interpretation in connection with this group arises from the prestige that was associated with the term farmer, which led to many persons with only a few acres giving themselves this title. It was therefore decided to set a limit at five acres, and those called farmers but having less than five acres of land were classed as agricultural labourers (unless an alternative additional occupation was given). The limit was not imposed, however, when the occupation was 'gardener' or 'market-gardener', as it is likely that such a person was engaged full-time in working his land. In imposing an arbitrary size limit some inaccurate classification must inevitably result, but this is unlikely to be very great, as small part-time farmers were not common in the East Riding at this date.

The second group of workers distinguished was the agricultural labourers. Shepherds have been included with these, and also gardeners for whom no acreage was given (on the assumption that these were garden labourers rather than masters). Certain occupations with agricultural affinities, such as mole-catchers and ditchers and drainers, have been excluded from consideration.

The third group comprised the farm servants. These were usually called farm servants in the occupation column, but sometimes they were described more precisely as ploughboys, waggoners, etc. The group is always clearly identified, however, by the fact that they are enumerated with the farmer's household, and under the column for relationship with head of household were always termed 'servant'.

The number of the three main classes of agricultural workers living in each township in 1851 can therefore be readily, if laboriously, determined. Very few women worked regularly in the fields of the East Riding, except in the extreme south-west, so the analysis has been confined to male workers only.

Many more problems are involved in using the information given concerning the acreage worked by each farmer and the number of labourers employed. The first limitation of the acreage figures is that they are missing

for some farmers, usually when the farm was run by a bailiff (rare in east Yorkshire), or when other evidence suggests that the farm was small. Some 90 per cent or more of the farms are given an acreage, however, and this would seem to provide a valid basis for calculating average farm size, except in a few townships where the proportion missing was much greater than usual. The second limitation is that we have no internal check on the accuracy of the acreages given. In some parts of the country gross inaccuracies occur,¹ but when a comparison was made for fourteen East Riding townships between the acreages given in the Enumerators' Books and those recorded in the Tithe Awards of the 1840's, only small discrepancies occurred, and these could be explained by the interval of time between the two records. This suggests that the farm sizes given are sufficiently accurate to warrant comparisons between different townships.

The value of the employment figures is limited by the fact that they, too, are not given for all farms, and it is sometimes impossible to tell whether the absence of a figure indicates that no workers were employed, or whether it means that the numbers were for some reason not recorded. In most cases the size of farm gives some indication as to which is the correct interpretation, and once again the details are sufficiently full for about 90 per cent of the farms. The number given referred to the workers employed on Monday March 31, a time of year which probably represented average employment conditions; there is no record of the additional large numbers of women and children employed at harvest time. The biggest problem in using these 'employed' figures is to decide which groups of workers are included. The instructions were that both 'in-labourers'—i.e. farm servants, and 'out-labourers'—i.e. agricultural labourers, should be specified, and in some townships this was done. More frequently, however, the formula used was 'farmer of (214) acres employing (12).' At first sight a single 'employed' figure would appear to be the total of farm servants and agricultural labourers, but detailed examination of the figures shows that in many cases this interpretation is impossible. In many townships the farm servant total was almost as great as the 'employed' total, and in a few townships their numbers exceeded the 'employed' total. The most likely interpretation therefore seems to be that a single 'employed' figure refers to agricultural labourers only.² A check on this is provided by relating the 'employed' total for the county to the number of agricultural labourers; if both referred to the same type of worker, the figures should be approximately the same. They were:

¹ e.g. in Devonshire (information from Mr W. M. Williams).

² The introduction to the printed Census reports for 1851 admits that "some uncertainty prevails as to whether the farmers returned all their in-door servants." p. lxxviii.

'employed', approximately 10,200; agricultural labourers, approximately 10,900. The difference of 700 amounts to roughly two labourers per township, readily accounted for by temporary unemployment, and employment on farms for which no 'employed' figure is given.

It would therefore appear that in the 1851 Census Enumerators' Books we have a source of information which, in spite of limitations, is of an order of reliability that makes detailed analysis worth-while and valid.

DISTRIBUTION OF WORKERS

It is possible to calculate the average acreage worked per individual for each township by dividing the total acreage of farm land by the total of family workers, farm servants, and 'employed'. One would expect a high acreage per worker on less productive soils, and a low acreage per worker on fertile soils.

The majority of East Riding townships in 1851 had averages of between twenty and thirty acres per worker. Very few had under fifteen or over forty acres per worker. There was a certain broad correlation with soil conditions. The highest acreages per worker, for example, occurred in townships on the high chalk Wolds, on the sticky lacustrine clays of the Vale of York, and on the heavier boulder-clay tracts of Holderness, whilst the lowest acreages per worker were found especially where the fertile silt soils fringe the Ouse. The correspondence with soil type was, however, far from complete. This is because the density of workers reflected not only soil fertility, but also farm size, and while the latter was itself to some extent related to soil fertility, it was also profoundly influenced by the historical evolution of land-ownership, which varied from township to township. Where numerous small farms were the rule, there was a tendency for more workers to be employed than were strictly necessary, while large farms led to a more economic use of labour and a large acreage per worker. Table I illustrates this relationship.

The average acreage per worker is of interest since it represents the approximate peak of employment in agriculture, and gives a ratio of workers to agricultural land two or three times greater than the present-day British average.

COMPOSITION OF THE LABOUR FORCE

The three classes that formed the agricultural labour force were quite distinctive in many ways. Although farmers ranged in age from the early twenties to the eighties, there was a preponderance in the 30-60 age group. The household composition suggests that it was the accepted social pattern for all sons to work on the farm from the time of leaving school until marriage, and the considerable number of unmarried brothers living and working on

TABLE I

	Township	Average farm size	Acres per worker
Fertile silts	Barmby Marsh	44	13
	Sunk Island	417	31
Less fertile Wolds	Langtoft	181	25
	Towthorpe	825	34

farms shows that family co-operation often persisted after the death of the father. The small number of retired farmers recorded by the enumerators indicates that most died in harness.

The majority of agricultural labourers were the heads of cottage households, and ranged in age from the early twenties to the eighties. These were the workers who were paid by the day or by the week, or at harvest time by piece-work. Legard, in his Prize Essay written three years before the Census, recorded that their average pay from Martinmas (November 11) to Candlemas (February 2) was 12s. a week, and from Candlemas to harvest time 13s. 6d. to 14s. a week.¹ During the harvest period they could earn several shillings more than the highest weekly rate. It is interesting to note that Legard considered the East Riding labourers to be among the best-paid in England. Cottage rents were between £3 and £6 a year, so that about one tenth of the labourer's income was spent on accommodation. Many labourers were the fathers of large families of young children, and in spite of their relatively favourable rates of pay compared with those of labourers in the south of England they must have had a very low standard of living.

With such pressure on resources, it is not surprising that the labourers' children were put to work at a relatively early age, though not so early as in counties farther south where adult wages were lower. The 1867 Commission on the Employment of Children, Young Persons, and Women in Agriculture reported that the East Riding children started work in the fields when they were eight or nine years old, but at this age they usually worked only in spring and summer, and especially at harvest time.² From November to March many attended school intermittently; thus almost every child under the age of thirteen was recorded in the occupation column of the Enumerators' Books as 'scholar'. Between the ages of twelve and fourteen, however,

¹ G. Legard, 'Farming in the East Riding of Yorkshire', *Journal of the Royal Agricultural Society*, IX, 1848, p. 125.

² First Report, 1868, p. 96.

nearly all left home, thus relieving the pressure on sleeping accommodation in the cottages, where there were rarely more than two bedrooms. The girls entered into service either in the countryside with farmer or master-craftsman households or in nearby towns, while the boys were recruited to the ranks of the farm servants.

Farm servants were hired and paid yearly, and received free board and lodging: "the farmer's house is like a barrack with a long chamber full of beds, one of which the foreman commonly occupies to keep order and rouse the men in the morning."¹ The young men started as ploughboys, receiving between £8 and £12 a year by the age of sixteen, while later they became waggoners and earned £14-20 a year. Foremen received up to £25.² Most farm servants married after about ten or twelve years of the life, and changed their status to agricultural labourers. The average age of this class of agricultural workers was therefore low, although the foremen were usually older, often either bachelors or widowers.

For the county as a whole, agricultural labourers were the most numerous group, forming 43 per cent of the total labour force; farm servants formed 33 and family labour 24 per cent. There were, however, considerable regional contrasts in these proportions and Figures I, II, and III show for each group those townships where the proportions were higher than the county average. Family workers (Fig. I) were especially important in the Vale of York (the lowland west of the Wolds), and in some townships there they formed more than 40 per cent of the total labour force. Parts of Holderness also had more than the county average of 24 per cent, but the proportions were rarely so high as in the west. Both agricultural labourers (Fig. II) and farm servants (Fig. III) were proportionately more important on the Wolds and in some parts of Holderness. Agricultural labourers rarely exceeded 60 per cent of the total labour force, but farm servants showed a greater variation from the average, with over 50 per cent of the total in several townships.

Farm size must be the first factor taken into account when seeking an explanation of these patterns of distribution. Small farms, often under fifty acres, were particularly numerous in the Vale of York, both on the fertile silt soils adjoining the Ouse and on the light sandy soils of the interior of the Vale. Although the land was worked intensively, rarely were more than four or five workers employed on one farm, and the family would usually supply several of these. Since these small farms were frequently in or close to the villages, the additional labour required was normally provided by agricultural labourers rather than by farm servants, who formed only a small proportion of the labour force of most Vale townships. Large farms (300 acres

¹ First Report, 1868, p. 367.

² Legard, *op. cit.*, p. 125.

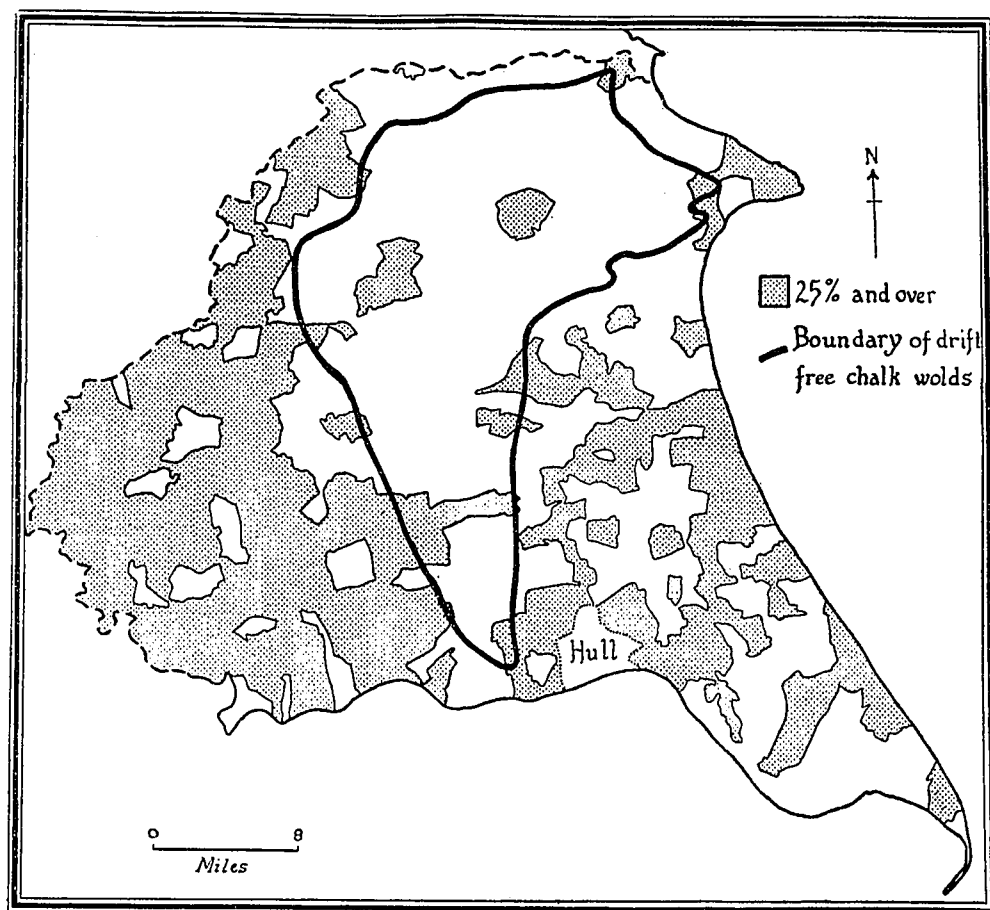


FIG. I
Family Workers

and over) predominated on the Wolds and in parts of Holderness, each requiring at least ten workers and often twenty or thirty. The family could provide only a small proportion of these, therefore many labourers and farm servants were employed. The relative importance of servants and labourers varied with the location of the farm; farms in villages had fewer servants than isolated farms. It was always convenient to have workers close at hand, and while the village farmer could rely on his labourers living just down the street, the farmer remote from a village had to board his workers to make sure of this convenience. The isolated farmhouses that were built in the fields after the Parliamentary enclosures were also as a rule larger than the village farmhouses and more suitable for the boarding of farm servants. In most cases the distinction between the two types of location is lost in the township totals, but in those townships without a village (e.g. the 'lost villages' of

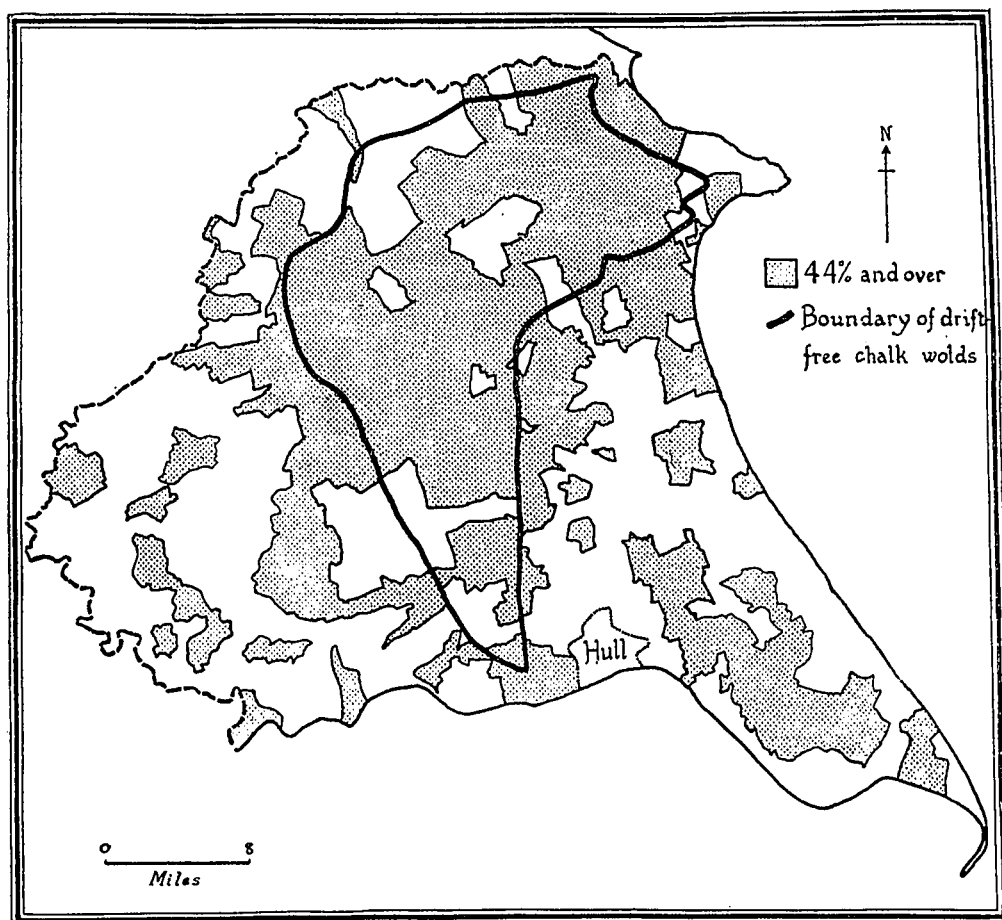


FIG. II
Agricultural Labourers

Towthorpe, Cowlam, Cottam, and Wharram Percy, and the newly-reclaimed Sunk Island) the proportion of farm servants was especially high.

Although small farms and a great use of family labour were characteristic of much of the Vale of York, and large farms and a preponderance of farm servants and agricultural labourers typical of much of the Wolds, there were some townships in both areas that were exceptions. Sutton-on-Derwent and Woodhouse in the Vale of York had larger farms and relied more on farm servants and agricultural labourers than their neighbours, while Langtoft on the Wolds had more small farms and family workers were more important than in surrounding townships. Such exceptions do not, however, detract from the clear regional emphasis of the two tracts. Holderness, in contrast, had no distinctive pattern of its own. In size of farms and composition of labour force it was closer to the county average than the other two regions,

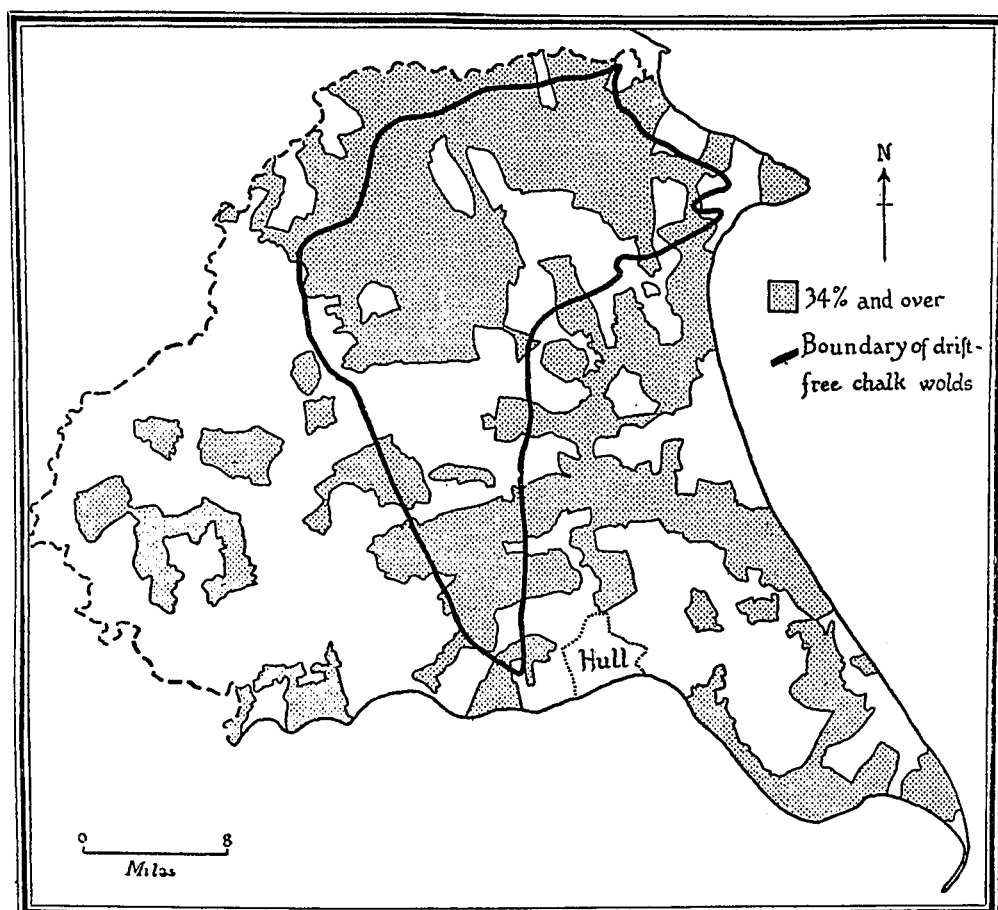


FIG. III
Farm Servants

and the differences from part to part brought out by Figures I, II, and III represent much smaller variations from the average than occurred in the other two regions.

THE LABOURER'S JOURNEY TO WORK

Whereas family workers and farm servants lived at their place of work, the majority of the labourers' cottages were in the villages. In some parts of the county, especially on the high Wolds, the villages were three or four miles apart, and this perforce involved those labourers working on the more remote farms in daily walks of up to four miles to and from their work. Frequently, however, even longer daily journeys were undertaken, for many labourers lived in the village of one township, but worked on farms in other townships. The First Report of the Commission on the Employment of

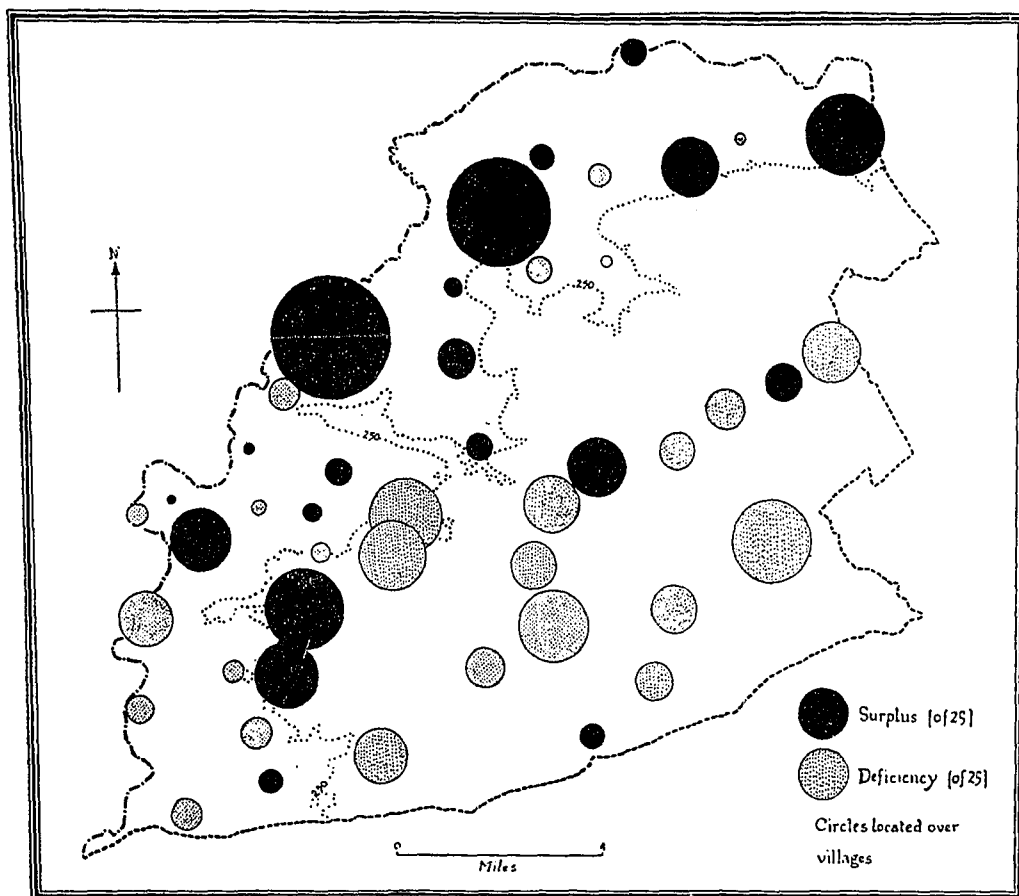


FIG. IV

Surplus and Deficit of Agricultural Labourers by Townships in N.W. East Yorkshire

Children, Young Persons, and Women in Agriculture made several references to such movements; for example, the vicar of North Frodingham told the Commission "my parish supplies neighbouring parishes with labour, some of the labourers have long distances to walk to their work."¹

The details contained in the 1851 Enumerators' Books make it possible to obtain a more complete picture of this inter-township movement of agricultural labourers. A comparison of the total 'employed' in each township with the number of resident agricultural labourers reveals that while in some half of the townships there is a reasonably close correlation between the two figures, in the remainder there is a considerable difference. Where a difference occurs, an excess of 'employed' over resident labourers suggests that some of the 'employed' had to live elsewhere, whilst an excess of resident

¹ First Report, 1868, p. 371.

labourers over 'employed' suggests that some of the residents had to find work outside the township. As might be expected, surplus townships and deficit townships were fairly closely intermingled, especially in Holderness. There was, however, a concentration of townships with a deficit of resident labourers on the Wolds, and of townships with a surplus in the Vale of York and along the margins of the Wolds. Figure IV shows the detailed pattern in the north-west of the county, with the 250-ft contour picking out the approximate margin of the Wolds. Most of the Wolds townships included on the map had deficits of between twenty and fifty labourers, and the three townships with surpluses within the region could not have made good the whole of the deficit. Rather must the additional workers have been drawn from the several townships on the margins of the Wolds with large surpluses of forty or more labourers. The distance between the villages with an excess of labourers and the areas of deficit indicates that some labourers must have walked at least four miles from their homes to their places of work.

The long distance between home and work was disadvantageous to both farmer and labourer, for the walk was tiring, and reduced the labourer's value as a worker. It was no doubt at least partly in order to overcome this disadvantage that the practice had developed on the Wolds of providing three meals a day at the farm for the labourers.¹ Such day-labourers with board received wages approximately one-third less than day-labourers without board. Many did not bother to walk home and back every night, especially in bad weather, but slept at the farm; a Neswick farmer told the 1867 Commission: "I provide beds for the men if they want them, they usually go home on Wednesday and Saturday."² It is impossible to calculate from the Census how many adopted this practice, for it was taken on a Sunday night when virtually all labourers would have been at home. Many shepherds, however, spent the whole of the lambing season at the farm, and were recorded there at the time of the Census (March 30), while many village shepherd households were enumerated beginning with the shepherd's wife.

The lack of coincidence of labour supply and demand may be explained as deriving from the operation of the Poor Laws.³ Where ratepayers were few ('close parishes') no new cottages were erected and some of the old ones were pulled down so that the poor-rates could be kept low, and many labourers were forced to live outside the township. This tendency was especially strong on the Wolds, where the changes brought about by the Agricultural Revolution of the late eighteenth century had given rise to an increased

¹ *Reports of the Special Assistant Poor Law Commissioners on the Employment of Women and Children in Agriculture*, 1843, pp. 324, 329.

² First Report, 1868, p. 379.

³ 1867 Commission, First Report, 1868, p. 105.

demand for labour at a time when concern about poor-rates was especially marked. Where a township contained many ratepayers ('open parish'), agreement on limiting the number of cottages was less likely, and in fact many small freeholders erected rows of cottages for the labourers who could not find homes in the 'close' townships. In this way originated the practice of long journeys to work for the less favourably situated labourers.

CONCLUSION

This study of the composition of the agricultural labour force in the East Riding of Yorkshire in 1851 has revealed certain regional patterns. The main contrast is between the Vale of York and the Wolds. In the Vale of York there was a relatively high density of workers, and family workers played a very important rôle, while few townships (apart from those fringing the Wolds) showed either a marked excess or a marked deficit of agricultural labourers. On the Wolds, a lower density of workers was associated with a greater reliance on farm servants and agricultural labourers, many of the latter having to travel considerable distances from their village homes fringing the chalk uplands. Holderness had a more mixed and intermediate character. Until the statistics for further areas have been analysed it is impossible to say how far the characteristics exhibited by any of these regions were paralleled in other parts of England.

LETTER TO THE EDITOR (*continued from page 42*)

It is noteworthy that the localities in which the custom took place are in the Pennine and Cumbrian hill regions; a friend who is familiar with sheep in the East Riding of Yorkshire never saw it there. Mr M. M. MacKinnon, senior lecturer in preventive medicine in this Faculty, never heard of the custom in Devon,

and it does not appear to have reached Australia and New Zealand.

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Compiled by JOAN THIRSK

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¹ The date of publication is 1960 unless otherwise stated. The compiler wishes to thank Mr George Green for help with this bibliography.

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CORRECTION: An entry in last year's bibliography under FUSSELL, G. E., should read *Low Countries' Influence on English farming*. Eng. Hist. Rev., vol. LXXIV.

Notes and Comments

CHANGE IN CONSTITUTION

At the Annual General Meeting of the Society held at Harper Adams Agricultural College, the following additional section to the Constitution was adopted:

"The Executive Committee may from time to time co-opt a regional conference secretary or secretaries. Such secretaries shall remain members of the Committee from the date of co-option until the meeting following the conference which they were co-opted to organize."

As a result of this change the Constitution of the Society is now as follows:

1. The Society shall be named The British Agricultural History Society.

2. The object of the Society shall be to promote the study of the history of agriculture and rural economy.

3. Membership of the Society shall be open to all persons interested. Candidates for membership shall be nominated by any member of the Society and all such nominations shall be approved by the Executive Committee.

4. The annual subscription shall be one guinea, due on 1 February.

5. The business of the Society shall be conducted by its Officers and by the Executive Committee.

6. The Officers of the Society shall consist of a President, Chairman of the Executive, Treasurer, and Secretary. The President, Treasurer, and Secretary shall be elected at the Annual General Meeting. The Chairman of the Executive shall be elected by that committee from among its members.

7. The Executive Committee shall consist of twelve members of the Society elected by the Annual General Meeting with the addition of the Officers and the Editor who shall be ex-officio members of the Committee. Five members of the Executive Committee shall form a quorum.

8. The President, Treasurer, and Secretary and one quarter of the ordinary members of the Executive Committee shall retire at each Annual General Meeting. The retiring ordinary members shall not be eligible for immediate re-election.

9. Nominations, with the consent of the nominee, for the offices of President, Treasurer, and Secretary and for the vacancies on the Executive Committee must be received by the Secretary not less than seven days before the Annual General Meeting.

10. The Annual General Meeting shall be held as near as possible to 1 February. At least twenty-one and not more than twenty-eight days' notice of the Annual General Meeting shall be sent to members of the Society.

11. The Executive Committee shall appoint the Editor who shall have full discretion concerning the content of publications authorized by the Executive Committee. The Executive Committee in consultation with the Editor may appoint an Editorial Board.

12. No amendments to this Constitution shall be made except by an Annual General Meeting. All proposals for the amendment of the Constitution shall be submitted in the form of a written notice of motion in time to be circulated to the members with the notice of the Annual General Meeting. No amend-

ment shall be made except by the Annual General Meeting and members unable to attend such a meeting may vote by proxy.

13. All profits derived from publications which the Society may issue and all interest arising from investments which the Society may make shall be devoted to the furtherance of the object of the Society as set out in paragraph 2 of this Constitution.

14. The Executive Committee may from time to time co-opt a regional conference secretary or secretaries. Such secretaries shall remain members of the Committee from the date of co-option until the meeting following the conference which they were co-opted to organize.

DECEMBER CONFERENCE

The December conference was again held jointly with the Association of Agriculture and took place on 3 December at the London University Institute of Education. The President of the Society, Sir Keith Murray, presided, and the conference was the best attended for some years. At the morning session Mr Michael Havinden of the Reading University Museum of English Rural Life gave a paper on Agricultural Progress in Open-Field Oxfordshire. After lunch Mr John Saville, Senior Lecturer in Economic History at Hull University, spoke on Public Opinion and Agricultural Depression, 1880-1900. Mr Saville's paper was followed by a film, *The Harvest Shall Come*, which told the story of the farm worker between 1900 and 1940: it was made in 1942 by Imperial Chemical Industries.

AMERICAN AGRICULTURAL HISTORY SOCIETY JOINT MEMBERSHIP SCHEME

Arrangements have been made with the Agricultural History Society of America for a joint subscription scheme with the British Agricultural History Society. Members of

our Society who wish to join the American one may do so by notifying the Secretary of the British Agricultural History Society to this effect. Joint members will then pay one compound sum to the British Society each year to cover both subscriptions.

The American Society, in addition to holding conferences, publishes the journal *Agricultural History* which comes out four times a year; it is now in its thirty-fifth volume. A subscription to the Society which includes the cost of *Agricultural History* is 38s. Joint members will therefore pay a subscription of 59s. annually. The scheme is open to Library members of the British Agricultural History Society as well as ordinary members.

ECONOMIC HISTORY CONFERENCE

The first International Conference of Economic History was held in August 1960 in Stockholm. One of the two days of the Conference was devoted to the discussion of large-scale agricultural enterprise since the end of the Middle Ages. The *rapporteur* for this session was Professor F. Lütge of the University of Munich. The Conference was attended by some fifty British delegates and a volume of contributions and communications has been published. This includes the following papers which may be of interest to members of the Society:

J. D. CHAMBERS, *Industrialization as a factor in economic growth in England, 1700-1900*;

GEORGES DUBY, *Le grand domaine de la fin du Moyen Age en France*;

V. M. LAVROVSKY, *The great estate in England from the sixteenth to the eighteenth centuries*;

F. M. L. THOMPSON, *English great estates in the nineteenth century*.

The contributions are published under the imprint of École Pratique des Hautes Études of the Sorbonne by Mouton & Co., The Hague, Holland.

Book Reviews

ERIC JOHN, *Land Tenure in Early England*.

Leicester University Press, 1960. xii + 184 pp. 30s.

Mr John's book is very much like Early England itself. It begins, as does our detailed knowledge of Old English society, with the introduction of written documents by Christian missionaries, and especially with the appearance of the land-book, the formal diploma; and it seems to end, although in fact it does not, with the Norman Conquest. Like Early England it is divided by the period of the Scandinavian invasions, dark and uncertain; and, again, it is uncommonly difficult to understand. If its arguments can be summarized without doing violence to their subtleties, its thesis is that the Anglo-Saxons were more like their contemporaries in Europe than they are generally supposed to have been. That may seem a simple enough conclusion, but it portends some elaborate consequences.

The only simple thing about the earliest English land-books is that those which survive have a common ancestry: they mark an innovation made by Archbishop Theodore and his followers in the seventh century, and they share an Italian tradition. Their object is to secure the rights of the recently established and endowed Christian Church, and to this end they employ the formulas of Roman law. It has long been agreed that the Roman conveyance lies behind the English land-book, but as the land-book is held not to be a conveyance and Anglo-Saxon society not Roman, the connection is taken to be very indirect and artificial. Recent work, however, and in particular Professor E. Levy's *West Roman Vulgar Law*, has shown that the Vulgar law of the late Empire was a coherent code very different from the Civil law that Justinian's advisers codified, and now Mr John argues cogently that it is from this law and not from Roman law in the commonly accepted sense that the formulas of the land-books were drawn.

Anything that diminishes the apparent differences between the Anglo-Saxons and their contemporaries in Europe is important, and even to recognize contemporary instead of archaic phrases in an imported legal instrument is an interesting matter. But Mr John makes wider claims than this for the land-books, and he argues that their purpose is not merely to protect the Church's title in a society in which the clergy were powerful and enviable interlopers, but to confer upon the Church a privilege denied to all men bound by the law of the English Folk: the right of perpetual succession.

This argument covers the first three chapters, and is really the heart of the book. If primitive English law allowed only a precarious tenure to those who enjoyed land—as opposed to those who worked it—our notions of early English society will have to be radically changed. The small freeholder has always been a vague and troublesome figure; if Mr John is right, continuous tenure would be originally a mark of inferiority, the condition of those whose rents and produce the king allotted to the warriors who served him. There would be nothing to prevent the warriors' sons from succeeding them after their own apprenticeship in arms, for hereditary succession is often as convenient as the desire for it is natural, but for a long time it would be a succession sanctified by usage and not by right, just as in later centuries villein tenements passed from generation to generation in defiance of the best legal opinion.

This practice would account for the silence of the earliest English laws, which are manifestly concerned with the impact of the Church upon Kentish society, about inheritance of land; a silence maintained, as Mr John points out, in the later seventh century, when the Church's acquisitions must have encroached substantially upon those inalienable family lands that the Folk Law, according to our received theories, rigorously maintained. In fact the Church's privileges seem

to have had a quite different effect. An assured succession in perpetuity was so attractive that laymen coveted book-right, and it is suggested here that the "fraudulent monasteries" that scandalized Bede were ordinary estates that took on the name of religious houses to secure the privileges of *ius hereditarium*, much as private estates today are made limited companies to avoid the rigours of death duties. Bede describes these estates and their lords as "useful neither to God nor to men," commenting that they provide neither religious nor military service; but it looks very much as though freedom from secular service was not the chief attraction of the pseudo-monasteries, but rather a bonus from the right of perpetual succession.

It is difficult at first sight to associate precarious tenure with social privilege, but what looks precarious to the nineteenth-century (one cannot say the twentieth-century) freeholder could well seem safe enough to its own age. The man who enjoyed a *precarium* secured it and might well secure it for his child by his services, and no services mattered more, or were more highly rewarded in primitive times, than military services. The Church's new rights, as Mr John describes them, did great damage to the traditional pattern of military obligation and its rewards, because when the Church was granted perpetual succession the sanctions that made precarious tenure tolerable had to be abandoned with the limited title. As military and other public services formed the basis of the only tenure known to the privileged orders, they ceased when an entirely new tenure was introduced; and the second phase of the history of book-right sees the public services, the 'common burdens' of building fortresses, repairing bridges, and making military expeditions, imposed upon the Church's lands. Once that was done, book-right could be enjoyed by laymen without the scandals that Bede condemns. This reading makes the origins of the common burdens particularly important, and as on the present evidence they seem to have been imposed on book-land in Mercia in the later eighth century, the vital

importance of that mysterious kingdom in Old English studies is emphasized yet again.

With book-right effectively modified and available to laymen, as Mr John argues, the Old English kings were free to reorganize their military power, and under the stress of the Scandinavian wars they did so in the late tenth century. The system that emerges is a familiar one, but since Round's day it has been attributed to the Conqueror. The last four chapters of the book argue that the late pre-Conquest *fyrð* involved a mounted feudal host, that thethane's standard holding of five hides matched the later knight's fee, and that the effective unit was the 'shipful' of sixty knights or thanes, for which some great tenants like the bishop of Worcester answered from their estates. The argument is based upon a study of the *Altitonantis* charter, a critical edition of which is printed in an appendix, and upon St Oswald's *Indiculum*, which is taken—as the Domesday commissioners seem also to have taken it—as an authentic statement of the services that were imposed upon the Oswaldslo tenants when the liberty was created, and thereafter were owed to the king through the bishop. This section is self-contained, but it derives from the author's primary thesis that the oldest English law recognized only precarious tenure.

The whole book challenges the orthodox interpretation of Old English society, and it is evidently not long enough to substantiate such a challenge in detail. Mr John offers a hypothesis that is novel and startling, but that promises to account for the diffuse and enigmatic evidence that we have; its merits will have to be argued both in detail and in general terms. There is still a great deal of work to be done on the surviving Old English charters, on the laws, and on Anglo-Saxon society, particularly the aristocracy. If Round's theory of knight service is to be undone the relation of the post-Conquest quotas to what can be discovered about pre-Conquest hidation will still have to be explained. The debate is likely to be acrimonious; Mr John is almost as hard upon Round as Round was upon his con-

temporaries, and he disagrees on various matters with an imposing number of authorities. In a number of places, too, his style is likely to generate more heat than light. Whatever its outcome, this book is of the highest interest to every one concerned with the history of English land and its law, and to none more than the members of the Agricultural History Society. They will notice, as they read it, that there is one historian whose judgements are very tolerant, if we may put it that way round, of Mr John's—F. W. Maitland. Of the riding services at Oswaldslow, Mr John says quite justly "Maitland was not in error, he confused nothing, and his arguments have warrant from the texts; indeed they have never been refuted." That is a comforting conclusion for any one testing a theory in Old English history; it may stand its author in good stead.

GEOFFREY MARTIN

A. H. DENNEY (ed.), *The Sibton Abbey Estates: select documents, 1325-1509*. Suffolk Records Society, Vol. II, 1960. 172 pp.

This is a most commendable production of the new Suffolk Record Society. The volume introduces us to the records of a small Cistercian abbey in the eastern part of the country, which for a house of its size and insignificance seems to have left behind a remarkably interesting set of estate documents. By no means all of the records are published here, only a useful selection intended to illustrate the evolution of agrarian economy between the early part of the fourteenth and the end of the sixteenth century. These consist of detailed extents of 1325, rent rolls of 1328 and 1484, and account rolls of 1363-4 and 1508-9. Mr Denney gives, however, an account of the unprinted documents, and uses some of them for his introduction. Among the most enticing to which he refers are field books of the early seventeenth century, consisting of abstracts of court rolls for matters of custom and title, and which provide evidence going back to the fourteenth century for the accumulation of tenants' holdings. It is clear that all this evidence could provide the foundation for a

most instructive study in East Anglian agrarian history. Mr Denney does not, of course, attempt to do this. His introduction is an extended comment on the documents printed. Since he deals with them in sequence, for instance describing the expenses part of the accounts after he has dealt with the receipt side, his treatment, though useful and suggestive, is not as readable as if he had been a little more synthesizing. He does, however, draw attention to most of the matters which make the documents of interest to the historian, and this is, after all, what an editor should do.

Readers of these documents will naturally be interested to see what light they throw on Suffolk agrarian peculiarities, but also on the special characteristics of a Cistercian estate. It is, of course, important not to confuse the two. Although there was quite an income from tenants, it seems pretty clear that there was no close association between tenures and demesne. One would expect this situation where the Cistercian grange system was employed. The demesne land is described in very satisfactory detail in the extents of 1325. Much of it was enclosed or at least held in severalty. Rental value per acre varied considerably and very often a comment explains why. Low-value land is *dura* or *petrosa et debilis*, while high rented land is often described as being fit for all types of grain. The account of 1363-4 shows that although leasing of demesnes had begun, the abbey still had much land in hand. The income from sales of produce exceeded rent income substantially and this was still the case in 1372 (Mr Denney's table should distinguish arrears from assize rents), though there were, of course, fluctuations.

A substantial element in estate income came from sheep. The fourteenth-century flock was about 2,000. When sheep grazing fell off and abbey income was derived mainly from rents and farms, a sizeable dairy farm based on a herd of some sixty animals was maintained and doubled after 1510. Mr Denney tells us that by the end of the fifteenth century there is evidence of selective breeding by the introduction of a northern strain.

The documents selected tell us more about the economy of the estate than about the tenants. This is only to be expected, given the special characteristics of the estate. Mr Denney, quite rightly, touches only gingerly on the vexed question of the East Anglian *tenementum*. But the rent rolls printed show that quite a lot could be said about the tenants, and the detail in that of 1484 is such that a local topographer could reconstruct a convincing picture of the location of holdings in relation to the village street plan. In addition this rental distinguishes the different components of the tenant holdings, giving some idea of the piecemeal process by which they were accumulated. The court rolls, of which, apparently, there is a long series, would give evidence of the tenants' dealings in lands which are summarized in the rental. If Mr Denney decides to write the full history of the estate, the story of the tenantry, no doubt, would be an important feature of it.

Only one or two of the interesting features of these documents have been mentioned. There is much else besides, not least evidence about the monastic community, its organization, and its relations with the world around it. For a volume of 172 pages it is remarkably well packed with a wide selection of materials. It is this sort of production which makes one wish that all counties had well-supported record publishing societies.

R. H. HILTON

N. J. WILLIAMS (ed.), *Tradesmen in Early Stuart Wiltshire: A Miscellany*. Wiltshire Archaeological and Natural History Society (Records Branch), Vol. xv. 1959. xxii + 146 pp. Price to non-members 45s.

One of the most intractable problems of English economic history, and hence of agrarian history in particular, is that of measuring the direction and volume of internal trade, indeed even of discovering what things were bought and sold in particular markets. The export trades produce their shoals of documents of one sort or another; but the great mass of internal trade, far greater in volume for most commodities than the export trade, produced

little or nothing on paper. Hence historians, or students at any rate, have always tended to overestimate the importance of the commodities entering into foreign trade.

In this volume Dr Williams, now at the Public Record Office, has brought together various Exchequer records arising from the economic regulation of some retail trades by the central government. So we get "a cross-section of the Wiltshire men and women who engaged in trade in the early seventeenth century." Few butchers and bakers, woolmen and corn-dealers, escaped the record; nearly every alehouse-keeper, taverner, and inn-keeper is also named. Dr Williams's introduction is a very useful survey of the records involved and of the subject of retail trading. He raises incidentally a number of puzzling questions to which agrarian historians should be able to provide an answer: for example, if Lenten fasting was really enforced, as these records suggest it was, what did the butchers do for a living between Ash Wednesday and Easter Day if they were not also graziers? I doubt, however, if there is really a problem here. Boarding-house keepers in the holiday towns of England manage to exist for an interval of nine months every year on the spoils of three summer months. It could have been no great hardship, if any at all, for the village butcher in 1600 to tide over a space of six weeks or so, and he almost certainly turned to some other sideline. Many of them were smallholders and this interval would have enabled them to get on with their tillage. Though this volume is on the margin of agrarian history, it will be found useful in more ways than one. It should also encourage local historians in other counties to search out these Exchequer records for their own counties and towns, and local record societies to print them.

W. G. HOSKINS

GEORGE EWART EVANS, *The Horse in the Furrow*. Illustrated by C. F. Tunnicliffe. Faber & Faber, 1960. 292 pp. 25s.

No agrarian historian, British or foreign, should fail to read this book. It has a few

minor flaws. But it exemplifies the way relatively recent history should be written: in the light not just of the manuscript and printed records of the muniment-rooms and libraries, nor simply of the evidence of the landscape, but of both combined *and bound up with* the indispensable verbal testimony of those whose whole lives are a part of the subject.

Mr Ewart Evans is a free-lance writer, a Welshman who settled in Suffolk some twenty years ago and whose first book, *Ask the Fellows who Cut the Hay* (Faber, 1956), was a valuable essay in the same methods, though less impressively concentrated on a theme than the present one. His purpose here is to record the story of farming when "the horse was the pivot of the corn-husbandry" of Suffolk; and to do it while there are still people about who lived that life—quite as distinctive and odd in its way as that in a Nottingham mining village or a Fiji island tribe. But Suffolk farm-life has been transformed over the last forty years, chiefly by the internal-combustion engine, which presents less of a threat in Nottingham, and to an extent that would be disallowed as inhumane in Fiji. Mr Evans does not neglect the more primitive aspects of the old, vanishing Suffolk horse-farms. His chapter on "The Horseman's Word," by which he means the secret methods, known to one or two old horsemen in every district, of exercising 'supernatural' control over horses, demonstrates, reassuringly, the proper use of folklore by historians.

The book is in four sections. The first, and best, called "The Horseman," has chapters on "the horseman's day," "in the field," "the horseman's year," "some of the ploughs," "outside jobs," and—as instructive, surprising, and valuable as any—"the horseman's dress." This section is almost wholly reconstructed from the memories of old Suffolk farming people. Mr Evans effectively stresses rural society's concern with continuity. His information tallies with all that I myself have heard in Suffolk from such characters; and in its details of plough-teams, variations in sizes of stetch, drainage, etc., it seems to me valid material to compare with, and perhaps en-

large our understanding of, the earlier, even medieval, information. Unluckily, when he gets back into earlier periods Mr Evans makes occasional slips. For instance, on p. 40 he writes of "the old medieval system"—as though there is any likelihood that in the Middle Ages there was one farming system for the whole of Britain; and on p. 127 he reveals a very odd idea of English feudalism.

The second section, on "The Farmer," is based more on conventional nineteenth-century written records—those of the worthy Biddells of Playford—occasionally supplemented by verbal evidence. Mr Evans makes no use of other forms of written record—the equally authentic autobiographical farming trilogy of Adrian Bell, or the Suffolk novels of H. W. Freeman. But, like Dr Thirsk and Miss Imray, in Vol. I of the Suffolk Records Society, he draws to great advantage upon the Biddells' 'day-books' and 'field-books'; here it is a pity there are no cross-references, especially to the Biddells' schedules of cropping reproduced in that Society's volume. Mr Evans scores high by using the 'work-books' as well, and notably by bringing out their evidence that harvesting was by no means the only "taken" (i.e. contracted) work, that in the early nineteenth century on the Biddells' farm "a large proportion of all work was contracted for" between farmer and labourers. The first two sections admirably emphasize the point made in Adrian Bell's *Corduroy* that farm work needs a high degree of accuracy and finish, as much as any of the more celebrated skilled crafts. This has been recognized only too late.

The third section is devoted to "The Horse," a history of the famous Suffolk horses, with detailed chapters on the Suffolk Horse Society, the Blacksmith, the Harness-maker, and so on. Mr Evans mentions the use of ox-teams as late as our own century, and refers to horse-teams operating in Norfolk as early as the fifteenth century. He evidently did not know the reference to a Suffolk plough-team of eight horses as early as the 1190's. The fourth section, "Folklore," an eye-opener to the conventional historian,

completes a most remarkable book, and ends with a plea: "One conviction kept obtruding itself upon the writer while he was collecting the material for this book: 'you are only touching the fringe of the work that needs doing.' This is the sort of inquiry that should be conducted by a team, backed by a university and having considerable resources at its disposal. . . Dr W. G. Hoskins of Oxford . . . has started a vigorous school of open-air historians who are as much concerned with the actual physical area studied as they are with the books and documents concerning it in the libraries. This type of approach, extended to embrace the oral tradition and conducted by a team organized by a single university or school of studies, is most likely to be fruitful in East Anglia or any other homogeneous region."

Mr Tunnicliffe's drawings illustrate the text with depth and feeling.

NORMAN SCARFE

J. P. T. BURY (ed.), *The New Cambridge Modern History*, Vol. x, *The Zenith of European Power, 1830-70*. Cambridge University Press, 1960. 766 pp. 40s.

Two questions will immediately occur to any reader of this journal who is a potential reader of this book. What is there here for the student of agricultural history? And what is new about this 'New' Cambridge Modern History? The answer to the first question is: very little. Professor Herbert Heaton devotes four or five pages of his chapter on Economic Change and Growth to discussing agriculture in terms of the increasing commercial character of farming, improvement in methods, and the greater dependence on capital. This, virtually all there is on agriculture, is well put, but inevitably is very familiar. The second question invites comparison with Volume xi—*The Growth of Nationalities*—of *The Cambridge Modern History*, planned by Lord Acton, and first published in 1909. Mr Bury's book comes out well by this test. Though it was Lord Acton who enjoined historians to study problems not periods, it is Mr Bury's mainly Anglo-American team, not Lord Acton's

European team, who more nearly practise his precept. Furthermore, this particular volume has a unity which its predecessor, and some of the recent co-volumes in the new series, lacks. Unity probably springs from tighter editorial control—the older work had three editors—and the deliberate choice of a better unifying theme. To consider the age as "The Zenith of European Power" gives a coherence and cohesion that "The Growth of Nationalities" certainly did not, and perhaps could not, have—though it is ironic that a volume with such a sub-title has only one contributor from mainland Europe. This is an admirable book.

PETER LYON

J. FREDERICK REES (ed.), *The Cardiff Region, A Survey*. University of Wales Press, 1960. xvi+222 pp., illustrated. 21s.

Not the least of the many benefits which have accrued from the annual meetings of the British Association in the post-war period have been substantial contributions to our knowledge of regional contrasts in Great Britain. The survey produced for the Cardiff meeting is a worthy addition to this series, yet one which avoids the danger of falling into an over-stereotyped pattern.

Unlike some recent volumes, it devotes less attention to the host city than to the surrounding "region," here defined for convenience as east Glamorgan, the whole of Monmouthshire, and part of Breconshire. Following the usual pattern, special attention has been paid to the landscape, climate, geology, botany, zoology, historical development, and economic structure of the area, as well as the educational institutions of Cardiff. But, as if to help narrow the gap between scientists and literary intellectuals, the volume also includes substantial contributions on the Welsh language, local place-names, and the Latin, Welsh, and English literary traditions of the area. The result is a well-proportioned introduction to the diversities that one delights to find in a borderland.

Fewer than two per cent of the insured population are employed in agriculture, yet industrialism is confined to relatively small

pockets. Even on the coalfield, ridges of Penant Sandstone have prevented the development of those drab expanses of industrial houses so characteristic of northern England. And if in the "valleys" the rivers are coal-black, many a coal-tip is now "silver with Moonshine (*Anaphalis margaritacea*)."

Close at hand the pole-cat, otter, and red squirrel are still to be found. Maps, diagrams, and photographs in keeping with the high technical standards of the University of Wales Press add to the wealth of description.

English readers would have gained if, in the evocative sections describing physical make-up and especially plant-cover, the more characteristic elements of Welsh toponymy had been explained. Rather oddly, we are twice informed in the geology section that the name Cefn Onn is mis-spelt on the Ordnance Map but are not once given the meaning of the name—Ash Ridge—which has some significant ecological implications. Students of agrarian history too may feel that more could have been written of the changes in land ownership and occupancy which accompanied industrialization. Enclosure for minerals, inflated charges for the renewal of mineral leases, and the way of life of smallholder-miners are topics that spring readily to mind. These omissions were perhaps dictated by pressure of space, but more disappointing is an error of commission in the section on early history, especially since the survey endeavours to record not only the changes which have occurred in the area but also changes in "our detailed knowledge of it." Yet there is little echo here of the stimulating debate on the survival of British villages in the lowlands of Anglo-Saxon England. Even in the Vale of Glamorgan, the Welsh are dismissed as mobile tribal groups practising a pastoral economy. We are encouraged to believe that Norman feudal lord and Saxon peasant were the first to make substantial advance into the arable potentiality of the Vale as late as the twelfth and thirteenth centuries. Nevertheless items mentioned elsewhere in this volume point to a quite different interpretation. Was not some territorialization of power, a con-

comitant of arable farming, necessary in the Dark Ages to permit of exotic imports into Dinas Powis from as far afield as the Mediterranean? Celtic saints doubtless sought "a solitude," but they neither wished to fast to death there nor yet to feed themselves unaided. For this reason, these zealots little approved of wandering souls; and the cultivated fields adjoining St Illtud's monastic settlement at Llantwit Major occupied some of the richest land in a lime-rich Vale. Under such circumstances it is hardly likely that nucleated hamlets like Llanbethery, whose remaining open fields in 1840 are well illustrated in another section of the volume, were late Saxon or Norman creations. Yet such hamlets are, or at least were, everywhere characteristic of the lowlands of the area.

If in this particular respect an opportunity has been missed, nevertheless the volume as a whole is a faithful mirror of the area. Besides fulfilling its primary purpose of serving the scientific visitor, it will remain an indispensable handbook for serious students of this borderland.

GLANVILLE R. J. JONES

T. S. ASHTON, *Economic Fluctuations in England, 1700-1800*. Oxford University Press, 1959. viii+200 pp. 21s.

Professor Ashton believes that "Historians, their eyes on the long-term movements that transformed economic and social life at this period, have paid insufficient attention to short-term fluctuations." It is the short-term fluctuations that Professor Ashton seeks to detect and to explain. Agricultural historians must be primarily concerned, on the other hand, with long-term fluctuations; they must ask themselves why agricultural productivity tended to increase in the eighteenth century. Professor Ashton, in this excellent book, is not concerned with giving answers to this question. His concern with agricultural fluctuations is with the short-term ones alone: their explanation is, of course, quite simply, in the fluctuations from year to year in the weather and in the consequences on harvests. His concern with agriculture is thus limited almost

entirely to the effects of good and bad harvests on other sections of the economy. Farmers and landowners believed that what was good for them was good for the country, that high agricultural prices increased incomes so as to stimulate demand for other products and to provide general prosperity. They found, given the inelastic demand for agricultural produce, that bad harvests gave them higher profits than good ones. Bad harvests, therefore, were good for the economy as a whole.

Professor Ashton remarks that "the weight of evidence, however, is against this thesis." Farmers who normally produced a small surplus or only enough for their families suffered in time of dearth; large-scale farmers, while doing well when grain prices were high, might be able to make up for losses from low grain prices by increased receipts from animal products, the demand for which was more elastic than for grain. An abundant harvest called for additional labour and this put more money into the pockets of casual labourers by whom it was quickly spent. Furthermore, demand for consumer goods increased when harvests were good, because wage-earners had more left over after buying

necessary food. Again, in years of scarcity, exports fell and the flow of money into the country was reduced. The value of sterling therefore fell, and in war-time the cost of maintaining British armies abroad and of subsidizing foreign allies increased correspondingly. "Government deficits arising from such conditions tended to raise the cost of borrowing and to reduce confidence."

Professor Ashton observes that fluctuations in economic activity were more frequent and shorter in duration in the eighteenth than in the nineteenth century. This was primarily caused by the dominance of English agriculture in the economy. In the nineteenth century its dominance was weakened by imports and dearths were therefore shorter and less acute; in the eighteenth century, bad harvests were able to halt upward movements of economic activity.

The setting out of these arguments takes up a very small space in this book. A brief review in a periodical devoted to agricultural history cannot indicate the wide range of topics examined or pay adequate tribute to the skill with which they are discussed.

R. A. C. PARKER

Books Received

- JAMES PIERCE CAVIN, *Economics for Agriculture*: selected writings of John D. Black. Harvard University Press, 1959. 720 pp. 96s.
- J. A. FABER and OTHERS, *Het Aantekeningenboek van Dirck Jansz.* Frysk Ynstitut, Grins, 1960. 120 pp. (duplicated). No price stated.
- B. K. NARAYAN, *Agricultural Development in Hyderabad State, 1900-1956.* Keshav Prakashan, Secunderabad, 1960. 116 pp. 5 rupees.

- ANDREAS ROPEID, *Skav—ein studie i eldre tids for-problem* (with English summary). Universitetsforlaget, Oslo/Bergen, 1960. 388 pp., illus. 14.50 kroner.
- HILMAR STIGUM, *Norsk Bondeliv, 1550-1850.* Landbrugsmuseet, Copenhagen, 1960, illus. No price stated.
- B. H. SLICHER VAN BATH, *The influence of economic conditions on the development of agricultural tools and machines in history.* North-Holland Publishing Co., Amsterdam. 36 pp. No price stated.

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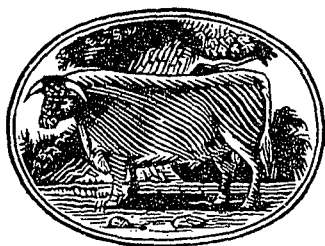
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by E. R. R. GREEN

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Holly as a Winter Feed

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by GEORGE HOUSTON

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Agricultural Progress in Open-field Oxfordshire

By M. A. HAVINDEN

IT is customary to regard open-field agriculture as backward and static, and consequently it is difficult to believe that any serious farming progress can have been made within the confines of such an unwieldy system. It is true that by modern standards progress was slow. But progress is a relative concept, and although the pace of development within open-field agriculture may seem snail-like to us, when it is seen in its historical context it is less unimpressive. Particularly is this so when it is realized that many of the most important advances in open-field farming were made before the idea of agricultural progress became fashionable in the mid-eighteenth century.

In recent years the crucial importance of the seventeenth century as the germinative period for agricultural improvement has become appreciated.¹ While the most distinctive changes took place in enclosed regions, like East Anglia, improvement was not confined to such regions. There was an advance along the whole agricultural front in the seventeenth century, on open-field as well as on enclosed farms. Indeed, it may well be, as H. L. Gray was the first to suggest, that this early progress on open-field farms was one of the chief reasons why enclosure was delayed for so long in Midland counties like Oxfordshire.² As late as 1809 Arthur Young was complaining that there were still nearly a hundred unenclosed townships in the county.³

In the seventeenth century Oxfordshire was, with the exception of a small area of Chiltern country in the extreme south, an almost entirely open-field county; but this does not mean that it was an isolated backwater of subsistence farming. On the contrary, the fertile lowland area between the Cotswolds and the Chilterns had long been supplying London with wheat and malt, which was shipped down the Thames on barges; while the whole of the

¹ See for instance J. H. Plumb, 'Sir Robert Walpole and Norfolk Husbandry', in *Econ. Hist. Rev.*, 2nd Ser., v, 1952, pp. 86-9; E. Kerridge, 'Turnip Husbandry in High Suffolk', *ibid.*, viii, 1956, pp. 390-2; and A. H. John, 'The Course of Agricultural Change, 1660-1760', in *Studies in the Industrial Revolution*, ed. L. S. Presnell, pp. 125-55.

² See H. L. Gray, *English Field Systems*, pp. 122-37, where farming improvements in the open-field parts of Oxfordshire are discussed from the point of view of field redivision. Gray was a pioneer in the study of improved husbandry practices on the open fields.

³ A. Young, *General View of the Agriculture of Oxfordshire*, 1809, p. 88.

upland region in the north of the county swarmed with livestock. Cattle were important as well as sheep, and the cheeses of Banbury were as prized in London as the celebrated Cotswold fleeces.¹ Oxfordshire farmers were thus in the fortunate position of serving an ever-expanding metropolitan market, and therefore had an incentive to improve their methods.

The progress which was made in open-field farming was twofold. Production was both diversified and increased, the two processes being intimately connected. The growing demand for meat and tallow, as well as for wool, broke down the predominantly arable character of the husbandry and made it more balanced. This, in turn, raised the fertility of the land so that the increase in livestock production was accompanied by an increase in the acreage of wheat and of fodder crops, and a decrease in the area of fallow land. Since the basis of the whole improvement was the diversification of production through the development of livestock husbandry, it is most convenient to consider this aspect first.

Opponents of the open-field system, like Arthur Young, naturally emphasized the rigid features in its use of land. An exaggerated picture was drawn of a system in which land was permanently divided between arable, meadow, and pasture, and within which no adaptability to changing market demands was possible. This picture has tended to obscure the variety of practice which was followed in different open-field regions, and to over-simplify the whole question of the relationship between improvement and enclosure. Detailed studies of open-field counties, such as that of Leicestershire by Dr Hoskins and that of Lincolnshire by Dr Thirsk, have shown that considerable flexibility and variation had already been introduced into open-field husbandry before the end of Elizabeth's reign.² The farmers did not all grow the same crop in the same field, and, more important, a measure of convertible husbandry had been introduced by the practice of sowing leys in the open fields. This useful device had become widespread in Oxfordshire by the early seventeenth century, as can be seen from the terriers of three unenclosed farms in north Oxfordshire, selected at random from the records of New College. At their farm at Hempton in 1624, 25 per cent of the land was described as leys; at Adderbury in 1628 the proportion was 16 per cent; and at Shutford in 1655, 34 per cent.³

¹ See Daniel Defoe, *A Tour thro' the whole Island of Great Britain*, ed. G. D. H. Cole, 1927, II, p. 430; A. Beasley, *History of Banbury*, 1841, p. 586.

² W. G. Hoskins, 'The Leicestershire Farmer in the Sixteenth Century', in *Essays in Leicestershire History*, 1950; and *The Midland Peasant*, 1957; Joan Thirsk, *English Peasant Farming*, 1957.

³ New College, Oxford, book of MS. Terriers (pages unnumbered).

Because of the problem of common grazing rights on the stubbles and fallow fields, leys were usually sown by all the farmers as part of a general agreement. In this way nobody gave his neighbour unrequited free grazing, and the value of the stubble and fallow grazing was enhanced for all. A good example of such an agreement was that made in the parish of Middleton Stoney in north-east Oxfordshire, near Bicester, in 1638. Nicholas Harmon, the lord of the manor, and Edward Fitzherbert, "his farmer of the desmesne there," agreed with the parson and the tenants "to lay down for every yardland of the said farm and demesne, six acres of grass for every second year in North field, and that every one of the said tenants shall lay down for every yardland which they hold five acres for grass yearly in the Cornfield."¹ The yardlands at Middleton Stoney were of about forty acres each and lay in two open fields, which means that each tenant would have had an average of about twenty acres per yardland in the cornfield each year. By putting five acres down to leys each year in the cornfield, the tenants were converting about a quarter of their non-fallow arable land to temporary pasture. The length to which the leys were left down could be varied according to need. When crops were growing nearby livestock could be tethered on the leys, or penned in with hurdles.

It used to be argued that the existence of the right of fallow grazing on the open fields prevented the introduction of new and improved crops, particularly the clovers and turnips, since no one could be expected to grow these crops for the benefit of his neighbour's livestock. This argument is however no longer capable of general application, even though it may have been true in certain cases. In fact, a variety of new and improved legumes and grasses were introduced on the open fields in Oxfordshire in the seventeenth century. These included ryegrasses, clover, trefoil, and lucerne; but by far the most important was sainfoin, a deep-rooting legume which is particularly suitable for use on the thin, dry soils which occur in limestone country. It was therefore widely adopted in Oxfordshire, and especially in the northern, Cotswold part of the county. The growing of sainfoin represented an important advance, for it was both more productive and more nutritious than the indigenous grasses. Trow-Smith has said that "the increase in food value of a stand of lucerne or sainfoin, either pure or in association with some of the improved grasses, over a permanent pasture of indigenous species was one of roughly 100 per cent considered as hay."² Secondly, and perhaps even more important, the nitrogen-fixing mechanism in the root nodules of the legumes increased the fertility of the land on which they were grown.

¹ *The Victoria County History of Oxfordshire*, vi, 1959, p. 247.

² R. Trow-Smith, *A History of British Livestock Husbandry to 1700*, 1957, p. 257.

Sainfoin was introduced into Oxfordshire in the second half of the seventeenth century, and was being grown on the open fields as early as 1673, when it is referred to in a legal document belonging to St John's College, Oxford. This document was drawn up to legalize a private agreement to enclose some common pastures in East Chadlington, but it incidentally reveals the importance of sainfoin. It seems that the lord of the manor of East Chadlington, who was a London vintner named Sir William Rollinson, had sown certain of his strips in the open fields with sainfoin. His tenants agreed to give him right of way to move his sheep and cattle from his enclosed pastures to be tethered on these strips whenever he wished. He, in his turn, agreed to let the tenants' livestock graze his sainfoin from 1st August until the following 20th March, when it was to be fenced off with hurdles and allowed to grow for hay.¹

It is probable that sainfoin was first grown by the more enterprising lords of manors on their demesne lands, but by about 1700 tenants were also growing it. This can be seen from agreements which were drawn up between tenants and their landlords, somewhat similar to the earlier agreements to grow leys. These agreements were made because it was more convenient if everybody agreed to grow sainfoin on all the strips on certain furlongs rather than on odd strips scattered about the fields. Thus certain furlongs were withdrawn from the arable rotation and sown with sainfoin. They were sometimes temporarily fenced off from the rest of the open field and referred to as enclosures in the agreements, but they lacked the most important feature of a genuine enclosure, the extinction of common grazing rights.

Such agreements were made in several townships of the large parish of Spelsbury, near Woodstock. In one of these townships, Taston, the twenty-two tenants signed an agreement on the 4th of January 1700 with the consent of the earl of Litchfield, who was lord of the manor, to "enclose" (in the sense mentioned above) one part of the open fields consisting of five furlongs, and to sow it with sainfoin. It is made clear in the articles of agreement, however, that there was to be no enclosing of individual strips within this area, but that each tenant, or owner, would agree to sow his own land with sainfoin. Common grazing rights on the sainfoin continued but their extent and duration were limited. Those with common rights were allowed to graze two cows for every yardland they held in Taston. The cows were not allowed in until the first crop of sainfoin hay had been removed. Sheep were not allowed in until October 13, when six sheep and ten lambs per yardland were permitted. On January 2 the sainfoin was closed to all grazing animals until the following summer. The problem of drinking-water for the stock was solved by a stipu-

¹ St John's College, Oxford, Muniments, VI, 56.

lation that all persons having rights of common on the sainfoin must contribute towards digging a pond. Finally, three fieldsmen were appointed to supervise the carrying out of the regulations and to collect fines for non-compliance. Any one ploughing up his sainfoin could be fined £10 per furrow ploughed.¹

The details of this agreement indicate that it was intended to leave the sainfoin down for a considerable period, but a similar agreement made by seven yeomen with lands in the common fields of the nearby township of Fulwell in 1715 shows that these agreements were not permanent. In this case an agreement was made to sow sainfoin on a portion of the field which had been temporarily enclosed for that purpose before, but which had later reverted back into the ordinary common-field rotation. The tenants had found that their previous stand of sainfoin had been, in their own words, "advantageous," and they agreed to sow it again.²

Although sainfoin was the most commonly sown of the legumes it was not the only one. For instance, in 1728, when the manor of Chesterton was surveyed for the earl of Abingdon, the surveyor, Robert Whittlesey, noted that there was an acute shortage of meadow. He suggested that this should be relieved not by enclosure but by sowing a third of the arable land with legumes. He recommended clover for the wettest land, sainfoin for the stoniest, and trefoil for the driest.³

Turnips however do not seem to have been much grown in Oxfordshire at this period. "I introduced turnips into the field," says Jethro Tull, "in King William's reign; but the practice did not travel beyond the hedges of my estate till after the Peace of Utrecht."⁴ In fact Tull left his Oxfordshire property of Howberry, just across the Thames from Wallingford, in 1709, when he moved to Prosperous in Berkshire; but he is probably more or less correct, since the earliest references to turnips which I have come across in examining thousands of probate inventories for Oxfordshire is in 1727, when John Deane, a cordwainer of Brize Norton, had 20 bushels of turnip seed worth 10s. a bushel.⁵ Of course I have not examined every Oxfordshire inventory, and there were probably some farmers growing turnips earlier than this, but they were certainly not common before 1730, nor is there any evidence that they were grown on the open fields. However, this absence of turnip husbandry is not necessarily a sign of backwardness, for, as Trow-

¹ Oxfordshire Record Office, Dillon MSS., DIL/II/n/1.

² *Ibid.*, DIL/II/t/2.

³ Bodleian Library, MSS. Top. Oxon. c. 381, 102.

⁴ Quoted by Lord Ernle, *English Farming Past and Present*, ed. Sir A. D. Hall, 5th ed., 1936, p. 135.

⁵ *Ibid.*, p. 170; Bodl. MS. Wills Oxon., 164/3/13.

Smith has recently pointed out, the turnip has been historically somewhat over-valued. Its nutritive value, weight for weight, is less than that of barley straw, and it has never been such an important source of fodder for livestock as clover, sainfoin, or improved grasses like ryegrass.¹

The introduction of new crops is only one aspect of agricultural progress, but it is an important one because it sometimes stimulates and makes possible the reorganization of an old system along more advanced lines. This was certainly the case with the introduction of sainfoin in Oxfordshire. For instance, when the farmers of Spelsbury made an agreement to grow sainfoin in 1708, similar to the ones already cited for Taston and Fulwell, they took the opportunity to reorganize their arable rotation by a redivision of the open fields.² It was decided that the land left over after some had been set aside for sainfoin should be divided into three new fields, two to bear corn crops and one to lie fallow each year. Spelsbury lies in the northern upland part of Oxfordshire which was, according to Gray, traditionally a two-field region; thus the two original fields were redivided into four new ones, one of which was always under sainfoin. This redivision of two-field systems into four or more fields was common all over Oxfordshire in the seventeenth century, and Gray has cited several examples of it.³ The terrier of the New College farm at Adderbury, previously referred to, shows that there were five fields there as early as 1628.

The primary object of field redivision was to reduce the area of fallow land. Clearly fallow grazing was one of the least efficient ways of feeding livestock, although it served a useful purpose in manuring and consolidating the arable land and also in keeping it free from weeds. It could therefore not be abandoned altogether; but as the fallow land could produce more food for the livestock if it were sown with fodder crops such as peas, beans, or vetches, than it could by growing weeds, the object was to reduce the fallow area to the smallest possible amount. These reductions were possible because the fodder crops which replaced the fallow were legumes, and therefore did not exhaust the land.

The practice of growing fodder crops on the fallow field was called 'hitching'. It was probably first practised in a small way. Perhaps one or two furlongs would be temporarily fenced off from the fallow field and sown with pulses. For instance, in 1612 Robert Loder, who farmed in the two-field parish of Harwell on the edge of the Berkshire Downs, not far from Oxfordshire, had "17 landes hitched with poulse and fatches" (i.e. vetches).⁴ The

¹ Trow-Smith, *op. cit.*, p. 256.

² Oxford Rec. Off., DIL/II/n/2b.

³ Gray, *op. cit.*, pp. 493-4.

⁴ *Robert Loder's Farm Accounts, 1610-20*, ed. G. E. Fussell, Camden 3rd Ser., LIII, 1936, p. 39.

practice spread throughout the seventeenth century, and such small, temporary hitches were gradually replaced by large, permanent fields as the old open fields were divided.

By the early eighteenth century field division had become complex, particularly in the north of the county. An example of this is provided by the parish of Shenington, which was surveyed for Oriel College in 1732. At the end of the survey there is a section headed "Customs of the Parish" which reads as follows: "Shenington Field is called Townside Land, Farmside Land, and Cotmanside Land. The Townside is divided into four Parts, and three of them are ploughed and sow'd every year, with wheat, Pease and Barley; the fourth part lies fallow; or when it is Sow'd with Pease, it is called Hitch. Part of Townside is every other Years Ground.

"Farmside is ploughed as the Townside.

"The Cotmanside being divided into four parts, one is sow'd with wheat, and one with Barley every year; sometimes the other two parts lie fallow, and sometimes both are hitch, or as the parish agree."¹

The open arable land was thus divided into twelve parts in which the tenants' lands lay in intermixed strips. In fact not all these strips were used as arable, since the survey makes it clear that some of them were leys; but excluding the leys, the apportionment of the crops was roughly as follows: a quarter of the land (three of the twelve parts) normally grew wheat, and another normally grew barley, while a sixth (two of the twelve) normally grew peas. The remaining third of the land (four of the twelve parts) was either fallow or hitched with peas, or divided between the two, "as the parish agree."

The noteworthy point is the flexibility of this system. The area of pulses could be varied from a sixth to a half of the arable land, and the fallow could be eliminated entirely in seasons when it was felt to be unnecessary. The same degree of flexibility was perhaps not to be found everywhere, but the example of Shenington shows the extent to which the more advanced open-field farmers could vary and improve their system without enclosure.

It is now time to consider what effect the growing diversity of the open-field system had in raising production. We have examined various ways by which the quantity of livestock fodder was increased, and its quality improved; and as we should have expected, these developments were reflected in a growth in the size of flocks and herds during the seventeenth century. This growth can be roughly measured by analysing random samples of farmers' inventories.

Thus, in a sample of 226 inventories relating to the limestone upland region of Oxfordshire, taken between 1580 and 1640, the size of the median

¹ Oriel College, Oxford, Muniments, S II.I.19, p. xxxii.

average sheep flock was 14; whereas in a sample of about the same size for the years 1660-1730 the median average flock was 60, or more than four times as large. It is true that the proportion of farmers who kept sheep fell slightly between these two periods (from 66 per cent to 56 per cent), but even so it seems clear that the sheep population had considerably increased. Of course, some of the increase must be ascribed to the effects of enclosure, and particularly piecemeal enclosure within open-field parishes; but as nearly two-thirds of this region was still unenclosed in 1730 it seems reasonable to assume that most of the increase occurred in open-field parishes.

In the Thames valley region, between the limestone uplands and the Chilterns, where there is a wide variety of clay and loam soils, and where conditions are less favourable for sheep, the increase was naturally less pronounced. But even here a comparison of the size of the median average flock, taken from two samples containing over 400 inventories each, shows that it more than doubled over the same period, rising from 24 to 51 sheep.

The increase in the numbers of cattle was not of a similar magnitude, but they seem to have made a modest advance. Herds were not generally large; the average size was under five, but there was an increase in the proportion of herds containing more than five cattle during the course of the seventeenth century, and this increase was not accompanied by any decline in the proportion of farmers keeping cattle, which remained over 80 per cent during the whole period. In the samples relating to the limestone uplands herds containing over five cattle rose from 33 per cent in the period 1580-1640 to 46 per cent between 1660 and 1730, and the corresponding figures for the lowlands were similar (39 per cent to 45 per cent). However, herds containing more than 20 cattle did not amount to more than 5 per cent of the herds in either region in 1730, so that the increase in dairy products and beef took the form of a slow but steady advance over a wide area, rather than that of a dramatic increase in specialized production.

From the evidence of the inventories, then, it seems clear that open-field townships were able to improve their livestock husbandry.

A swing to livestock also reacts upon arable husbandry. It is probable that the acreage of corn crops was reduced, but on the other hand the remaining arable land was given the advantage of better rotations and more manure. This meant that there was an opportunity for the reduction in the arable acreage to be offset by an increase in quality of the corn grown and also possibly in the yield per acre; although detailed evidence for the latter is not available. The evidence of the inventories, however, strongly suggests that the acreage of the inferior bread cereals, like rye, barley, and oats, was reduced while that of wheat was increased. This development was subject to

regional variation. The upland areas, which had hitherto been behind the more fertile vale in this respect, showed the greatest rate of advance. The evidence for this comes from a comparison of the crops grown by groups of farmers in the same periods which were used in the comparison of the live-stock numbers. For this purpose it is only possible to use inventories which were made in the summer before harvest, and which therefore show the complete acreage of the different crops. Such inventories are not numerous, and the samples used are not as large as I should have liked, but I have used all the surviving Oxfordshire inventories which were available.

On the limestone uplands the crops grown by a group of 23 farmers in the period 1660-1730 showed the following changes when compared with those of a group of 26 farmers in the period 1590-1640. The proportion of wheat had almost doubled, from about 14 per cent to 27 per cent; the pulses had risen from 15 to 20 per cent, the barley had fallen from 61 to 49 per cent, the oats from 7 to 4 per cent, and the rye, which had only been 4 per cent before 1640, had disappeared altogether. Practically every one of the farmers used in these samples lived in open-field parishes, and although a few of them may have had some enclosed land, there seems no reason to doubt that most of the improvement took place on the open fields. It has to be remembered that this was naturally sheep and barley country, and that the thin 'stone-brash' soil was not well suited to wheat. In the circumstances a doubling of the proportion of land devoted to wheat was an important achievement.

In the more fertile clay vale the advance of wheat was less pronounced (from 25 per cent to 32 per cent) in two similar samples, but it will be noticed that farmers in the vale were already growing twice as much wheat as upland farmers in the early seventeenth century.

Rye, like wheat, was also subject to considerable regional variation. It seems to have lingered longest in the small upland region around Banbury, where a thickly settled peasantry cultivated a useful red soil derived from a localized outcrop of the marlstone, or ironstone, of the middle lias. The farmers' inventories for this region show that before about 1630 the winter-sown cereal was almost invariably rye or maslin (which is a mixture of rye and wheat), and that wheat was seldom sown as a separate crop; but that after about 1630 the position was almost reversed, most of the farmers preferring wheat to rye or maslin. This was true of large as well as small farmers. For instance, William Alcocke, of Epwell, was a substantial farmer who died in 1612 leaving a personal estate of £127 14s. 10d. His crops were worth £44, of which rye and barley accounted for £36, and hay, peas, and oats for £8; but he had no wheat.¹ Neither had Robert Calcot of Burdrop, who died in

¹ Bodl. MS. Wills Oxon. 1/3/5.

March 1610 leaving crops worth £50 2s. 8d. Rye was his only winter-sown cereal.¹ This is in marked contrast to the situation twenty years later, when farmers like John Lovell, a yeoman of Bloxham, were more typical. His only winter-sown crop in 1633 was wheat, of which he had 28 acres growing in November.²

The way in which the supply of pulse crops was increased by the new rotations has already been indicated from the survey of Shenington, as well as from the comparison of probate inventories. The type of pulses grown depended to some extent on the soil. In the upland regions beans and vetches were rare, and peas almost universal; but in the Thames valley farmers sometimes grew quite a variety of pulses. For instance, Thomas Reading, a husbandman of Shirburn, a parish at the foot of the Chilterns, whose inventory was made on the 1st of August 1700, had 12 acres of beans and peas, apparently growing together, 9 acres of peas on their own, 2 acres of vetches, and 2 acres of dills, or lentils. In all he had 25 acres of pulses, which was just over a third of his 73 sown acres.³

The increase in the production of wheat and pulses took place largely at the expense of barley. This was one of the improvements which agricultural writers like John Worlidge were calling for early in Charles II's reign, when they complained that an excessive acreage was devoted to barley on many open-field farms.⁴

Although there is no reliable evidence that this improvement in the type of cereals being grown on open-field farms was accompanied by an increase in the yield per acre, an interesting development in farm equipment took place at this time, which suggests that harvests may have become heavier; namely, the introduction of the commodious four-wheeled farm wagon in place of the old two-wheeled long-cart. The way in which the use of the wagon was spreading can be seen from the inventories. Dr Robert Plot, writing in 1677, praised the farm wagon, but said that it was little used at this time in Oxfordshire, except by carriers.⁵ His estimate is borne out by the farmers' inventories, but they show that he was soon to be out of date; for while there are no examples of wagons in a sample of nearly 800 inventories taken between 1580 and 1640 and only three in a sample of 138 in the 1660's, by the 1690's about 20 per cent of the farmers possessed wagons, and by the 1720's the proportion had risen to 34 per cent. There was hardly a yeoman in George I's reign who did not possess at least one wagon, in contrast to the

¹ Bodl. MS. Wills Oxon. 11/3/36.

² *Ibid.*, 139/2/7.

³ *Ibid.*, 147/2/1.

⁴ John Worlidge, *Systema Agriculturae*, 4th ed., 1687, p. 36. The first ed. was published in 1669.

⁵ R. Plot, *The Natural History of Oxfordshire*, 1677, p. 257.

situation at the Restoration when even the wealthiest yeomen were without them. Although all the reasons for the introduction of wagons at this period are not known, the possibility of higher yields cannot be ruled out.

It is not possible in a short paper to go any further into the details of the many improvements which occurred in open-field agriculture. I have tried to concentrate upon the main features. These were, of course, abetted by minor changes, such as the exchange and consolidation of strips, which all helped to make the system less inconvenient.

In conclusion, the evidence, when taken altogether, suggests that there was an ascending spiral of progress. It began with an increase in the area of grassland by means of leys. This led to more livestock and more manure. Then the demand for better winter food for the livestock led to the introduction of the legumes like sainfoin and clover. These, in conjunction with the increased supply of manure, helped to raise the fertility of the land, and enabled it to be more intensely cultivated by the partial elimination of fallows. As a result of more intensive cultivation, the supply of fodder for the livestock was further augmented (in the form of pulses), while the supply of grain was not only maintained, but actually improved in quality by means of the enlarged wheat acreage. Thus each advance, while small in itself, stimulated further advance in another sector, and the spiral was able to begin again at a higher level.

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On Open Town-fields

By E. R. R. GREEN

CHARLES VARLEY or Varlo, the author of the following account of the open fields, was born in Yorkshire about 1725 and began life as a farm labourer in England and Scotland. About 1748 he went to Ireland, where he was able to put his farming experience to good account, first as steward to the bishop of Elphin and then as an instructor in flax-growing for the Linen Board. Varley also engaged in the linen and cattle trade and became a fairly prosperous merchant and grazier. He finally left Ireland in 1767, the year after the publication of his first book, and apparently supported himself for the rest of his life by his writing and as a farming expert. In 1784 he went off to America to lay claim to the governorship of New Jersey and vast tracts of the state on the strength of an old charter which he had acquired, an enterprise which proved "a rock for him to split upon." On his return to England, he settled in London where he was still living as late as 1795.¹

Varley was the author of eight books on agriculture, but his writings were not so extensive as this might seem to indicate, for the material was more or less duplicated in each succeeding volume.² Most of his work is characterized by the straightforward description of farming practice and eccentricity of opinion apparent in his account of the open-field system. Varley deserves to be better known if only for his practical approach to farming, while his autobiography is well worth reprinting.³

Although there is little need for comment on the following extract, some explanation should perhaps be offered for Varley's championship of the open

¹ The only available account of Varley's life is in the *D.N.B.*, xx, pp. 153-4. Mr Desmond Clarke, Librarian of the Royal Dublin Society, has recently identified Varley as the 'Real Farmer' whose autobiography prefaces *The Modern Farmer's Guide* (1768). I am most grateful to Mr Clarke for his kindness in permitting me to read his MS. on Varley.

² *A Treatise on Agriculture, entitled the Yorkshire Farmer*, 1766; *The Modern Farmer's Guide*, 1768; *A New System of Husbandry* (four English and one American editions, 1770-85); *Schemes offered for the Perusal of the Legislature, Freeholders, and Public in General*, 1775; *Essence of Agriculture*, 1786; *Nature display'd*, 1793; *The Floating Ideas of Nature*, 1796; *Guide to Reason*, 1798. The British Museum lacks his first two books and also the *Essence of Agriculture* and the *Guide to Reason*.

³ Mr G. E. Fussell has written enthusiastically of the 'Real Farmer', comparing his narrative to the contemporary picaresque novel, but not realizing that Varley was the author. See G. E. Fussell, 'A "Real Farmer" of eighteenth-century England and his book, the *Modern Farmer's Guide*', *Agricultural History*, xvii, pp. 211-15, and *More Old English Farming Books*, London, 1950, pp. 80-3.

fields. His attitude towards enclosure was by this time a somewhat old-fashioned one, for he thought of it as primarily intended to turn land into pasture rather than as a means to improved farming. This hostility towards extension of grazing at the expense of tillage was drawn from his experience of Ireland, and he feared that a similar development might take place in England. This was why he constantly advocated a general enclosure act to bring waste land under the plough and a statutory limit to the size of farms to check consolidation.

*On the good effect and explanation on open Town-fields, as in England*¹

A Town-field consists of several hundred acres, without hedges, ditches, or other fences, to divide one man's land from another, tho' a hundred farmers may have land in said field, yet none will have perhaps above one or two ridges lying together in one place, but alternately mixed or interspersed thro' the field, insomuch, that a farmer has no way to know his own ridges; but by cutting the first letter of his name or some figure, in a bit of grass at the end of his ridge, and in order that one shall not incroach or steal from another with the plough, they measure the breadth, as every man's ridge is of the same size, whether they be rood, half acre, or acre ridges, they being generally laid down with some proportion of measurement; the reason they are thus laid out in small parcels, and intermingled, was that each person should have his chance of good or bad land, as it might vary in one of those large fields.²

Most towns have five of these fields, of which one will be fallow, another wheat, another barley, another beans, or peas, and another oats. Every year the farmers takes care, never to sow one sort of grain twice together on the same field, but keeps alternately changing, so that one is a preparative for another, and each field gets its regular fallow, every five years, and thus they are kept in tillage, from generation to generation.

Each farmer is obliged to concur with his neighbour, in this regular course of tillage, particularly in the fallow and winter crop, as the fallow field is common for the cattle, all the fallow year;³ likewise the wheat field is fenced in at Michaelmas: whereas the fields that is to be sown with spring corn, may be kept open till April.

¹ The extract is chapter xxxi of *The Yorkshire Farmer*, 2 vols., Dublin, 1766, I, pp. 198-206. It appears in substance in all Varley's subsequent books which I have seen.

² *A New System of Husbandry*, 3 vols., York, 1770, I, p. 285, adds: "therefore an equality was very necessary in dividing the lands of England when it was first peopled, and happy it has been for her inhabitants that it has continued so long."

³ *Ibid.*, I, p. 286 adds: "on which a great number of sheep are kept, that, I may say, weed the fallows, for they pick up scutch grass and other wild roots every time it is ploughed."

A farmer may substitute in the place of any crop, one of his own chusing, provided it stand on the ground no longer than his neighbours, as they keep a regular time of laying their fields common to the cattle, and fencing them in.

There are some towns, that may have only three or four of these fields; if this be the case, they fallow the oftener, and is confined to fewer sorts of crops: but of late years, they have found a good method of sowing turnips in the fallow year; in this case they begin to plow the stubble under, as soon as harvest is in, and keeps ploughing for a winter fallow, till midsummer following; then sow turnips, and eats them off by April; then sows barley, after barley beans or peas, after these, wheat, after wheat oats, and again begin with turnips: thus they get a valuable crop, and fallow the same year.¹

My Irish, and indeed some of my English readers, may think it a sort of a hardship for these farmers to have three small parcels of land, thus intermixed, and not at liberty (altogether) to occupy them as they please: nay, in short some of the farmers who hold said field lands, is so much dissatisfied with their lot, that they have applied, and obtained acts of parliament, to enclose their said fields.

However, I see this quite in another light, and should consider it, rather as a misfortune, were all the town-fields in England inclosed; for if we consider tillage in its most truly deserved light, we shall find in the countries where it most flourishes, to be the most rich, happy, and independant.

In short, a corn country gives bread for people of all denominations around it, and work and bread enough for all the poor within it; it is from these open field countries in England where most of the corn is raised, that supplies London and other great and foreign markets; but were those fields inclosed, instead of corn, the land would be engrossed by rich farmers, and turned into grass; then consequently corn would be scarce and dear, and the poor would want both bread and work. I know this to be already the consequence where some fields has been inclosed of late years.

If the said lands be kept for tillage, it is plain they are in a better state than if inclosed in small fields, as corn never grows better than in an open exposure, not to speak of the loss of ground taken up in the ditches, &c. But while the land is kept in the open town-fields, the farmers are obliged to keep them in a regular course or succession of tillage. Again let me remark, that I believe these open or town-fields to be a great spur to improvement in husbandry.

How often have I heard farmers make their remarks in passing the ends of

¹ *A New System of Husbandry*, I, p. 292, adds: "This is a great improvement in husbandry, to such towns as have adopted it; but I find this is far from being so general as it ought in England."

perhaps two or three hundred ridges of corn belonging to as many people, and say John Such-a-one's corn is good, he has a good ploughman, and has managed well; when perhaps the next ridge belongs to a worse manager, therefore immediately censures him thus: Thomas has managed bad, his ploughman is bad, or he had not plowed it often enough, or he has not sown it right, or rolled, or weeded; or wherever the fault is, it is sure to be found out, and condemned by the sharp-eyed neighbours, and the owner shamed into a better manager, so that (in short) it fires every one with an emulation to out-do each other, and even extends itself to the very servants.

With what pleasure have I beheld two or three hundred teams, plowing in a field, every one striving to show the best work after him: how often do they make wagers (of perhaps a few quarts of ale, or the like,) which is the best plowed ridge, their masters to be the judge. Thus they strive to excel each other thro' the whole branch, as who keeps their teams in best order, and best geared, who sows best, so that the corn come up evenest after them, who mows best by leaving the stubble even cut, &c. who makes handsomest sheaves, who makes handsomest stooks, or has the fewest sheaves blown down after a high wind, who makes the handsomest loads of corn upon a waggon; for if a load fall from the waggon before it arrives at home, the loader forfeits something at the harvest-supper; also if a driver overturns a waggon, he forfeits a goose at the harvest supper. They often make wagers likewise, which team will draw the largest weight, also which is the most dexterous driver. To prove this they will lay a tenpenny nail in a turn in the road, and those that drive the waggon-wheel the truest over it is proved the best driver, and then the ricks of corn in the haggard are a standing witness who is the best stacker.

Again if a farmer (more curious than common,) introduce a strange crop on one of the ridges in this town-field, there is immediately a jury of farmers over it, and if in the end it prove of utility, it becomes general, as their land is all alike.

In short, I know not whether these town-fields may not inflame the spirit of improvement equal to a premium, since there may be the same ambition of excelling in one as another, as well in the little as the great world; so that in short, I believe these town-fields is the greatest spur to improvement of any thing that could be invented, which every judicious observer must admit.

The chapter was lengthened in *A New System of Husbandry* by a discussion of the evil of consolidation of farms for grazing, stressing the example of Ireland. Varley continued from the point where the extract ends: "For my part, I should think it a blessing to Ireland, if all or most of the land in it were

divided in these town-fields, as it would certainly put a stop to these monopolizers of land." After describing what had happened in Ireland, he concluded: "Then ought not England to take the alarm, and enact a law, to put a stop to the growing evil, by limiting the size of farms, to at most four hundred acres," but "the legislature, instead of putting a stop, is adding to the evil, by consenting to so many acts of parliament for inclosing open town-fields, and omitting to make such laws as would redress his Majesty's poor subjects."¹

¹ *A New System of Husbandry*, I, pp. 292-7.

Notes and Comments

MEMORIAL TO JETHRO TULL

A memorial stone commemorating the baptism and burial of Jethro Tull at Basildon Church, Berkshire, has recently been erected in the churchyard. The stone is the gift of the Child-Beale Trust and was formally dedicated at a service held at the church on Sunday, 25 June 1961.

THE BRITISH AGRICULTURAL HISTORY SOCIETY

The annual conference of the British Agricultural History Society was held from 5-7 April at Seale-Hayne Agricultural College. On the first evening papers were given by Mr Peter Holmes, the County Agricultural Officer, and Dr W. G. Hoskins. Mr Holmes discussed the farming regions of Devon; Dr Hoskins spoke on recent work on Dartmoor farmhouse types. The following day the conference visited Dartington Hall, and in the afternoon Dr Hoskins led an excursion over Dartmoor, visiting early farmhouses and a deserted village site below Houndtor. In the evening Professor Slicher van Bath, Head of the Department of Agricultural History at Wageningen, gave a paper on the use of farm accounts for the investigation of farm management and agricultural output from the Middle Ages to the eighteenth century. On the last morning Mr J. Z. Titow gave a paper on 'Some Effects of the Type of Manor on the Condition of the Peasant in the Thirteenth Century'. This was followed by a short paper by Professor M. W. Beresford on settlement

patterns in early fourteenth-century Cornwall.

At the Annual General Meeting on the Friday morning, Sir Keith Murray was elected President, Professor Edgar Thomas Treasurer, and Mr J. W. Y. Higgs Secretary. Three members of the Committee, namely, Dr R. H. Hilton, Mr W. E. Minchinton, and Mr F. G. Payne, retired, and in their place the meeting elected Mr Andrew Jewell, Mr George Ordish, and Mrs Joan Thirsk. Giving the Report of the Executive Committee the Chairman, Mr Harwood Long, revealed that membership of the Society now stood at six hundred and three. He also explained that at the Editor's discretion the size of the REVIEW would from time to time be increased. During the year it had been possible to transfer £300 from current to deposit account, and the balance brought forward was £347 compared with £229 the year before. The year's working showed a surplus of £66.

At a meeting of the Executive Committee held later in the day Mr Harwood Long was re-elected Chairman.

FUTURE CONFERENCES

The December conference of the Society will be held jointly with the Association of Agriculture in London at the London School of Economics on Saturday, 2 December. The Annual General Meeting and Conference will be held from 11 to 13 April 1962 at Sydney Sussex College, Cambridge.

Holly as a Winter Feed

By JEFFREY RADLEY

"THERE is a curious way of feeding sheep in Derbyshire," says Sydney O. Addy in 1893.¹ This curious way is the providing of holly leaves and branches for sheep, and often cattle, as a principal winter feed. The use of holly has become obsolete in the present century, to the point that several farmers expressed amazement to the writer when informed of this custom. The custom, however, was an ancient one, and appears to have been of great importance in the years before hay and turnip winter feed.

BOTANICAL ASPECTS

Immediately the question arises: what about the prickles on the holly leaves? Abraham de la Pryme, the Yorkshire historian, records in 1697 that smooth-leaved holly was used as fodder.² In 1893 Sir Herbert Maxwell recorded that "No matter what the age of the holly, so long as the twigs are within reach of being cropped by cattle, so long will the leaves on them remain armed with protective spines, but as soon as they attain a safe height their leaves become as smooth as a camellia."³

Bean, the silviculturist, delimits the Common Holly (*Ilex aquifolium* L.) as a tree which may attain eighty feet in height. It is of a very leafy, much-branched habit, and trees propagated from seed lose their spininess as height increases; and he concludes from this that the spines on the lower branches are no doubt a protection against browsing animals.⁴ An examination of almost any tall holly tree will substantiate this.

DISTRIBUTION

The practice of feeding animals on holly seems to have been confined primarily to the grits and sandstones of the southern Pennines. De la Pryme relates that "In the South West of Yorkshire, at and about Bradfield and in Darbshire, they feed all their sheep in winter with holly leaves and bark."⁵ Other evidence is available to confirm this distribution, the most important being place-name evidence. The holly grove was important enough to warrant a name, and locally 'hollin' is the dialect word for holly, from Old

¹ S. O. Addy, *Hall of Waltheof*, 1893, p. 168.

² Abraham de la Pryme, *Diary. Trans. Surtees Society*, LIV, 1870, p. 165.

³ H. Maxwell in *Notes and Queries*, 8th Ser., I, 1892, p. 462.

⁴ W. J. Bean, *Trees and Shrubs Hardy in the British Isles*, I, 1914, p. 642.

⁵ Abraham de la Pryme, *loc. cit.*

English 'holyn', or 'holegn', but not 'holm',¹ while the plural 'hollins' refers often to a group of trees. Sometimes the term 'a hag of hollins' is found, meaning a pasture of holly trees.

Village names containing 'hollin' as a component are rare, but there is a Hollinsend, Sheffield, and Hollingworth, Cheshire. On the high moors trees grow best in the entrenched cloughs, and there are several indicative names such as Holling Dale on Bradfield Moors; Hollingworth Clough, Hayfield; and Hollins Clough, Dovedale. Near Bolsterstone, Yorkshire, there is Hollin Busk and Hollin Edge Height.

More significant, but more difficult to trace, are field-names. De la Pryme says: "To every farm there are so many holly trees, and the more there is the farm is dearer, but care is taken to plant great numbers thereabouts." Hunter defines a 'hag' as "the holly trees growing upon a certain portion of ground in the Commons of the Manor of Sheffield. The lord was accustomed to let or sell them by the hag."² In Derbyshire's High Peak Hundred some twenty-one villages are shown by Cameron to have at least one field-name containing the component 'hollin', usually indicative of the pre-enclosure location of the 'hag of hollins' on a particular farm.³ For example, at Chapel-en-le-Frith there is a Holling Flatt and a Hob Hollin; at Edale, Hollin Knoll; and at Stanton in the Peak a Holly Wood. Hathersage Enclosure Award shows Fields 785, 787, 788, and 789 as Far Hollins, Near Hollins, Hollin Meadow, and Hollin Pingle.⁴ Similar evidence exists in South Yorkshire villages, for example in Ulley and Aughton.⁵

Another approach to the distribution problem, that of recording pure stands of holly trees, as indicators of surviving hags, might be an answer to Tansley, who says: "Occasionally it [the holly tree] forms pure local woods whose origin and status are not known."⁶ Perhaps few stands of holly in our village woods are natural.

HOW HOLLY WAS USED

In the seventeenth century Evelyn remarked that holly branches were "lopped or broused by cattle,"⁷ and as late as 1906 it is noted that "the leaves and small branches are sometimes used for feeding sheep in severe winters."⁸

¹ K. Cameron, *The Place-Names of Derbyshire*, 1951-2, p. 685.

² *Notes and Queries*, 8th Series, I, 1892, p. 431.

³ Cameron, *op. cit.*, pp. 30, 38, 67, 79, 89, et al.

⁴ Hathersage Enclosure Award, 1830. Sheffield City Lib. Dept. of Local History and Archives.

⁵ Ulley Enclosure Award, 1798. County Record Office, Wakefield.

⁶ A. G. Tansley, *The British Isles and their Vegetation*, 1939, p. 257.

⁷ *Silva*, 1825 edit., p. 269, footnote. ⁸ *Chambers Encyclopaedia*, 1906, v, p. 747.

Apparently the shepherd or cattle herder lopped a few upper branches from each tree, and this careful pollarding did not hurt the tree. The sheep appear to have been especially fond of the holly bark.

Evidence of the age of the practice of using holly is scant but the documents found are impressive. In Derbyshire the first reference is to the destruction of the Hollingwood at Hope in 1216-22,¹ while in Yorkshire at Heeley a 1320 deed records a grant of five acres in the field of "Heele holis."² Hollinclough, Derwent, is mentioned in 1381, and Hollywood in 1433 at Ludworth, Cheshire.³

Several fines occur in the Eyre Rolls for the illegal lopping of holly. At Tideswell Court in the Royal Forest of the High Peak ten people were fined for lopping 'green-wood' in 1524, twenty-four were subsequently fined in 1559, and twenty-one in 1567. In 1531 William Pyecroft denied felling the King's Woods in Edale, Derbyshire, "or lopping the same for his cattle."⁴ At Holmesfield, Yorkshire, where there is a Holly Gate Farm, several fines were entered in the court rolls for cutting holly too often or illegally; Henry Elliott, for example, was fined "for carrying holly ("bowes") out of the lordship."⁵

Deeds, accounts, and rentals containing references to 'hollins' are infrequent but useful. In 1441-2, the duke of Norfolk's bailiff in Sheffield returned that "For holly sold here for fodder of the animals in winter time nothing is charged, because no sale took place this year."⁶ In 1359 a sale of land at Fulwood "of all his wood growing in Fullewod in Hallumch'r except le Holyn," showed that it was a thing to be considered apart.⁷ About 1550 Sir William del Holyns granted to Beauchief Abbey a place in "Le Holyns or Les Holyns" in "the soke of Eccleshall."⁸ A Sheffield Rental for 1624 lists the rents of "Hollen." A total of twenty-three rents, each for a separate "hagge" of holly, principally in "Loxley" and "Rivelling," realized the considerable sum of £19 3s. 10d.⁹ One could wish for more detailed evidence on this sale or leasing of individual stands of holly, and how the holly fitted into the general farm economy. Another use, the feeding of deer, is recorded in the 1652 lease of Wentworth Castle by William, earl of Strafford, to Sir Richard

¹ G. H. B. Ward, *Sheffield Clarion Ramblers Handbook*, 1949-50, p. 143.

² *Trans. Hunter Arch. Soc.*, II, p. 201.

³ K. Cameron, *op. cit.*, pp. 85, 143.

⁴ *Victoria County History of Derby*, I, 1905, pp. 409, 410, 411.

⁵ Court Rolls of Holmesfield, in *Journal of the Derbys. Arch. and Natural History Soc.*, XX, 1898, pp. 101, 115, 119.

⁶ Sheffield City Libraries, Dept. of Local History and Archives, MD. 150.

⁷ *Yorks. Arch. Journal*, XII, p. 249.

⁸ S. Pegge, *An Historical Account of Beauchief Abbey*, 1801, p. 168.

⁹ Sheffield City Libraries, Dept. of Local History and Archives, MD. 177.

Fanshawe, in which it is stipulated that the deer should be fed "For their better maintainance and support, by serving them with holley to be cutt therein in winter, and likewise with hay."¹ In 1811 that excellent observer John Farey noted that "At Rowlee in Hope Woodlands (Derbyshire), the sides of the hills were formerly scattered with Holly Pollards which they used to lop in severe winters for the sheep, with good effect."²

THE END OF THE PRACTICE

The decline of the practice was probably gradual, and only one reference has been found to the abandoning and destruction of holly hags. In 1711 the bailiff of the duke of Norfolk recorded sixteen entries of hollins with rent paid. He notes: "more Hags of Hollin unlett but most of them destroyed," and a list enumerates several places west of Sheffield:

"Dungworth Wood late George Gillott.
Ughill Wood for which Mr. Marriott one paid 3od.
Some in Stannington Wood.
Some in Rivelin but most Cutt.
The best is to cutt and sell the above Hags."³

It seems probable that holly was used as a supplement to, or in place of, hay, being cut when other feed was all used or when snow prevented the sheep and cattle from eating the poor moorland grasses. It would be particularly useful in the period immediately prior to the new grass crop and lambing time, and before the 'spring' wood could be cut. This latter was one of the uses of deciduous saplings as fodder, and perhaps it contributed to the development of the name Spring Wood—still a common name for local woods.

There is evidence in scattered place-names that the use of holly might have been much more widespread than is suggested above. However, it seems to have found its most conspicuous development in south-west Yorkshire and northern Derbyshire, where it contributed to the farm economy in no small measure for seven centuries. It may be that the enclosure of the commons with the removal of many 'hags', and the increased use of root crops for winter feed, were the two main reasons for the practice falling into disuse. Its secondary use as a source of shelter became superfluous with the building of dry stone walls on the enclosed commons.

¹ T. W. Hall, *Incunabula of Sheffield History*, 1937, p. 181.

² J. Farey, *A General View of the Agriculture . . . of Derbyshire*, III, 1811, pp. 89, 90.

³ Sheffield City Libraries, Department of Local History and Archives, Arundel Coll. L.D., 1711. No. 6, p. 32.

Agricultural Statistics in Scotland before 1866

By GEORGE HOUSTON

THE statistics of Scottish agriculture collected in 1845 and over the years 1853-7 were mentioned by Dr J. T. Coppock in his article in this REVIEW (IV, pp. 4-21, 66-79); and Mr W. E. Minchinton in a paper on agricultural returns during the Napoleonic Wars (I, pp. 29-43) referred to the collection of farming data for Sinclair's *Old Statistical Account of Scotland*.

The *Old Statistical Account* (1791-8) and the *New Statistical Account* (1834-45) are well-known sources for the Scottish historian, but though Highland data were used in M. Gray, *The Highland Economy, 1750-1850*, there seems to have been a reluctance to make use of the extensive agricultural statistics they contain. There are a number of possible reasons for this, not least that the extraction and analysis of parish statistics is a long and laborious task, without any definite promise that the fruits will be worth the trouble. Another probable explanation is that Sinclair, in his *General Report of the Agricultural State of Scotland* (1814), published livestock and crop statistics for Scotland that were no doubt assumed to be based on the parish reports in the *Old Account* as well as on the reports to the Board of Trade giving a "General View" of the agriculture of the various Scottish counties around 1800. Sinclair's estimates have been reproduced in later works on Scottish agrarian history. The purpose of this note is to show that some of his figures are misleading and to suggest a method by which they can be revised.

In Table I Sinclair's estimates of crop acreages and livestock numbers (c. 1810) are compared with the returns to the Highland and Agricultural Society for the years 1854 and 1855; data for 1868-9 are added as a check. The apparent decline in the tillage acreage over the period and the relatively high acreage of turnips in 1810 are unexpected and cast some doubt on the reliability of Sinclair's figures. A study of the county statistics available for these periods tends to confirm this suspicion. A number of the county reports to the Board of Trade already mentioned contained crop and livestock statistics, and in Tables II and III these are compared with the county data for 1855. While Sinclair's estimates for cattle and sheep are supported by the county data, his crop figures now look very unreliable. According to the county data, the acreage of turnips and sown grasses in 1855 was very much

TABLE I

LAND USE AND LIVESTOCK IN SCOTLAND, 1810, 1854-5, AND 1868-9
('000 acres or head)

	c. 1810	Average 1854-5	Average 1868-9
Wheat	140	180	130
Barley and Bere	280	215	225
Oats	1,260	933	1,015
Peas and Beans	118	43	25
Turnips	407	442	489
Potatoes	80	145	173
Flax	17	5	1
Fallow	219	24	55
Other crops	1	22	26
Unclassified Arable	—	238	—
Tillage	2,522	2,247	2,139
Rotation grass }	2,490	1,470	1,222
Permanent pasture }		1,277	1,065
Arable (excluding permanent pasture)		3,717	3,361
Total crops and grass	5,012	4,994	4,426
Agricultural Horses	243	183	187
Cattle	1,047	1,100	1,034
Sheep	2,851	5,906	7,054
Pigs	500	156	135

*Sources: J. Sinclair, General Report of the Agricultural State of Scotland, 1814, II, Addenda, p. 5.
Transactions of the Highland and Agricultural Society, New Series, 1855-7, pp. 207-9.
Agricultural Returns.*

higher than in 1810; this is more in line with what one expects, as the period is usually considered to be one in which the expansion of these two crops was a major feature of agrarian improvement. Further evidence would be very desirable, however, and the next step is to go back to the parish data in the *Old and New Accounts* and see whether these can help us to build up more accurate estimates of agrarian trends. There are about 1,000 parishes in Scotland and the extraction and aggregation of the relevant data for a large number of these areas can be carried out for c. 1792 (*Old Account*) and c. 1835 (*New Account*).

TABLE II

CROP ACREAGES IN SEVEN SCOTTISH COUNTIES, 1810-55
(*'000 acres*)

County	Wheat		Barley & Bere		Oats		Potatoes		Turnips		Sown Grasses	
	c. 1810	1855	c. 1810	1855	c. 1810	1855	c. 1810	1855	c. 1810	1855	c. 1810	1855
Kirkcudbright	2	2	3	2	25	34	4	3	2	15	6	69
Wigtown	1	7	3	2	19	35	3	4	2	15	4	62
Midlothian (a)	10	8	11	11	25	23	2	6	3	14	21	33
Fife (b)	10	27	20	26	30	44	6	17	5	29	12	66
Kincardine	1	2	10	8	23	30	6	16	6	16	29	37
Aberdeen	1	5	25	12	152	170	4	8	20	80	..	..
Caithness	—	—	8	2	37	18	1	1	1	7	1	18
Totals	25	51	80	63	311	354	26	55	39	176	73	285

(a) About 1795. (b) About 1800. .. Not available.

Sources: for 1810, the *General Views of the State of Agriculture* in the relevant counties.
for 1855, *Transactions of the Highland and Agricultural Society*, New Series, 1855-57, pp. 207-9.

TABLE III

LIVESTOCK NUMBERS IN EIGHT SCOTTISH COUNTIES, 1810-55
(*'000 head*)

County	Horses		Cattle		Sheep		Pigs	
	c. 1810	1855	c. 1810	1855	c. 1810	1855	c. 1810	1855
Kirkcudbright	4	5	39	41	130	293	6	7
Wigtown	3	5	32	37	53	89	5	6
Fife (a)	..	..	60	41	..	..	..	..
Kincardine	2	4	25	27	25	27	1	3
Aberdeen	..	..	139	141	..	..	..	..
Stirling	4	5	19	29	38	85	..	..
Berwick	6	5	21	18	108	240	..	..
Forfar	8	9	37	51	60	100	..	..
Totals	27	33	372	385	414	834	12	16

(a) About 1800. .. Not available.

Sources: as for Table II.

One of the purposes of this note is to suggest a simple method of linking the figures in the *Old* and *New Accounts* with the parish returns collected since 1866. Only parishes within the county of Dumfries are used, for the application of the methods to the whole of Scotland is a very big task, and our hope is that others interested may be willing to co-operate in covering Scotland as a whole once some of the results of using the method are known.

There are 43 parishes in the county of Dumfries, and reports contained in the *Old* and *New Accounts* varied very much in the agricultural data recorded. For a few parishes, no useful statistics at all were given; in others the material was sketchy or incomplete, but a sufficient number of reporters gave the acreages of crops and numbers of livestock in a form which enables a comparison to be made with the years after 1866 when official parish returns are available. There is no way at present of checking the accuracy of the individual figures given in the *Accounts*, but most of the parish writers took their task seriously and there was no reason for there to be a consistent bias upwards or downwards in their estimates.

The method used in compiling Table IV was as follows. Where a number of reporters in either of the two *Accounts* gave the parish acreages of any crop or numbers of livestock, these were summed and then compared with the total acreages or numbers in the same parishes in 1866, 1913, and 1955.¹ The crop or livestock total calculated for the 1790's was taken as the base (=100) and later years expressed as a percentage of that. The figures in the *Old* and *New Accounts* could rarely be compared directly (because the data on various items referred to different parishes in the two *Accounts*), but as a rule a comparison could be made using 1866 as the link. The changes between 1866, 1913, and 1955 suggested by the table do not correspond exactly to the changes shown by county totals, but the differences are rarely of any importance. The subscripts show the number of parishes on which each figure is based, and the more parishes covered the more reliable the figures are likely to be as a guide to county changes.

The table suggests a number of possible, but still highly speculative, generalizations about agricultural trends in Scotland which similar evidence from other parishes would help to substantiate or refute. Did the arable acreage double between 1792 and 1835? Did the tillage area increase by 50 per cent? Was the increase in livestock before 1866 (when tillage was rising) much slower than after 1866 (when tillage declined)? Is the present tillage acreage in Scotland approximately equal to that of 1792? These are some of

¹ The parish returns are not published but may be consulted in the Scottish Record Office or Department of Agriculture for Scotland.

the questions that the Dumfriesshire figures prompt. They may whet the appetite of other agrarian historians who are interested in such problems of general development.

TABLE IV
LAND USE AND LIVESTOCK IN DUMFRIESSHIRE, 1792-1955
(c. 1792=100)

	O.S.A. (c. 1792)	N.S.A. (c. 1835)	1866	1913	1955
Oats	100 (8)	127 (6)	117	109	84
Wheat and Barley	100 (9)	[127]	20	6	10
Tillage	100 (11)	150 (9)	147	124	100
Arable	100 (5)	200 (7)	230	236	240
Horses	100 (22)	..	100	103	26
Cattle	100 (23)	114 (11)	113	165	289
Sheep	100 (25)	116 (11)	134	206	190
Pigs	100 (8)	224 (8)	210	76	123
The figure in square brackets is a rough estimate based on the acreage of white crops. .. Not available. <i>Sources: Old Statistical Account, New Statistical Account, and Agricultural Returns.</i>					

Some Terms used in Agrarian History

A GLOSSARY

By R. A. BUTLIN

EDITORIAL INTRODUCTION

AGRARIAN history, like other branches of learning, not infrequently finds itself bedevilled in discussion and exposition by ambiguity in the terms employed. Either the terms themselves lack precision, or the writer uses them in a sense different from that commonly understood, and feels safe in doing so because there is no generally accepted standard. The glossary which follows has been drafted by Mr Butlin at my invitation, as a first step towards the adoption of an agreed terminology. It deals principally with the language of open-field husbandry, and therefore should be regarded as a first instalment, to be followed later perhaps by a glossary of terms used in modern farming. The definitions it offers are provisional; readers who disagree with them are invited to propound alternative definitions of their own. It is published in the hope that after discussion and revision it will find acceptance with writers in this REVIEW and contributors to the *Agrarian History of England and Wales* now in progress.

ED., A.H.R.

ACRE. See LAND MEASUREMENT.

AGISTMENT. The pasturing of one person's animals on another's land on payment of a due. In relation to common land, it signifies the letting to another of a commoner's right to pasture his stock (but not a right APPENDANT).

APPENDANT. See COMMON, Right of.

APPURTENANT. See COMMON, Right of.

ASSART. A piece of land, taken from waste or forest, cleared of trees, and converted into arable (from French verb *essarter*, to grub up).

BALK (BAULK). An unploughed piece of land in a common arable field, with various uses: as an access path, by which a tenant could reach his land (known as a FOOTBALK); a boundary between shotts, strips, and other units of arable; or merely places which are unsuitable for cultivation. Balks were often grazed by tethered animals.

BEASTGAIT. See STINT.

BOVATE. See LAND MEASUREMENT.

BUTT. A section in a common arable field which has been shortened by the irregular shape of the field, and is therefore shorter than the others in the shott.

CALMING. The reaping of stubble left in the arable field after the ears of corn have been reaped.

CATTLEGAIT. See STINT.

COMMON APPENDANT. A right of common given by law to the freeholders of a manor (those who held land granted as freehold arable by the lord of the manor before the Statute of Quia Emptores in 1290) to depasture their commonable animals on the waste of the manor. At a later date, the right was limited to those commonable animals which were "levant and couchant" on the tenement, i.e. those commonable animals which could be maintained throughout the winter on the land to which the right was appendant. After 1290, the right could be claimed by prescription only.

COMMON APPURTENANT. A right of common of pasture which depends on express grant by the owner of the soil or on prescription, and is attached to a particular holding. The right may be granted to a person who is not a customary tenant of the manor, e.g. a freeholder who is a tenant in fee simple, and may exist in respect of animals other than commonable animals, and in respect of land which was not part of the ancient arable land of the manor.

COMMON ARABLE. Arable land, contained in common fields, which became commonable after harvest.

COMMON FIELD. Land cultivated in common, including arable and meadow land.

COMMON-FIELD HUSBANDRY. See FIELD SYSTEMS.

COMMON IN GROSS. A right to have grazing and other rights in the waste irrespective of any ownership of land, for the right is annexed to a man's person, either by grant to him and his heirs by deed, or it may be claimed by prescription.

COMMON LAND. Land subject to common rights.

COMMON MEADOW. Land, cropped for hay, which reverted, once the hay had been lifted (usually at Lammas-tide), to the whole community; then commonable animals were pastured on it. The common meadow was often low-lying alluvial land, adjoining a stream or river. If the ownership of the individual portions was not fixed, the strips of meadow might be allotted by rotation or by lot. See DOLE MEADOW, LOT MEADOW.

COMMON OF ESTOVER. The common right, appurtenant or in gross, to take wood from the waste or woods of a manor. This right includes: *Plowbote*, the right to take wood to repair ploughs, carts, and farm implements; *Firebote*, the right to take tree loppings for fuel; *Hedgebote* (or *Heybote*), the right to take wood for the repair of fences and gates; *Housebote*, the right to take wood to repair a house.

COMMON OF PASTURE. The most

important of the rights of common. This includes Common Appendant, Common Appurtenant, Common in gross, Common pur cause de vicinage, and Common of Shack.

COMMON OF PISCARY. The right to fish in waters belonging to another person.

COMMON OF SHACK. The right of customary tenants and freeholders to pasture their commonable animals over the arable and meadow land of the manor between harvest and seed-time, or over the parts of the manor which were temporarily lying fallow.

COMMON OF TURBARY. The right to take peat or turf for fuel.

COMMON PASTURE. Land used exclusively for pasture by manorial tenants. The soil may be vested in the lord of the manor, or in undivided shares in the owners of the pasture right. Because the pasture could, in most instances, be grazed by a limited number of animals (see STINT), and often for only part of the year, the common pasture tended to be land of better quality than the common waste.

COMMON PUR CAUSE DE VICINAGE exists where there are adjoining wastes belonging to different manors, and tenants having a right of pasture over one of the wastes are allowed to pasture their animals on the waste of the other. The right is a permissive one, and overcomes the problem of excess litigation for trespass.

COMMON, RIGHT OF. A right of common is the right which one or more persons have to make use of, or take produce from, the land of another. In most instances the owner of the soil was the lord of the manor, who also enjoyed rights of common thereon.¹ The waste of the manor was vested in the lord in fee simple, but normally subject to customary common rights. In the arable and meadow the strips of the customary tenants were vested in fee simple of the lord of the manor, holding of the Crown, but these tenants had exclusive possession, subject to common rights. When the common arable and meadow were thrown open for pasturing of common-

¹ Some common lands are not in manors, e.g. the common lands of an ancient borough, or of a 'reputed manor'. See Royal Commission on Common Land, 1955-8, Report, Cmd 462, p. 170.

able animals, the ownership of the soil did not change, but the rights of pasture were common rights, because each tenant exercised rights over land other than his own. It is necessary to make the distinction between the rights of common, and sole or exclusive rights (see *SOLE VESTURE* and *SOLE PASTURE*).

Common rights evolved through "an increasing limitation of rights to more sharply defined classes of user. This limitation arose naturally from the pressure of a growing population upon a fixed supply of land throughout historic times. The degree of pressure, and hence the chronology of the limitation of common rights, varied according to local circumstances."¹

COMMON WASTE. This term includes a wide variety of classes of land, all of which were either uncultivated or uncultivable. They were used as permanent sources of grazing for livestock, as sources of fuel, and of material for repairs of houses and implements, and they also allowed the expansion of the arable area to take place, by enclosure and improvement.

COMMONABLE LAND. Land communally used for part of the year (arable, meadow, and sometimes common pasture) which, after harvest, was pastured by the commonable animals until seed-time.

COMMONABLE ANIMALS. Those animals which the holder of a right of common of pasture may lawfully turn out on common or commonable land. If the right is appendant, only horses, sheep, and cattle may normally be pastured; if appurtenant, or in gross, other animals (e.g. pigs and geese) may be pastured, according to local custom. It is important to note, however, that the legal distinction between these types of right of common of pasture did not always obtain in practice, and rights of common of pasture were given for pigs, sheep, and goats—animals which in many areas were non-commonable.

CROFT. A small piece of land, frequently

attached to a house, which was almost invariably enclosed. Crofts are occasionally located within common fields. See *TOFT* and *CROFT*.

DEMESNE. (i) A feudal term, as in the phrase 'in demesne as of fee', meaning a tenement not sub-enfeoffed, i.e. kept in the hands of the owner and descending to his lineal and collateral heirs.

(ii) **Agricultural demesne:** demesne land is the reserve which the lord of the manor cultivates through his own agents so that he may directly consume or sell the produce, as distinct from land held by his tenants. The demesne was frequently sub-let, and could be worked by labour services, by hired labour, or by slaves.

(iii) **ANCIENT DEMESNE.** Land which had formerly been royal demesne land, but which had subsequently been alienated to other landowners.²

(iv) **ROYAL DEMESNE.** Demesne land which belonged to the Crown.

ENCLOSURE. The process of delimiting land by means of a fence or boundary, thus removing it, either temporarily or permanently, from common use. Permanently enclosed land was not usually subject to common rights.

ENCLOSURE IN SEVERALTY. The division of common or commonable land among all persons legally interested, usually in proportion to the value of their respective interests.

ESTOVER. See *COMMON*, Right of.

FALLOW. A period of rest or recuperation during which the ground was ploughed and harrowed, but not sown.

FIELD SYSTEM. The term has hitherto been used to signify "the manner in which the inhabitants of a township subdivided and tilled their arable, meadow, and pasture land."³ The systems of husbandry based on the cultivation of common arable fields varied widely, both in regard to the rotation of crops over the arable area, and in regard to the type

¹ Royal Commission on Common Land, 1955-8, Report, Cmd 462, p. 150.

² For further discussion of the term, see R. S. Hoyt, *The Royal Demesne in English Constitutional History*, Ithaca, N.Y. 1950, and R. H. Hilton, *The Stoneleigh Leger Book*, Dugdale Society Publications, xxiv, 1960, pp. xxiv-xxviii.

³ H. L. Gray, *English Field Systems*, Harvard University Press, 1915, p. 3.

and length of fallow. Thus terms such as 'two-field system' and 'three-field system' seem to have little precise significance. Perhaps it would be better to replace 'field system' with the term COMMON-FIELD HUSBANDRY, i.e. a system of husbandry based on the cultivation of common arable and meadow. Alternatively the term 'field system' could be retained, but its meaning restricted to: a system of husbandry based on two or more common arable fields which served as a framework for cultivation, but within which there were wide variations in cropping and fallowing practice. This would reject the idea, apparently inherent in the use of the term 'field system', that husbandry based on two or three fields of arable followed a fairly rigid pattern.

FOLD-COURSE. An area of common field and heathland, in a township including manorial demesne and tenant land, pastured by the flocks of two or more manorial lords. The common fields, heathlands, and closes of the township were divided into separate areas, and each was allotted to a flock for grazing at certain times of the year. Each area grazed by a flock was a 'fold-course' (Lat. *foldagium*). These were common in the 'sheep-corn' region of East Anglia.

FURLONG. A measure of length, originally the length of a furrow in the common arable field, which varied widely in different areas. As a statutory measure of length, it is equal to one-eighth of a statute mile, or 220 yards. The term had other meanings, e.g. a block of selions in the common arable field, for which the term **SHOT** is here preferred (see below). **FURROW.** A narrow trench made in the earth with a plough. See also **RIDGE AND FURROW**.

GAIT. See **STINT**.

GROSS. See **COMMON**, Rights of.

HEADLAND. A piece of land in a ploughed field, left for convenience in turning the plough at the end of the furrows, or near the boundary of the field.

HIDE. See **LAND MEASUREMENT**.

HIGHBACK. See **RIDGE**.

INFIELD. A common arable field under

permanent cultivation, normally not sown with a winter crop but with a spring crop. Associated with **INFIELD-OUTFIELD SYSTEM**. **INFIELD-OUTFIELD SYSTEM.** A system of husbandry characterized by the division of the cultivated area into **INFIELD** and **OUTFIELD**.

INNAGE. The cultivation of part of the fallow area of the common fields for a crop. **INTAKE.** A piece of land enclosed from the waste, either temporarily or permanently, for the purpose of improvement.

INTER-COMMONING. The practice of pasturing the stock of two or more manors without hindrance on a contiguous common waste which had never been appropriated to a single manor.

LAMMAS LAND. A class of commonable land, normally meadow, communally held and managed for part of the year, but thrown open to commonable animals when harvest was over. The normal day for throwing open these lands was Lammas Day (1 August) and they remained open until Lady Day (25 March). Other dates were from Old Lammas Day (12 August) to Old Lady Day (6 April).

LAND (as ploughing term). See **SELION**.

LAND MEASUREMENT. Most of the units which were used for purposes of land measurement, in times when the science of exact areal measurement was unknown, have tenurial, fiscal, and agricultural connotations, and are, therefore, not simply land measures. Thus they can only be used to reflect land area in specific instances. "The hide, the carucate, and the sulung were evidently too elastic quantities to be regarded as measurements; but they keep all through their characteristic as shares, because whatever their arithmetical variations they are always equal as against each other within the limits of one and the same *tun* at one and the same time."¹

(i) **THE ACRE.**

(a) **CUSTOMARY ACRE.** The acre was originally closely associated with ploughing technique and not with exact areal measurement. An acre was, in theory, the amount of land which a plough-team could plough in a day. Soil

¹ P. Vinogradoff, *The Growth of the Manor*, 1904, p. 152.

type, the number of oxen in the team, and local custom produced great variations in the actual size of the acre from region to region, although in some instances a certain size of acre became 'customary' or normal in an area. The customary acre differs from the statutory acre.

(b) **STATUTORY ACRE.** Statutory values of the acre were enacted in England by Acts of 5 Ed. I, 31 Ed. II, 24 Hen. VIII, and fixed the acre as a piece of land 40 poles long by 4 poles broad, or its equivalent of any shape. By the Act of 6 Geo. IV, the acre was fixed as a standard or legal measure of land in Britain. The statute acre is an area of 4,840 square yards.

(ii) **THE HIDE.** In Domesday Book, the majority of hides were reckoned at four yardlands, though there were variations. The hide was not an exact area but a complex unit having agrarian, tenurial, and fiscal implications. Some historians equate it with Bede's "land of one family," meaning the extent of land which either actually supported one family and its dependants, or for fiscal purposes was deemed capable of doing so. The hide was regularly used as a unit of assessment for the imposition of taxes. If the fiscal and agrarian functions can be distinguished in any instance, they may be termed **FISCAL HIDE** and **FIELD HIDE** respectively.

(iii) **THE YARDLAND OR VIRGATE.** The yardland is not a unit of exact land measurement, but represents a tenement of varying size measured in customary acres, and including arable with appurtenant meadow and pasture. The yardland or virgate might be subdivided into **OX-GANGS** (half of a virgate) or **FERLINGS** (quarter-virgates), both terms being primarily fiscal and areally inexact. In areas of Danish influence, different nomenclature was used. Within the wapentake (hundred) the **CARUCATE** replaced the hide, and the **BOVATE** was the equivalent of the **OX-GANG**. In south-eastern England the **SULUNG** was the equivalent of the hide, and was sub-divided into four **YOKES**.

LEVANT AND COUCHANT. The mea-

sure of the right of common appendant, consisting originally of the number of commonable animals permitted on a tenement, but which later became the number of commonable animals which could be maintained throughout the winter on the land to which the right was appendant. The rule was occasionally applied to appurtenant right.

LOT MEADOW (or **Dole Meadow**). A meadow divided into strips, the individual occupation of which is changed annually by the drawing of lots, but which is open at certain times of the year for grazing in common to all the temporary occupants of the lots.

MEADOW. Land cropped for hay.

OPEN FIELD. A confusing term, hitherto generally used to signify common arable fields (which were not always 'open'). It seems to be an over-simplification, stressing simply the contrast with the enclosed fields. The term could well be discarded, and more precise terms, e.g. 'common arable field', 'common meadow', used.

OUTFIELD. An area of common land in a township practising the infield-outfield system, part of which was periodically cultivated by the tenants of the infield. The periodicity of cultivation varied widely, but intervals of four to seven years were common.

OX-GANG. See **LAND MEASUREMENT**.

RIDGE. A piece of land thrown up by ploughing action. Some ambiguity has arisen from the use of the term in the phrase 'ridge and furrow': ridges are not invariably steep or high-backed, and are often ploughed flat.¹ The term **HIGHBACK** could be adopted to describe the steep ridges of many common-field areas.

RIDGE AND FURROW. The name often given to the regular corrugations which are evident in the surface of many fields on the present-day landscape, and are most obvious in grass-covered fields. The 'ridges' are the raised pieces of land, and the 'furrows' are the depressions which separate them. They frequently exhibit a sinuous reversed-S form, and ridge crests are often equidistant. They have been equated by some with the **selions**

¹ H. A. Beecham, 'A Review of Balles as Strip Boundaries in the Open Fields', A.H.R. IV, 1956, p. 29.

and furrows of the common arable fields of earlier times. But ridging of land was a common practice until the nineteenth century in areas of heavy soils, for drainage purposes, and many of the straight 'ridges' and 'furrows' (of varying amplitude) are attributable to this practice.¹

ROTATION (OF CROPS). A change or succession of crops on a given piece of land. The number of units in a crop rotation does not necessarily correspond with the number of fields over which it operates.

SELION. The basic unit of ploughing in the common arable fields, the field being marked off into parallel widths called 'lands', of 22 yards or less. The Orwins describe the process of division of the arable field into these selions or 'lands'.² The term selion is here preferred, as 'land' has now acquired a large number of meanings. The term is synonymous with other local terms—'stitch', 'stetche', 'ridge', and 'rig'. Selions may take a variety of forms, some ridged (see **RIDGE AND FURROW**), some, on areas of dry soil, flat and separated not by furrows but by balks. The term 'strip' has occasionally been used synonymously with selion, but as there is doubt as to the equation of units of tenure with units of ploughing, 'strip' (see below) is here employed in a different sense.

SEVERALTY. Individual or unshared tenure of an estate or tenement. This term is used to denote individual tenure of land (usually enclosed) as opposed to tenure of land in common; the term can also be used to describe the exclusive occupation of strips of commonable land at those times of the year when common rights cease to be exercised over them.

SHEEP WALK. (a) A stretch of unfenced pasture for sheep. (b) A right vested in the lord of a manor to feed sheep on the lands of the manor, including tenant land, at certain times of the year.

SHOTT. A block of arable land, consisting

of several or many selions, all running in the same direction, and having at either end a headland on which the plough-team could turn. This term could serve as a standard term, in preference to various words which have been used in the same sense, e.g. 'fur-long', 'flatt', 'wong', etc.

SOLE PASTURE. The grant by the owner of the soil to another, of the exclusive right, in fee simple or in copyhold, to graze animals on the soil. Both sole vesture and sole pasture could be granted to several persons as tenants in common, and the land might then appear to be land subject to common of pasture. But these are not common rights because they are exclusive or sole rights.

SOLE VESTURE. The exclusive right, granted by the owner of the soil to another, to take the produce of the soil.

STINT. The number of animals which a holder of common right is entitled to put on to common land (usually common pasture). The stint is always for a specific number of beasts with an equivalent according to the type of stock and is normally proportionate to the size of the holding. Originally the stints were allocated only to copyhold tenements. Pastures which are stinted are known as **STINTED PASTURES**. The equivalent term in the North of England is 'gate' or 'gait'—hence 'cattlegait', 'pasturegait', etc.

STRIP. The unit of tenure in one place in the common fields (arable or meadow) held by one person.³

TENEMENT. The land held by a tenant in a community, i.e. his land in the common fields and the common rights attached to it. It includes his house and garden. In the courts, this term could be used of a very wide variety of holdings, especially 'free tenements'.

TOFT. This term is frequently found to be synonymous with Croft. See **TOFT AND CROFT**.

TOFT AND CROFT. These terms are used

¹ See M. W. Beresford, 'Ridge and Furrow and the Open Fields', *Econ. Hist. Rev.*, 2nd Ser., I, 1948; also E. Kerridge, 'Ridge and Furrow and Agrarian History', *Econ. Hist. Rev.*, 2nd Ser., IV, 1951.

² C. S. and C. S. Orwin, *The Open Fields*, Oxford, 1938, p. 33.

³ I am here adopting the use of the term suggested by Miss H. M. Clark, 'Selion Size and Soil Type', *A.H.R.* VIII, 1960, p. 91.

jointly to mean a homestead with an attached piece of land.

VIRGATE. See LAND MEASUREMENT.

WARREN. Land over which the lord of the manor had exclusive rights for the hunting of small game—rabbits, etc.

WASTE. See COMMON WASTE.

WATER MEADOW. An irrigated meadow.

The floated water meadow, "technically the crowning glory of English agriculture," was an important type of water meadow, found mainly in Chalk areas, and introduced early into Wiltshire early in the seventeenth century.¹

YARDLAND. See LAND MEASUREMENT.

¹ See E. Kerridge, 'Floating of Wiltshire water meadows', *Wiltshire Archaeological Magazine*, LV, pp. 105-18.

Livestock Remains from Four Medieval Sites in Yorkshire

By M. L. RYDER

THE purpose of this article is to summarize and compare the skeletal remains of livestock from some different medieval sites in Yorkshire. Two of these, Kirkstall Abbey and Pontefract Priory, are similar sites for comparison; the other two, York, a city, and Wharram Percy, a village, provide widely differing contrasts. In fact there were no striking differences between the sites in the animal remains found.

LOCATION OF THE BONE FINDS

Kirkstall Abbey, Leeds, was a Cistercian monastery which in the excavations of 1956-9 yielded bones from a large accumulation that probably began to form about the middle of the fifteenth century, and which may have been added to until the dissolution of the monastery in 1540.¹

Pontefract Priory was a Cluniac monastery, the exact site of which had been lost until the waste land beneath which the ruins lie was levelled in 1932. The present article covers the animal remains found from 1957 to 1959 in the annual excavations led by Mr C. V. Bellamy. The community at Pontefract was always a small one, and the bones, numbering about 300, came from all over the site, no accumulation as at Kirkstall having yet been found. A number of human bones were found among the animal remains indicating disturbance, and although there were monastic 'finds' in the superficial ('plus') level, no conclusions could be drawn from the bones in this level because it was likely that many of them were modern.

The bones of the York collection came from

an excavation in Petergate led by Mr L. P. Wenham in 1957 and 1958. These included more complete bones than found at Kirkstall and Pontefract, but they could be dated only as being between the eleventh and fourteenth centuries. Other finds were a concentration of horn cores that had been almost certainly associated with a horner's workshop, and two accumulations of shells. In addition, there were the remains of three horse skeletons of eleventh-twelfth-century date.

Wharram Percy was a medieval village on the Yorkshire Wolds six miles south of Malton, which became deserted about 1500. The bones discussed here, several thousand in number, came from the annual excavations of 1953-9 led by Mr J. G. Hurst. They came from all parts of the site, no particular accumulation having been found; the bones were on the whole fragmentary, but they were stratified to the thirteenth, fourteenth, and fifteenth centuries.

THE SPECIES FOUND

Most of the bones from all the sites were from the food animals: pig, ox, and sheep. Most bones from sheep cannot easily be distinguished from those of the goat, but the only certain finds from goat were a skull from Kirkstall and a few horn cores from the other sites, and it is likely that many more sheep than goats were kept. Therefore all the other bones that could have been from sheep or goats were assumed to be from sheep. There were a few horse bones from each site, and these were usually in groups indicating burial of the carcase. Bones from the domestic birds,

¹ The remains found up to 1957 were discussed by M. L. Ryder, *A.H.R.*, VII, 1959, pp. 1-5; those of 1958 and 1959 were described by the author in the annual excavation reports published by the Thoresby Society.

goose and fowl, were common on all sites except York. It is noteworthy that there were few remains of duck.

Red and fallow deer bones were found on all the sites, and roe deer remains on all sites except Pontefract. The monastic sites had more deer and wildfowl than the other sites. The only deer remains at York were antlers that are likely to have come from the horner's workshop, and not from food remains. Hardly any remains of wildfowl were found at York and Wharram.

Rabbit and hare bones were found on all sites except York. Other remains were dog, cat, black rat, mouse, and amphibian bones that could have come from either frogs or toads. All sites had fish bones, mainly of cod size, but some smaller bones that were probably from fresh-water fish. Finally, all sites had molluscan shells; oysters were the most common, even at Wharram Percy isolated on the wolds, and all sites except Kirkstall had edible land snails. However, the intention in this article is to discuss the remains from farm animals.

RELATIVE NUMBERS OF THE ANIMALS

It will be evident from the above that the wealthy monastic sites had the greatest variety of food remains, including more from wild animals and birds. The urban nature of York is reflected in the smaller variety of remains from wild animals, although it had the greatest variety of shell-fish.

Wharram Percy was the only site on which it was possible to make counts from different areas and at different levels. The different areas were the cellar of the manor house, some peasant houses from which the bones were stratified to the thirteenth, fourteenth, and fifteenth centuries, and House 10 stratified into seven levels from the late thirteenth century to the early sixteenth century, each level probably corresponding to the life of a house on the site. Counts showed no marked differences between the different areas, and no obvious trends with time.

¹ R. Trow-Smith, *A History of British Livestock Husbandry to 1700*, 1957, p. 221; A. Savine, *English Monasteries on the Eve of the Dissolution*, 1909, pp. 193-7.

From Table I it will be seen that only at Kirkstall was the proportion of ox bones as high as 90 per cent, with only 5 per cent sheep.

TABLE I
PERCENTAGE OF BONES FROM THE DIFFERENT SITES

	Ox	Sheep	Pig	Deer
Kirkstall	90	5	3	2
Pontefract	30	45	20	5
York	60	30	10	negligible
Wharram	30	60	8	2

York had 60 per cent ox and 30 per cent sheep; and whereas Pontefract, like Wharram, had 30 per cent ox, the relatively high proportion of pig bones (20 per cent) at Pontefract had probably reduced the ox percentage, and reduced the sheep proportion to 45 per cent. Nevertheless Wharram apparently had the greatest proportion of sheep bones.

Although it is true that the numbers of the bones from food animals indicate the number of animals eaten rather than the number kept, this high proportion of sheep bones found at Wharram is in keeping with the expected farming pattern of the area. It is possible that on a village site the animals were eaten in roughly the same proportions as those in which they were kept. A striking feature about Wharram was the relatively large proportion of horse bones compared with other sites. The proportions ranged from 2 per cent to 20 per cent in the different levels counted. The horse bones were omitted from Table I in order to make comparisons with the other sites. It is possible that the number of horse bones was artificially increased at Wharram because they came from complete skeletons. Even if this happened, Wharram would still seem to have had the most horses.

An explanation of the high proportion of ox bones at Kirkstall might be found in a comparison with Fountains Abbey. Mr Trow-Smith refers to Savine who stated that at the dissolution, Fountains Abbey had 2,356 horned cattle, but only 1,326 sheep.¹ It is

usual to keep more sheep than cattle, and Mr Trow-Smith thinks that Fountains Abbey must have been in a big way of business, as a breeder of beef and dairy cattle. Possibly Kirkstall Abbey, too, was in a similar position.

AGES AT WHICH THE ANIMALS HAD BEEN KILLED

Any bones lacking epiphyses (ends) indicate young animals. In addition, age is estimated more accurately from the stage of development of the dentition in complete jaws, and the degree of wear and the condition of the roots of individual teeth.

Most pigs on all the sites were killed at about the age of eighteen months. Hardly any remains were found from pigs older than this, but a few were found from young ones. Most cattle and sheep were at least two years old when killed, and cattle were killed at greater ages up to at least ten years. At Kirkstall and York few cattle and sheep were killed under two years of age, whereas at Pontefract and Wharram a fair proportion were killed under two years.

A detailed analysis of the age of killing of the remains in the House 10 area at Wharram was made for each level, but there did not appear to be any change in age of killing over the centuries. The mean percentage killed at each age over the whole period is shown in Table II. These findings apparently do not support Mr Trow-Smith's contention that sheep were kept to a relatively great age in order to obtain as many clips of wool from them as possible.

TABLE II
MEAN PERCENTAGES KILLED AT DIFFERENT AGES
(Wharram Percy House 10)

	Un- der 2	2 years	2 plus	5 years	5 plus	10 years
Sheep	30	35	39	12	3	—
Cattle	27	25	34	19	4	5

There was a wide range of age among the horses' teeth found at Wharram, from young to very old, presumably indicating that they had died a natural death. Some horse molars

were worn literally to the roots, and in one, wear had exposed the pulp cavity.

THE TYPE OF LIVESTOCK KEPT

On the whole most bones were from smaller animals than those of today, the bones being particularly more slender. The measurements it was possible to make are recorded in the original reports, and it seems that the animals at Wharram were smaller than those at other sites.

There were sufficient ox bones from Kirkstall for a study of the size of the animals to be made. The widths of the upper and lower end of the metapodial bones were measured and the results plotted in the form of a frequency diagram. There was a wide range in the measurements, but three peaks could be distinguished. The peak among the broad widths probably indicated bones from bulls, and that among the narrow widths probably indicated bones from bullocks, i.e. castrated males. One would expect more males than females to have been eaten, but the bullocks were probably not just beef cattle. The great age of some of the animals and the large size of many of the bones suggested draught oxen. Many of the ox ankle bones from Kirkstall were unusual in having wide lower ends, and a few like this were found at Wharram. It may be that the oxen had large feet.

Not a single ox horn core was found at Kirkstall, and I thought at first that the cattle must have been hornless. But when the accumulation of ox horn cores was found at York, it suggested the alternative that the horns had been removed and sent to a horner.

There were nearly two hundred cattle horn cores from York, most of which had moderately large portions of the skull remaining attached to them, but some had been sawn from the skull, and some had had their tip sawn off. They were of interest because of the lack of a complete horn core from any of the other sites. The cores were of short-horned type; most were of similar shape curving gradually upwards, a few curved sharply upwards, and some, after such curving, twisted at their tip to point in a posterior direction.

A few were flattened dorso-ventrally, and were more straight than the rest. These variations would seem to suggest breed differences, but the small number of cores involved tends to lessen the significance of the different shapes, and they might well be variations within a breed.

There were over a hundred cores sufficiently complete to be measured, and in these the length around the curve from the base to the tip, and the circumference at its broadest point near the base, were measured to the nearest centimetre. The circumference of each horn was of a similar value to the length. The lengths ranged from 9 to 22 cm. and a frequency diagram of the lengths had a skew distribution which indicated that most of the cores were short, 13 cm. being the most frequent length. A frequency diagram of the circumferences had a similar pattern. Thus unlike the foot bones at Kirkstall there was not more than one peak, and therefore nothing to suggest that the horn cores were from other than a homogeneous population. On the other hand, it is possible that two or more populations (e.g. males and females) were hidden in the distribution owing to overlapping measurements. However, it seems that the cattle were of a similar breed type showing no marked sex difference in horn size. It is possible that the range of measurements was associated with a range of ages; many of the smaller cores were from young animals.

Hardly anything is known about the appearance of medieval cattle. According to Mr Trow-Smith the famous northern short-horned stock which George Culley wrote about in 1786 originated, at least in part, from Dutch imports into Lincolnshire in the late sixteenth or early seventeenth century. The horn cores found at York apparently represent an even older short-horned stock. Some leather found among the bones was examined microscopically,¹ and well-preserved cattle hairs were revealed embedded in the leather. These had little pigment, and so could have come from a white or grey animal (or patch on an animal).

¹ M. L. Ryder in *Nature*, 182, 1958, pp. 781-3.

In contrast to the cattle horn cores, the *goat* horn cores from York had a marked sex difference in size. There were eleven from females ranging from 130 to 190 mm. in length and twelve from males ranging from 180 to 250 mm. in length.

The finding of both horned and hornless *sheep* skulls at Kirkstall provides support for the generally accepted belief that the Cistercians had long-woolled as well as short-woolled sheep. Whereas short-wools are likely to have horns, long-wools are extremely unlikely to have them.

There was no evidence of hornless sheep at Pontefract, and there was only one skull from a hornless sheep at Wharham. But hornless skulls readily break up into unidentifiable fragments, whereas if a horned skull breaks, the horn core usually remains intact. There were, however, few horn cores from either of these sites. There were equal numbers of finds from horned and polled sheep at York, and as hornless skulls are more likely to have broken, one might argue that here there were relatively fewer horned animals than at Kirkstall, where the horn finds predominated. On the other hand, this may merely represent the true situation, the hornless skulls having been better preserved at York. Most of the horn cores were similar in shape to those of modern sheep, but some at Wharham had a more shallow curve, suggesting the Soay type of sheep. Microscopic work on the wool fibres remaining embedded in medieval parchments has suggested that the Soay type of sheep persisted, along with other types, in England as well as Scotland in the Middle Ages.²

When three sizes of *pig* tusks were found at Kirkstall it was thought that the smallest, having a groove in their upper surface, were so different that they might be from wild pigs. Such teeth were later found in jaws from young animals and were thus shown to be characteristic of young, and not wild, pigs.

The remains of the three *horse* skeletons found at York were of interest because they were of eleventh-twelfth-century date. They were of pony size, and one had a well-pre-

² *Ibid.*, 187, 1960, pp. 130-2.

served skull, the dentition of which showed it to have been between five and seven years of age, i.e. just beginning its working life. Although the upper and lower canine teeth did not meet, both showed wear, suggesting that the animal had worn a bridle or bit.

The apparent high proportion of horse bones at Wharram is interesting, but what the horses were used for is not clear. It is thought that the predominant draught animal in the Middle Ages was the ox, and in any case these animals were of only pony size. They may have been pack or riding animals, and it is possible that Wharram may have been a breeding centre for such ponies. Mr Trow-Smith says that horses, and even whole stud farms, are mentioned in wills as early as the tenth century. But in order to substantiate this suggestion of Wharram as a breeding centre it will be necessary to make sure that other medieval villages do not have a similar high proportion of horse bones.

The *fowl* bones were on the whole little smaller than those of modern fowls, except at Wharram where most were of only bantam size. Some of the leg bones had spurs, suggesting that they had come from fighting cocks. There were two sizes of *goose* bones, which could indicate that wild as well as domestic geese were eaten.

ABNORMAL AND DISEASED BONES

An abnormality in the well-preserved *horse* skull from York was a small subsidiary tooth behind the lower left lateral incisor. This moved independently from the incisor, and was therefore not part of it. The same skull had a small circular area on the maxillary plate supporting the roof of the mouth in which the texture was porous and the surface uneven. This could have been associated with an inflammation of the mucous membrane of the mouth, and although it might have arisen from any ulcer, it could have been caused by an ulcer of a disease like glanders. This may be a clue to the cause of death.

There were a number of cases of arthritis and osteitis. The first and second phalanges from a *sheep's* foot found at Wharram had a

peri-osteitis (extra growth of bone on the surface). The first bone was badly affected over the whole of its length, but the second bone was only affected in the upper part, although the two bones were not fused together. In the original report it was thought that this condition could have been caused by foot-rot; it is now realized that it could have had a number of causes. A foot joint of a *horse* from Wharram was so badly affected that the first and second phalanges, the bones on either side of the joint, had become fused rigidly together. This condition is known as high ringbone, and is still common today, often causing lameness, but not usually preventing the horse from working; the cause is unknown. The first phalanx of an *ox* from Wharram had an articular surface showing erosion and new growth of bone around the edge. This suggested a severe septic process in the foot.

An ulna of a young *ox* from Wharram had an arthritis and osteitis of the elbow joint. The immaturity of this animal suggests that this condition might have been caused by joint-ill. The distal end of an *ox* metatarsal from Kirkstall had an osteitis around the edge of the articular surface. This arthritis may have affected the articular cartilage, but the underlying bone of the articular surface was unchanged.

Kirkstall also yielded the body of a vertebra, probably from an *ox*, which had a spondylitis in which new growth had resulted in bone extending over the intervertebral disk to produce a 'lipping' effect. At Wharram there was a vertebra from a sheep or a dog which had been deformed in such a way that the anterior end had a slant instead of being vertical. There was also a *pig's* lower jaw with the seventh (trilobed) molar erupting (surface unworn and roots only beginning to form) almost upside down in the jaw. It is thought that this could have turned over as a result of unusual pressures, e.g. from the angle of the jaw adjacent to it, possibly caused by shortness in the jaw, and that the tooth would probably eventually have acquired its normal orientation. A *pig* tusk was found at Kirkstall

with an unusual bend about 1 cm. from its root end. This suggested that an injury had affected the growth. In addition, there was an incrustation of bone around the part normally exposed in the mouth.

The most unusual abnormality found was some holes in portions of the skull remaining attached to the *cattle* horn cores from York; the cause of these is unknown. At least five of the skull parts had one to three of these holes in the parietal bone on the posterior aspect of the skull not far below the suture between the frontal and parietal bones. The holes penetrated the outer plate of the bone and entered the central cavity which is continuous with the cavity of the frontal bone and the horn core. The inner plate of the bone was not pierced. These holes had not been made after death, nor had they been caused by decay during burial.

Some of the skulls had holes which were in line with a smaller hole, 1 mm. or less in diameter, that was often at the base of a dimple, and was probably the opening for a blood vessel, but may have been an unnatural hole. Some of the holes were oval, being 1-2 mm. wide, and up to 8 mm. long; in this the bone at the edges was thin. The largest holes, apparently in the older skulls, were about 8 mm. across, being oval, triangular, or circular in shape, and one of these had a short branch which appeared as if the edge had been eaten away. These holes passed vertically through 2-3 mm. of bone, and although the edges were straight they were somewhat rounded, apparently by growth.

There are several possible explanations for the holes, not one of which is entirely satisfactory. It is inconceivable that they had been bored by a parasite, but the holes may have been man-made, i.e. bored while the animal was still alive in a primitive custom designed

to drain the sinus within the bone. One could interpret those with straight edges through thick bone as having been bored not long before death, which may have been the result of making the holes; these appeared to have had something in them preventing the edges of the bone from meeting; those through thin bone would be in the process of healing. This explanation is opposed by the fact that sometimes part of the edge of a hole was continuous with one of the septa between the inner and outer plates of the bone, thus suggesting that they had not been bored. I am indebted to Mr M. M. McKinnon, Lecturer in Preventive Medicine at the University of New England, for the suggestion that they may have been caused by an acute inflammatory condition, and that the holes were the result of increased vascularization. Oxen wearing a yoke might be predisposed to this type of condition.

Finally, one might mention several lower halves of sheep tibiae from Wharram which had a hole near the lower end. The holes did not usually go right through the bone, and it was not clear whether or not they were man-made. Bone implements have not been described in this article, but it is interesting to speculate on the possible use of these. Mr Megaw illustrates similar bones with one and more holes which were in fact whistles and pipes, the hole formed at the point at which the bone was broken in two being the blow-hole.¹ Could it be that these bones from Wharram represented attempts at making shepherd's whistles?

This article has shown the way in which medieval archaeology can help agricultural historians by throwing light on the livestock of the period, and I hope that it will stimulate the examination of animal remains from other sites.

¹ J. V. S. Megaw, 'Penny Whistles and Pre-history', *Antiquity*, xxxiv, 1960, pp. 6-13.

Letter to the Editor

SIR,—I read with interest Dr Ryder's letter on sheep treatment in Volume IX of the REVIEW. I can assure him that the practice he describes is far from extinct, and can possibly add a little to his observations.

This operation is in use by the great majority of the farmers who run fell flocks in the dales of Durham. I would estimate that 65 per cent of flocks are so treated regularly while those who use it occasionally must bring the numbers to over 75 per cent. It is used in the treatment of 'Double Scaup'. The hogs (lambs) are 'scauped', 'cracked', or 'knocked' as Dr Ryder indicates, on the frontal bone. Some farmers use a rounded pebble, some the butt of a penknife, but most use their knuckles. The bone cracks audibly if at all. In practice every sheep knocked by an experienced shepherd 'cracks'; this is a matter of 'eye'. An almost uncanny knack of predicting can be learned and although they are usually 'knocked' at dipping or some such time of gathering, it is very common to catch odd hogs that are not doing well and 'knock' them on the spot. I have seen this done and have noted the progress of the lamb in the next few weeks without change of pasture or any dosing.

I have heard members of the veterinary profession condemn the practice and deny that 'Double Scaup' was a disease in itself. It is often held that the thinness of the outer plate of the frontal bone is possibly symptomatic of other conditions which are causing unthriftiness, e.g. worm infestation. Many flockmasters hold a contrary view and regard the condition as a disease in its own right. I must admit that my own observation of the accuracy with which they can diagnose, or

possibly I should say predict, the condition, and the universal account of the benefits, incline me to think that there is at least a case for investigation.

I am dubious about the association with Sheep Nostril Fly (*Oestrus ovis*) attack. Not one of my informants has mentioned this pest in this connection; nor have I any indication that it has even been prevalent in this area. The increased secretion of hormones is an interesting suggestion. I have had several attempted explanations. Many say that it is done to break an air bubble which forms and stunts growth. More compare it to 'cutting' a cow for felon (this is the practice of making an incision, usually in the brisket, and inserting a leaf, either fresh or dried, of 'felon grass' (*Helleborus viridis*), securing with a stitch, and later removing the leaf and the consequent pus), thus supporting to some degree a theory of increased secretion of hormones or white blood corpuscles. By far the most of those who use the practice advance no explanation except that it is a matter of common knowledge and that it works.

It may be of interest to note that while it is almost invariably the hogs that are 'cracked', some shepherds will say that odd shearlings may need a 'crack', though this seems a rather controversial view.

I can add nothing to the tale of the distribution of the practice. As far as I know it is in current use throughout the northern Pennines.

Yours faithfully,

J. A. NEWRICK

*High Whitestones, Ireshopeburn,
Bishop Auckland, Co. Durham.*

Work in Progress

Compiled by JOAN THIRSK

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, local history societies, 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.

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Roman agriculture and settlement in Hampshire.
Ancient fields in Hampshire.

ALLISON, R., *71 Shirley Avenue, Sutton, Surrey.*
The changing landscape of S.W. Essex, 1600-1850.

ASKEW, G. P., *Wye College, near Ashford, Kent.*
Field evidence of medieval and later land reclamation and drainage of Romney marsh.

BAKER, A. R. H., *Department of Geography, University College, London.*
Fields and field systems in Kent in the sixteenth and seventeenth centuries.

BARLEY, M. W., *Department of Extra-mural Studies, Nottingham University.*
Rural housing.

BATHO, G. R., *Department of Education, Sheffield University.*
The management of Crown and lay estates in the period 1500-1640.
Estate maps and plans, 1590-1640.

BATLEY, Mrs L., *Department of Latin, Sheffield University.*
The manor of Tinsley in the seventeenth century (from the Wentworth-Woodhouse papers).

BEAVINGTON, F., *39 Snow Hill, Maulden, Bedford.*
A geographical study of market gardening in eastern and central Bedfordshire.

BELLERBY, J. R., *Agricultural Economics Research Institute, Parks Road, Oxford.*
Historical statistics of agriculture.

BEST, ROBIN H., *Department of Agricultural Economics, Wye College, near Ashford, Kent.*
A comparative analysis of changing land-use patterns in several technically advanced countries, including Britain and the United States.

BIRRELL, Miss J. R., *School of History, Birmingham University.*
Staffordshire and Derbyshire estates of the Duchy of Lancaster.

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Methods and problems of the distribution of food in Sheffield and area from the late eighteenth to the end of the nineteenth century.

BONHAM-CARTER, VICTOR, *Broomball, East Anstey, Tiverton, Devon.*
The future of the village.

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Rents, agricultural prices, and profits, 1450-1640.

BUCHANAN, R. H., *Department of Geography, The Queen's University of Belfast.*
The 1801 crop returns.
Population movements in Northern Ireland during the nineteenth century.

- BUTLIN, R. A., *Department of Geography, Liverpool University*.
The evolution of the agrarian landscape of Northumberland, 1500-1900.
- CAIRD, JAMES B., *Department of Geography, Glasgow University*.
Evolution of settlement in the Outer Hebrides and Glenshee (Perthshire).
- CAIRD, JAMES B., and MOISLEY, H. A., *Department of Geography, Glasgow University*.
Crofting survey: a survey of land use and population, by individual townships of selected areas—South Uist, Barra, Harris, Lewis, Waternish (Skye), Uig, North Lochs, and North Uist.
- CHAMBERS, Professor J. D. (ed.), *Department of Economic History, Nottingham University*.
Laxton, 1750-1950.
- CLARK, Miss H. M., *Department of English Local History, Leicester University*.
The Cambridgeshire yeoman in the sixteenth and seventeenth centuries.
- COLES, Mrs GLADYS M., *School of History, Liverpool University*.
The lordship of Middleham, especially in Yorkist and early Tudor times.
- COPPOCK, J. T., *Department of Geography, University College, London*.
The agricultural geography of the Chilterns, 1870-1951.
Changes in farm size in Buckinghamshire.
Agricultural change in England after 1870.
- COSSEY, F., 32 West Parade, Peterborough.
Farm workers' trade unions in the fenland area of South Lincolnshire, Hunts., the Isle of Ely, and the Soke of Peterborough, 1871-82.
- COTTEE, B. L., *Department of Agricultural Economics, Manchester University*.
Agricultural production in England and Wales, 1815-55.
- COUSENS, S. H., *Department of Geography, University College of Swansea*.
Post-famine Irish agriculture.
- DAVIES, Mrs C. S., *Durness, Robin Lane, Sutton, Macclesfield, Cheshire*.
Medieval records of Macclesfield.
- DODD, J. PHILLIP, *Hampton Loade, Alveley, Bridgnorth, Salop*.
Shropshire agriculture in the nineteenth century.
The 1854 crop returns.
Lancashire during the French Revolutionary wars.
- DOUCH, ROBERT, *Institute of Education, Southampton University*.
Some aspects of the history of agriculture in the Isle of Portland.
Bibliography of local history of Hampshire and the Isle of Wight.
- EMERY, FRANK, *School of Geography, Oxford*.
Regional farming in Wales, 1500-1640.
Agrarian change in Gower, 1500 onwards.
- EVANS, Professor E. ESTYN, *Department of Geography, The Queen's University, Belfast*.
Survival of primitive agricultural techniques.
- EVERITT, ALAN, *Department of English Local History, Leicester University*.
The marketing of agricultural produce, 1500-1640.
The agricultural labourer, 1500-1640.
Northampton: market and county town, 1500-1760.

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The limits of improved land and common pasture in North Derbyshire from medieval times.

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The peasant land market in Berkshire in the fourteenth and fifteenth centuries.

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The Worcestershire peasant in the later Middle Ages.

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The structure of rural society in the Anglo-Saxon period.

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Draining and improvement in Lancashire, 1800-50.

The nineteenth century.

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The estates of the de Veres, Earls of Oxford, 1360-1526.

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County administration in Yorkshire in the seventeenth century.

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Agriculture and settlement in N. Co. Antrim from the seventeenth to the nineteenth century.

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Development of settlement, population, and agriculture in the Wirksworth Hundred between 1086 and 1349.

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The classical tradition and West European farming.

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Innovation and traditionalism in rural Ireland.

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The mapping and interpretation of the lay subsidy return of 1334.

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History of Wensleydale, Yorkshire.

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Agricultural trade on the Trent, 17th-19th centuries.

Little empires on the Wreake, in settlement, expansion, and decay.

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English aristocracy and gentry in the seventeenth and eighteenth centuries.

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The agricultural geography of England and Wales in the 1830's.

Common land in the East Riding of Yorkshire.

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The estates of St Swithun's Priory, Winchester, 1066-c.1340.

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Studies in the historical geography of Kent.
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The rural economy of Oxfordshire, 1580-1730.
An economic, social, and cultural survey of two Berkshire parishes.
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The development of the hop-growing industry in Kent and its effects on the modern landscape.
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The British plough.
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The history of the Scottish farm worker.
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- HURST, J. G. (secretary of D.M.V.R.G.), *Lambeth Bridge House, S.E.1*.
Gazetteer of deserted villages in Northamptonshire and Oxfordshire.
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Agriculture and mining in Nidderdale, 500-1801.
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The historical geography of nineteenth-century Ireland.
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The evolution of high farming, 1815-65, with reference to Herefordshire.
Revised edition of T. H. Baker's *Seasons and Prices*.
Agriculture in the Wessex Chalklands, 1660-1960.
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See also under CAIRD, J. B.
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Land reform movements in nineteenth-century Britain.
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Commonlands.

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- THOMAS, DAVID, *Department of Geography, University College, London.*
Agriculture in Wales during the Napoleonic Wars.
- THOMAS, DAVID, *Bittons, Ipplepen, near Newton Abbot, Devon.*
Rural transport.
- THOMPSON, F. M. L., *Department of History, University College, London.*
Nineteenth-century English landed estates.
- THORPE, H., *Department of Geography, Birmingham University.*
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 in Warwickshire in particular.
- TITOW, J. Z., *Fitzwilliam House, Cambridge.*
The estates of the Bishops of Winchester in the thirteenth century.
- VOLLANS, Miss ELEANOR C., *Department of Geography, Bedford College, London.*
Agriculture and settlement in the Chilterns in the fourteenth century and later periods.
- VOSE, E. K., 30 *Avenue Road, Great Malvern, Worcs.*
The administration and economic development of the estates of Worcester priory.
- WEBB, A. N., *Lancashire County Record Office, Sessions House, Lancaster Road, Preston, Lancs.*
An edition of the cartulary of the Augustinian priory of Burscough, Lancs., containing charters c.1190-1399.
- WHITEHAND, J. W. R., *Department of Geography, Reading University.*
Settlement patterns in the Chilterns.
- WHITTINGTON, G., *Department of Geography, St Andrew's University.*
A survey of Berkshire commons.
- WITNEY, D., *Department of Economics, The Edinburgh and East of Scotland College of Agriculture, Edinburgh.*
The Scottish agricultural economy, 1850-1950.
- WOOD, P. D., *Department of Geography, Reading University.*
Strip lynchets.

Book Reviews

A Matter of Time. An archaeological survey of the river gravels of England, prepared by the Royal Commission on Historical Monuments (England). London: Her Majesty's Stationery Office, 1960. 64 pp., frontispiece and 12 plates, 10 maps. 10s. 6d.

This attractive volume is produced with a care for typography and layout and a wealth of fine photographs which make it a pleasure to handle. The horrific glossy red of the cover suits its striking depiction of enormous mechanical gravel diggers clawing great gashes across circular crop-marks which record a four-thousand-years older earth-moving project, and might move to interest and dismay even the casual bookstall browser. At the same time the contents will not only whet but satiate the appetite of the reader more deeply interested in the developing pattern of settlement of the English countryside, with an abundance of tabulation, grid references, bibliography, and clear discussion. The Commission are to be congratulated on combining journalistic enterprise and meticulous scholarship. And it is pleasant that they have departed from their traditional anonymity sufficiently to record that this survey "has been written mainly by H. C. Bowen and R. M. Butler, members of the Commission's staff."

The task of recording all traces of occupation on river gravels, which the Commission shouldered in 1956, was the product of a threat and an opportunity: the threat of total destruction of many of these traces by bigger and better diggers getting more gravel faster; and the opportunity for anticipatory record afforded by the fine oblique photographs taken in increasing numbers from 1942 onwards by Dr J. K. St Joseph, Curator in Aerial Photography in the University of Cambridge, filling out the isolated hints of earlier pioneers.

When O. G. S. Crawford and Cyril Fox began to show that pre-history, and particularly the early history of agricultural settlement,

had as much to do with maps as with museums, their distribution maps demonstrated that the earliest farmers, clearing the forests in the third millennium B.C., preferred the well-drained chalk and limestone uplands for cultivation, settlement, stock-raising, and, in the second millennium B.C., for the erection, against the open sky-line, of funerary and religious monuments along what were by then belts of relatively open country. But well-drained river gravels, particularly along the Thames, are also conspicuous on these maps of the distribution of early farming settlement. Recent air and ground surveys, excavations, and botanical studies have changed the emphasis and demonstrated that the gravel terraces of our rivers were even more important than the uplands to early settlers, though their importance has not been realized so soon because on the good agricultural land of the gravels millennia of later ploughing have levelled those barrows, henges, and enclosure boundaries which on the downs might have remained conspicuous to attract the attention of field archaeologists. But the evidence has not yet gone. The ditch elements of these structures remain detectable from the air as crop-marks.

The Commission's maps of crop-mark sites on gravels, and their analysis of these sites into cursuses (Neolithic), circles (Late Neolithic and Bronze Age), enclosures (Early Iron Age to Romano-British mainly), and pit-alignments (assigned by Bowen and Butler to the Dark Ages, though their maps show that these alignments are frequently integral to the Romano-British layout, and never ignore it), demonstrate the continued favour in which all early farmers held these terrace gravels of the Thames, Avon, Severn, Granta, Ouse, Nene, Welland, Soar, and Trent. Here we have the visual demonstration of the wide extent of those clearance activities which Posnansky has shown, by the Middle Bronze Age, to have produced along the middle Trent large grassy areas where

one could be a kilometre or more away from the mixed woodland of the hinterland, so that a little grain cultivation could be combined with sheep grazing on the grassland of the terraces, summer kine pasturage on the floodplain, pig-keeping along the woodland edge, hunting in the forest, and fishing and fowling along the river and meres. These maps show also that these same river terraces continued to attract all later settlers, not only because the rivers themselves were highways, but because they now led through belts of open country among the still dominant woodlands, corridors for trade and the movement of people and stock, offering well-drained sites for fields and settlements, and not requiring the hard work involved in clearing fresh woodland.

The Appendix listing settlement sites in the Ouse, Trent, and Welland valleys (less previously studied than the Thames) is particularly important for assessing the density of settlement along these terraces, and tracing any increase in this density. But before we can form even a preliminary assessment of the sort of figures involved it is essential to know which of these sites were contemporary with each other. The report recognizes the need for extensive ground survey to settle these problems, and very rightly emphasizes that it is *concentrations* of domestic debris, including datable pottery, which are diagnostic, not thin scatters. But the Appendix gives indications of date for only 19 of the 126 settlements it lists, so that it would appear that the Commission regards this record as an incentive to the amateur field archaeologist, rather than as a challenge to its own resources. I know from personal experience that it is possible for one field worker to survey in the necessary detail over one hundred settlements, nearly all larger and more complex than these on the gravels, in two winter seasons, and I would not therefore have thought it beyond the means of the Commission to act on its own pronouncement that "detailed surveying is *urgently* needed." It is tantalizing to be told (p. 53) that nearly all the sites listed in the Appendix have been examined on the ground

by Dr St Joseph, but to find only four datings attributed to him, all published previously. We want to know what was found, even if it was nothing.

Beside this important question of a policy for ground survey other criticisms are minor. This record obviously represents a great bulk of card index work, which has not always been digested and presented in tables and text in a form which is easy to use. Cross-references between the numerous tables and maps are lacking or inconsistent. Grid references are given for sites in the Appendix (Settlement Sites in the Ouse, Trent, and Welland valleys), in the lists of Pit-alignments and Cursuses, but not in the lists of Circles Excavated and of Enclosures Excavated, nor in the text and the Notes on the Plates. Sites are numbered on the maps, but the numbers are not always used in the text. For instance, Maxey 17 is, I deduce, referred to as "a complicated site north-west of Maxey church" on p. 14, "the enclosure at Maxey" on p. 28, and "a small group of overlapping rectangular enclosures" on p. 36, while its grid reference appears only in the Appendix, where a single point reference is given for the large and by no means unitary complex Maxey 17-21, with cross-references to plates but not text. (Of these Plate 6 shows a site 400 yards away to the west.) Nor are sites easily found by number on the maps. Numbers in Maxey parish run up to 111. I have still not found Maxey 54. It happens to be a settlement, and is therefore listed in the Appendix, with grid reference. But the published map is not gridded, so I still cannot find it unless I happen to own a gridded map of the area. Why not simply grid the maps and use grid references throughout? Why are we given detailed references to air photographs by source and number in the table of pit-alignments, but not those for enclosures, circles, and cursuses, nor in the Appendix and list of plates?

These are points of detail, but this is a detailed work, and if the detail is for use, not show, it must be consistent, and usable. May we hope for another edition, incorporating the 1959 photographs which were too late for

this edition, out in late 1960. And may the warm welcome this is receiving encourage the Commission to bring out more slim, cheap volumes on particular *topics*, rather than fat lavish volumes on *everything* in one small area. Field systems on the uplands would fill a fine companion volume.

S. J. HALLAM

R. H. HILTON (ed.), *The Stoneleigh Leger Book*. Dugdale Soc. Publications, XXIV, 1960. lxiv+294 pp. Issued to members. No price stated.

The Cistercians' search for wild and solitary sites concentrated the abbeys of that order where the terrain had deterred any substantial village colonization. The abbeys of the Pennine Dales point to the position of the margin of settlement three generations after Domesday Book, but the northern hills were not the only regions which had failed to attract intensive settlement. In the Midlands, less sodden and less unkind than the North, the Arden carried forest trees long after the oaks south of the Avon had been assarted for the Felden and its nucleated villages. Near the very edge of Arden the abbey of Combe was founded in 1150, and five years later the abbey of Stoneleigh was founded a few miles to the south-west.

Neither of these abbeys was in the utter wilderness; indeed, the Stoneleigh site was a third choice of monks who had found their first choice (Radmore on Cannock Chase) too wild. The Radmore monks had had occasion to visit one of their outlying granges at Radway near Edge Hill and to be entertained at Bordesley Abbey near Redditch *en route*. The kinder south Midlands seduced them: they exchanged lands with Henry II and were established in Arden at Cryfield, halfway between Kenilworth and Coventry, and three miles from Stoneleigh village and the Avon. The villagers of Cryfield were removed to Hurst, a mile further away, and 237 years later the site of Cryfield manor was remembered only as an earthwork: "prout fossatis includitur et est nunc locus nemorosus" (p. 24). The Cryfield site in turn proved unsuitable:

it was too near the main road through the woods from Coventry, and the monks' third and final resting-place was alongside the Avon on the edge of Echills Wood, *illum desertum*. Migrations of this kind (as Dr Donkin has recently shown) were quite common, and it is salutary to remember that there were twelfth-century sites too inhospitable even for the Cistercians.

The Cistercians were not the first colonists of the woodland near Stoneleigh nor the only religious house with lands in these woods: Kenilworth Priory had been founded a quarter of a century earlier, and when the Kenilworth cartulary (Harl. MS. 3,650) eventually finds its editor there will be a remarkably thorough documentation of this interesting agrarian frontier. Within Stoneleigh parish, in 1155, were already five nucleated villages and hamlets besides Stoneleigh village itself: at least 104 houses. From these centres the free and near-free tenantry continued to assart and extend the plough, acquiring not only new lands but also a considerable measure of tenurial freedom appropriate to New Men, adventurers, frontiersmen in their little way. In 1305 a section of the Leger Book identifies 113 taxpayers in these six places, Cryfield having been resettled when the monks' final move took place. Colonization was also carried forward from six other centres, the abbey's granges. The Leger Book provides considerable detail of these assarts, with field- and place-names that can sometimes be precisely located. For example, nine 'fields' and four meadows were won from Echills Wood alongside the abbey buildings.

In their gratitude for the agrarian data that arise from records of colonization, historians have usually greeted assarting with approval and given the impression that no one was averse to the *zeitgeist*. But after all, it was the chronicler of Pipewell Abbey who mourned the vanished oaks and the timber assets dissipated for ever, and here in the Leger Book we read in the biography of the fourteenth abbot of Stoneleigh (1278-92): "He brought the waste of Stoneleigh into cultivation contrary

to the wishes of almost all the important men of the whole countryside" (p. 253). After all, the Statute of Merton had admitted that there was no necessary harmony of interest when woods and wastes became fields.

Dr Hilton provides a long introductory essay dealing with the provenance of the Book, some tenurial questions, the process of assarting, and other evidences for the agriculture of this *bocage* region. A clear and sensible map illustrates a final section on the major and minor topography of the area. It was a complex of clearings and woodland, and a mixture of severalty and common arable. Some of the assarted land, especially near the Avon, went to augment the selions of the open fields; there are hundreds of references to selions with their acreages, the average being just under half an acre. In the more wooded north-west quarter of the parish the new land more frequently went into hedges and severalty. Near Canley was a large enclosed waste named *Kannoc* (an echo of the Radmore site, or a coincidence?). Nor was the parish all monastic solitude and peasant toil: since Stoneleigh village did not adjoin the abbey, the abbot was able to have a market and fair there from May 1284.

The situation in the late thirteenth century is illustrated not only from the narrative of the chronicle sections of the Book but also from material brought together in the Introduction by the editor from the unpublished Warwickshire Hundred Roll of 1280; the Introduction also discusses the tallage roll of 1305, and the perambulations and custumals which mingle with the charters and chronicle in the Leger Book; it is a pity that three similar Books for other Stoneleigh estates have disappeared.

Dr Levi Fox's Preface makes it clear that the provenance of this edition is almost as complex as the provenance of the manuscript. Dr Hilton inherited the text as prepared by three previous editors who had either died or passed to other things. The Latin text is set up in the large type and with generous margins appropriate to those pre-war Dugdale Society days. It is broken for the ordinary

member's ease of reading only by sporadic cross-headings in English, some of which (but not all) correspond to the original headings of the Leger Book. "More about the Abbey's liberties," runs one cross-head alluringly, although there is nothing at all of a heading in the Latin. Another heading which has a journalistic ring—"Problems of tallage and murder fine"—has no equivalent in the original. Sometimes the Latin headings are paraphrased, sometimes ignored, and once bowdlerized: "Introitus Willelmi bastard in Angliam" becomes "The Norman Invasion."

It may have been one of the editors-designate who invented the date 1249 for a writ of exemption from payment towards the expenses of the knights of the shire in parliament when it should have been 1455 (33 Henry VI, not Henry III), although it is accepted in Dr Hilton's Introduction (p. xi). A typewritten errata sheet was sent to this reviewer (and no doubt to Dugdale Society members) correcting this and other errors, but it had failed to note that 1249 still haunts p. xxvi; it also missed unimportant errors in f.n. 1, pp. xv and xviii. The reference in f.n. 2, p. xxix, should be to vol. 27, p. 115, and not 27-8, p. 113. These blemishes do not detract from a handsomely produced volume and a highly informative and suggestive editorial Introduction. May we hope that the Society will now ask Dr Hilton to give its members the cartularies of Combe and Kenilworth, neighbours and near contemporaries of Stoneleigh Abbey in Arden?

M. W. BERESFORD

Carte Nativorum, edited by C. N. L. Brooke and M. M. Postan for the Northamptonshire Record Society. Oxford University Press, 1960. lxxv+262 pp. 42s.

Students of medieval agrarian history have reason to be grateful to the editors of this volume, and the Northamptonshire Record Society, for making available a very remarkable fourteenth-century text. It consists almost entirely of deeds recording transfers of small portions of land between peasants on

manors of the abbey of Peterborough in Northamptonshire, Rutland, Leicestershire, and Lincolnshire. Most of these appear to be of late thirteenth-century date; but the cartulary also includes a number of twelfth-century charters which were copied from an earlier register. There can be little doubt that a careful analysis of this abundant material will produce interesting results, but the work will be arduous and no editors could be expected to regard it as part of their task. It will need caution too, for the interpretation of these documents is not always a simple matter. Only about a dozen, out of more than five hundred deeds, were clearly leases—mostly for one or two lives, but in a minority of cases for years (four, five, or ten). The great bulk of the documents were grants—often to a man and his wife *et heredibus suis*—with a rent reserved to the grantor; and they have every appearance of being grants in perpetuity: even those made to an individual without any mention of his heirs or assigns sometimes provide that two years' rent must be paid *pro relevio*, which, as Professor Brooke remarks, means that the next tenant will pay that in his first year (e.g. Nos. 127, 177, 186, 191); and the absence of this provision from many such deeds is no argument against their perpetuity, for it is often lacking in those which specifically include the grantee's heirs (e.g. Nos. 93, 222, 286). The rents were evidently, in many cases, mere 'recognition rents'; and though such rates as fourpence an acre and twopence an acre appear rather frequently, many of the figures provide a fresh warning against the danger of regarding medieval rents as indicators of economic conditions. For example, two half-acres in the fields of Longthorpe, which were the subject of two thirteenth-century grants, were charged respectively with a rent of a halfpenny and a rent of sixpence (Nos. 104, 105).

Almost all the deeds relate to very small areas, only a negligible number being concerned with more than two or three acres at the most; but some individuals were recipients of several grants and by these means accumulated a dozen acres or so, which for all

one can tell may have been additional to land they already held. What one would like to know—but must be very difficult, if not impossible, to ascertain—is the economic position of the grantors. Were many of the transferred plots bits severed from regular holdings of virgate type, perhaps under the stress of poverty? Or were the bulk of the transactions concerned with the tiny holdings of humble cottagers, or with assarts or other additions to the regular holdings of substantial peasants, such as those of which so many examples are to be found on the Glastonbury estates in 1189 and on those of St Paul's Cathedral in 1222? The researcher who endeavours to obtain an answer to these questions will find that the editors have provided him with very welcome help in the way of cross-references, peasant-pedigrees, and an index of names. Professor Postan, moreover, discusses many problems connected with the peasant land-market in an interesting and rather challenging introduction of some thirty pages. This is sometimes rather hard to follow—not least because on point after point he refers his readers (eight times in the text and twice in footnotes) to a subsequent treatment of them, without always making it clear whether the reference is to a later page in the Introduction or to a further publication to be expected from his pen. As regards his conclusions (if I understand him rightly) one can readily agree that the land-market which is conspicuous in the *Carte Nativorum* did not come into being so late as the documentary evidence for its activity. But there is surely ground for thinking that conditions favourable to its development became more prevalent as a result of 'assarting' in the twelfth century—a century which was perhaps in this country "l'âge des grands défrichements." And I think he is much too ready to minimize the factors which made for the maintenance of holdings of virgate or bovat type and to suggest that alienations and sublettings unrecorded in our sources impaired holdings of this kind to such an extent that "the picture of the medieval village as largely made up of virgates and semi-virgates will

have to be greatly modified, if not given up altogether." He makes no allowance for the great difference in economic alienability (in the way of disruption) between tiny cottage holdings, cultivated perhaps by spade labour, and those whose extent was related to the economic use of plough-beasts—nor indeed does he allow for transfers which took the form of a labour-saving exchange of strips. And (though this is a very minor point) it is rather misleading, when arguing from the Chalgrove court rolls which "are available from 1278 onwards," to say that "unfortunately the court rolls of Halesowen and Wakefield are too late to reveal the events of the thirteenth century," for in fact the Halesowen series starts in 1270 and the Wakefield series in 1274.

Professor Postan's contribution is preceded by a careful and detailed account of the manuscript, with a discussion of its relation to other Peterborough registers and an examination of the problem of dating its contents, from the pen of Professor Brooke. It is followed by four Additional Notes. The first of these is a critical account of surveys contained in the Black Book of Peterborough, the dating of which has a close bearing upon the dating of texts in the *Carte Nativorum*, because names often occur in both. But it is hard to see the relevance of the last of these notes in which the reader is invited—in the course of a little more than a page—to take a glance at the Italian *libellus*, the *precaria* of the Merovingian and Carolingian ages, the Polyptique of Irminon, the sense of the term *conductor* in a decree of the Council of Paris of 829, and various views expressed by Hartmann, Brunner, Inama-Sternegg, Caro, Dopsch, Von Below, Sée, Genicot, and Déléage!

Finally, one should note that, though it is the great mass of peasant land-transfers that gives its real importance to the *Carte Nativorum*, there is much of interest in the more miscellaneous documents which occupy some of the last folios of the text. A memorandum on the duties of a beadle (No. 558) deserves special mention.

REGINALD LENNARD

J. M. LAMBERT, J. N. JENNINGS, C. T. SMITH, CHARLES GREEN, and J. N. HUTCHINGS. *The Making of the Broads: A reconsideration of their origin in the light of new evidence*. Royal Geographical Society Research Series No. 3. John Murray, 1960. viii+154 pp., illus. 25s.

This book tells how the discovery was made that the Norfolk Broads are not natural features of the landscape, as has hitherto been supposed, but the flooded basins of peat excavations carried out during the Middle Ages.

The discovery was the outcome of a remarkable co-operative effort. It was the botanist (Dr J. M. Lambert) and the geologist (Mr J. N. Jennings) who first hit upon the true interpretation of the facts they had so painstakingly collected (over 2,000 borings were put down). They found that the edges of the Broads were composed of sheer 'cliffs' of peat, that the floors were flat, that baulks of solid peat still remained here and there (often under water) and in one or two places these stretched almost from one side to another. These and many other observations pointed to only one conclusion.

At this point the historian (Mr C. T. Smith) was called in. He found plenty of supporting evidence. Contemporary records proved that peat was being dug on a large scale during the thirteenth and fourteenth centuries, and on the basis of the rate of extraction during that period it was perfectly feasible for the Broads to have been excavated by hand. Moreover the historical evidence enabled the story to be taken a stage further. Mr Smith was able to show that from 1300 onwards the peat workings were becoming more profitable as fisheries than as turbaries and he suggests that the gradual flooding of the peat workings dates from about this time.

It was left to the archaeologist (Mr Charles Green) and the civil engineer (Mr J. N. Hutchinson) to establish the full significance of this flooding. From a study of the extensive excavations for the power station at South Denes, Yarmouth, they were able to show that the level of the land during the Middle Ages was some 13 feet higher than it is today. This

was the missing piece that had to be found to make the jigsaw fit together. It has long been known that the eastern parts of England are gradually subsiding, but at the present rate of subsidence the land level in the thirteenth century would have been only about $3\frac{1}{2}$ feet higher than it is today. The discovery that the rate of subsidence was greater during the Middle Ages than it is today is of vital significance not only for a proper interpretation of the nature of the Broads but for an understanding of the history of all the coastal districts of eastern England.

Those who are concerned to throw more light on the history of other coastal areas will be disappointed that Mr Green does not develop more fully the significance of his discoveries in relation to what he calls the "Upper Clay Marine Transgression." There are so many theories current about this earth movement (it is thought to have taken place in the second century A.D. and to have been a sudden catastrophic fall in land level) that reliable evidence of when and how it occurred would be invaluable. Perhaps Mr Green and his colleagues will now turn their attention to the solution of this problem.

BASIL E. CRACKNELL

F. H. FENTON (ed.) and W. MCB. MARCHAM (transl.), *Court Rolls of the Manor of Tottenham, 1510-31* [Manor of Tottenham Series, vi], Borough of Tottenham, Libraries and Museum, 1960. 290 pp. 42s.; *Court Rolls of the Manor of Tottenham, 1547-58* [Manor of Tottenham Series, viii], Borough of Tottenham, Libraries and Museum, 1959. 176 pp. 40s.

The Tottenham Borough Libraries and Museum have decided to make more readily available to the public a magnificent collection of court rolls, covering, with only a few gaps, the period 1318 to 1732, together with other manorial records relating to the manor of Tottenham. The two volumes under review consist of an English translation of some of the sixteenth-century rolls with a full index. Another volume, published previously, covered the years 2 Edw. II to 1 Ric. II, but

is at present out of print. It is to be hoped that this commendable enterprise will receive enough support to pay its way and reach completion. For here is a splendid opportunity to examine in detail changes in the composition of holdings and in the structure of society, in a district where the field system defied satisfactory explanation by H. L. Gray, where much enclosure had taken place by the sixteenth century (though, in Tottenham, common meadows evidently remained), and where London merchants, ever alert to snatch a good pennyworth, were conspicuous by the Tudor period.

These rolls prompt many reflections which deserve fuller investigation. What social tensions, for example, resulted from the obvious division of this community into two camps: the resident natives, on the one hand, faithful attenders at the court, without much interest in the buying and selling of land; and those restless, greedy birds of passage, the citizens of London, who bought bits of land here and there, rarely attended the court, and were frequently presented for allowing the ditches on their land to get choked with rubbish? What effect had the different methods of transferring customary land upon the composition of holdings? The custom of inheritance in the manor was Borough English, and a number of younger sons appear in court to take seisin of their fathers' holdings. But not all customary land was passed on in this way. Some was partitioned before death among sons, some was conveyed to seeming strangers, and some was bequeathed by will. By this last method again, holdings were divided among many individuals, without sign of protest from the manorial lord. The consequences of these different procedures for transferring customary land merit closer study, for some knowledge of their relative importance over three hundred years could add much to our understanding of resulting field patterns and farming usages. Finally, what can one learn from these rolls of the unspoken social assumptions which made the routine of manorial husbandry work so remarkably smoothly? Clearly, the rolls afford

the best approach to this difficult subject. Through the court, law and order in the daily round of life was maintained, and the villagers, at once more submissive to the discipline of the community than their modern counterparts and more unruly, were kept at peace with one another. Stung to anger, any one was liable to draw his dagger and spill blood. Yet people submitted obediently to their neighbours' sharp judgements upon disorderly behaviour. The man who housed a disreputable woman of evil conversation was peremptorily fined and ordered to send her packing. The women who gossiped maliciously about their neighbours were fined and ordered to hold their tongues in future. How serious, one wonders, was the provocation before the court took cognizance of such offences? And how much persuasion was necessary before Robert Combes and William Palley, quarrelling about some damage done to Combes's orchard, accepted the arbitration of the court and agreed "that the one shall take the other by the hand, and after, drink one to another, and be in charity." In a parish where land was much intermingled, even though it was enclosed, and people were brought constantly together in their daily work, where convivial meetings were numerous enough to warrant the existence of nine alehouses in the manor, the community was much more closely integrated than the modern village. We who are brought up in a more individualist society find all the consequences of this fact difficult to grasp. But the manorial court ensured that the task of keeping law and order was more of a personal responsibility than it is today, and this presumably made it easier to accept the discipline imposed by one's neighbours.

JOAN THIRSK

GEORGE H. GREEN (tutor), *Historical Account of the Ancient Kings Mills (Castle Donington, Leicestershire)*, W.E.A. History Group, Castle Donington, 1960. 64 pp. 4s.

This booklet represents the research of the Castle Donington W.E.A. group into the history of the watermills and the hamlet, Milne-

thorpe, which lie alongside the River Trent on the western edge of the parish. It traces the changing use of the mills, which ground corn, fulled cloth, made paper, and finally ground plaster, flint, and grist, discusses their military importance and the trade that passed through this small inland port. It includes a most attractive description of the river scenery at Kings Mills and the overhead chain bridge which crosses the path down to the river, which will make every one who finds himself on the Birmingham to Nottingham road pause to visit the place for himself. This pamphlet, which promises to be the first of a series on the parish, is well produced, well illustrated, and well written.

JOAN THIRSK

MILDRED CAMPBELL, *The English Yeoman under Elizabeth and the Early Stuarts*. Merlin Press (reprint), 1960. viii+456 pp. 42s.

Professor Campbell's well-known account of the English yeoman, first published in 1942 and now reprinted, is one of the latest of important works on social and economic history to become available again.

On a re-reading one is reminded again of the flexibility of the term yeoman—really a mark of status—and of the shadowy lines dividing the ranks of rural society. The "backbone of the English nation" comprised not only freeholders and copyholders but also the larger tenant-farmers; and the yeoman, although primarily concerned with agriculture, often engaged in various trades and crafts and apprenticed their sons to them. Their incomes ranged from £40 or £50 to several hundreds a year, so that there were great differences between the poorer and the "better sort" of yeomen. At the bottom they were scarcely distinguishable from the small tenants and husbandmen, and at the top they might command more wealth than the minor gentry with whom they often intermarried. There were no great barriers to social mobility, and owing to marriage and the entry of sons into the professions it was common for a yeoman to have a brother or son styled

gentleman. The yeomen, in fact, can only be defined as "a substantial rural middle class whose chief concern was with the land."

Although the author draws her examples from every corner of England, the regional differences between, say, the yeomen of Kent and those of the Midlands or the south-west, do not appear at all clearly. She is concerned to trace the characteristics of a whole social group, and as a consequence the more fine, but important, local distinctions are neglected. In the light of more recent writing on this period the picture, too, seems very much a static one. The impact of the price revolution and other great economic developments receive only casual mention. There is, however, plenty of evidence in her chapters that the yeomen seized the opportunities around them: they formed an advancing "group of ambitious, aggressive, small capitalists"—acquiring land, improving their conditions of tenure, developing more efficient husbandry, and enclosing.

The book really constitutes a readable and well-rounded social history, in which economic and technical changes are subsidiary to the delineation of social characteristics, community functions, and a way of life. There are, however, interesting brief accounts of methods of cultivation and even of that much-neglected subject, agricultural marketing. In its wide use of sources this book will ever be a model, and the bibliography remains immensely valuable.

G. E. MINGAY

M. W. BARLEY, *The English Farmhouse and Cottage*. Routledge and Kegan Paul, 1961. xxii+298 pp., illus. 55s.

This book is the most important study that has yet appeared on the English farmhouse and cottage. The fact that strikes the reader at once is that there are many plans and sections (75 of them) and not just the usual collection of glossy photographs. For the first time the country has been taken area by area, period by period, and representative plans and photographs are given for each, so that it is at last possible to begin to analyse the

regional variations of farmhouses and cottages from the sixteenth to the eighteenth centuries.

Mr Barley starts with a chapter in which he attempts to set the medieval stage as a background to later developments. It is this part which is weakest, for not only does it have little bearing on the main theme but there are many statements which cannot be accepted. Surely the first-floor hall being set on fire in the Bayeux tapestry can in no sense of the term be called a peasant house, and the view that the Saxons all lived in small pit huts has not been seriously held for some years. In fact, much of the discussion on various types of hall has little bearing on the theme. The types of medieval peasant house will be worked out from excavations on deserted medieval villages. Though it is only just now possible to begin to draw conclusions from these, it is already clear that they are in quite a different tradition.

Mr Barley, however, comes into his own in his excellent chapter on early Tudor homes, which sets the stage for his description, in Part II, of the great rebuilding which took place between 1580 and 1630. Probate inventories, and other documentary evidence, are skilfully blended with the description of surviving houses to show the great changes during Tudor times which produced an increase in the number of rooms from the usual two-three roomed house, an increase which was most marked in south-east England and was progressively less perceptible nearer to the highland zone. In Part III the pace of new building is shown to slacken during the second quarter of the seventeenth century. In this period the increase in the number of rooms is more a question of convenience than comfort, often taking the form of new service or store rooms.

In Part IV the second great building period, which followed the Restoration in 1660, is described. In Part V Mr Barley places the death of vernacular architecture in the early eighteenth century, when there is less rebuilding than at any time since 1550. This provides a useful endpoint for his most valuable and lucid survey, since the enclosures of

the second half of the century start a major new phase of individual farmhouse building, which makes an entirely different subject.

It is remarkable that there is no trace in the lowland zone, in Tudor times, of the long house which, as excavation is now beginning to show, was the typical house type over the whole country in medieval times. The evidence of aerial photography suggests that it was between about 1525 and 1550 that the farm as we know it today, with its living house and separate outbuildings for animals and storage, was developed. For example, at Wharham Percy in Yorkshire, which was deserted between 1510 and 1520, all the houses are cots or long houses, while at Towthorpe, only a mile away in the same parish, which was deserted at the end of the sixteenth century, most of the houses have outbuildings. It does seem, therefore, that at the time of the great rebuilding, or just before, a fundamental change took place in the lowland zone which led to the abandonment of the long house. In the highland zone, on the other hand, the long house survived, though it was adapted for greater comfort from the middle of the sixteenth century.

The agricultural historian would like to know the significance of all this from the economic point of view. Evidence is now rapidly accumulating both from the medieval and post-medieval periods which may make it possible during the next five or ten years to give the answer. The three-roomed house is now clearly shown to be typical for anyone of villein status in the medieval period. In by far the largest proportion of these buildings the animals were kept in the third room, though there is evidence that it was sometimes used for storage. It is quite clear that the long house is not confined to pastoral areas. Even in the highland zone this was shown by Mr E. M. Jope's discovery of a corn-drying kiln in a village of long houses at Great Beere, Devon. The presence of many hundreds of long houses on deserted village sites, which were primarily agricultural, confirms this fact.

It is such a joy to have a book with so many

plans that it is a pity they are not all reproduced at the same scale and that some have no scale at all. It is also unfortunate that although standardization in plans is called for, several different conventions have been used which will confuse the reader. Figure 17 purports to show a typical series of Dartmoor long houses but there is something wrong with each one. In A and C Mr Barley has followed Hansford Worth, but the drain at Colliehole has now unfortunately been covered up and people wishing to see the now fast diminishing examples of these would be disappointed by a visit. Plan C is not of Shilston as the shippen here is on the right, not on the left, of the cross passage. In plan B of Higher Tor (not just Tor) there is surely a cross-passage as a blocked-up doorway is clearly visible; it should therefore be stippled on the plan. Surely house D at Lower Tor was not built in 1707 but was originally a type C house which was converted into type D in the early eighteenth century. The caution of not dating a house by its datestone is not followed in this example. There is also a serious confusion here in the naming of this farm, for Plate XIXB is not named, but in the caption index it is called Higher Tor (Plan B) while in point of fact it is clearly Lower Tor (Plan D). There is also an inconsistency in the references to the Royal Commission on Historical Monuments. R.C.H.M. is clearly given in the list of abbreviations but on pages 8, 16, 115, 173, 238, and 248, H.M.C. is given, which will be bewildering to the uninitiated.

I hope however that these criticisms will not prevent people from buying and reading the book, which is excellently produced and illustrated, and is a credit to the publishers at a time when glossy books of photographs are still being produced with no plans at all. Until Mr Barley's book was published it was quite impossible to draw any conclusions about farmhouse and cottage plans without a considerable search for the scattered articles which have appeared in different periodicals. Here we have a pioneer work that will henceforth be a standard work of reference for students in this much neglected subject. Mr

Barley has shown the way, and it is to be hoped that it will be followed by further books on different regions, making greater use of archaeological information which has been so much ignored in the past.

J. G. HURST

MAUREEN WEINSTOCK, *More Dorset Studies*. Longmans (Dorchester) Ltd, n.d. ii+120 pp., maps. 8s. 6d.

More Dorset Studies, like the author's earlier *Studies in Dorset History* (1953), is a collection of essays on local topics. This time we have Weymouth and Melcombe Regis in Tudor and early Stuart times (three essays), Dorset fire relief in the seventeenth and eighteenth centuries, the Beaminster-Bridport turnpike, Simon Pretor of Sherborne (three essays), and parliamentary elections in the eighteenth and early nineteenth centuries in Weymouth and Melcombe Regis. Except for Pretor's activities as a late eighteenth-early nineteenth-century landlord, where details of rents, crops, tithes, and the cost of enclosure are given (pp. 94-100), there is hardly anything in the book directly relevant to agricultural history.

Historians of national affairs will sometimes find the essays, the first three in particular, a useful quarry. But Dorset readers will benefit more from them. Those who already know some local history will find fascinating new material here on subjects as diverse as fires at Beaminster and an eighteenth-century grocer's stock. Those who do not, have a detailed introduction, full of human touches, to aspects of their local social history.

Such essays, often written from a small number of documents and very readable, could well be imitated elsewhere. If they are, details of presentation will need to be more carefully considered: references in the text like E.179 and Inspeximus do not attract the general reader, and titles and footnotes need to be clearer, proofs more carefully checked, and the use of capital letters controlled. Most important of all, a Table of Contents, an index, and the date of publication (all lacking

from the present volume) must never be omitted.

ROBERT DOUCH

G. H. GARRAD, *A Survey of the Agriculture of Kent*. (County Agricultural Surveys, No. 1.) Royal Agric. Soc. of England, 35 Belgrave Square, S.W.1. 1954. iv+232 pp., illus. 25s.

R. H. B. JESSE, *A Survey of the Agriculture of Sussex*. (No. 2.) 1960. viii+140 pp. illus. 25s.

These two surveys are amplifications and continuations of the valuable Land Utilisation Survey carried out over twenty years ago. Both are written by men who spent forty years in the counties as agricultural organizers and saw the profound and swift revolution from the traditional horse to mechanical power, the changes brought about by two wars, and the immense development of scientific knowledge. They knew two worlds.

The foundation of the Kent survey is the authoritative division of the county into seven broad farming regions based on the geological formations. Five (mainly geographical) special areas, within the seven regions, are also selected for wise and simple treatment. The 4th of June 1950 Ministry of Agriculture returns for large 'samples' (mostly over 20,000 acres) of named representative parishes in each region or area are tabulated into (a) 22 crops by acreage with percentages, (b) 6 types of livestock by number and per 100 acres, (c) labour employed by numbers and per 100 acres. Each division has significant and lucid comment, geological and agricultural, by a man steeped in his subject. Insignificant areas (under 5 per cent of the agricultural land), such as the Gault and Upper Greensand, are briefly treated without tables, and exceptional areas are noted. The ordering of a complex position is most skilfully done, for Kent probably has more diverse farming than any county.

This excellent plan could be the model for all future surveys and indeed for a farming region plan covering Britain and applicable for at least the last four centuries. The success of the plan is due to the author's use of com-

prehensible and defined units, the farming region and the parish, to which facts past, present, and future can be accurately related. It provides the vital link with personal experience which transforms history into something more than meaningless fantasy. With such method the confused mass of information, frequently based on individual whim, becomes manageable and sensible. Valuable comparisons, and where no evidence survives, useful analogies are possible.

The rest of the book shows the same orderly thinking and the eye for significant detail; it has a full bibliography of 140 items, which are related by numbers to the text. The appendices are excellent and provide abundant tabulated and graphed information, as well as distribution maps, mainly, apart from hops, covering the twentieth century. There is a map of all parishes at 1 inch to 4 miles which, by using Mr Garrad's 136 representative parishes (covering 43 per cent of the agricultural land), could be coloured to show the broad farming regions.

Students of Kent agrarian history, particularly those with no practical experience, will find this book an essential tool, and if they are using farm inventories, a definitive selection of parishes. It is difficult to see how it could be improved, except by modifying an idea in the Sussex survey and including a description of a typical, not model, named, present-day farm in each region.

In the Sussex survey Mr Jesse had the disadvantage of knowing his own East Sussex intimately and West Sussex less well. Apart from the marshes peculiar to East Sussex and the coastal plain peculiar to West Sussex the county has the same broad farming regions and the administrative split of seventy years ago should have been ignored.

Mr Jesse's chapter-headings are superficially similar to those of Kent, but unhappily the balance and clarity are quite different. Kent gives 30 per cent of its pages to geological and agricultural comment on closely defined (by means of 'samples' of named parishes) farming regions and special areas; Sussex gives only 15 per cent to comment on "farm-

ing on the different geological formations," with no clear guide to the principal farming regions by named parishes. There is no bibliography, the author having relied "almost entirely on his own experience," and no appendices or parish map.

It is unfortunate that Mr Jesse did not follow the inspired lead given by the Kent survey six years earlier.

G. H. KENYON

H. T. WILLIAMS (ed.), *Principles for Agricultural Policy*. Oxford University Press, 1960. xiv+318 pp. 18s.

The declared purpose of this book is not to advocate a policy, which is the duty of government, but to suggest principles on which long-term policy might be based: such principles to be derived from a study of economic and social history, agricultural science and technique, nutrition, and military strategy. To this end, the book is divided into several Parts, of which the first—a historical review of the last hundred years—is of chief interest to readers of this journal. This in turn is subdivided into eight chapters, which set out soundly and lucidly, albeit briefly, the main trends and events.

Most of the material is well known to readers of agricultural history, but we are reminded of several facts and figures too often forgotten, and which need to be recalled today, when the future of home farming is once more at stake. In 1840 we produced almost all our own food; in 1940 barely 40 per cent. 1850–75 was the 'golden age' of agriculture, as it was of industry: a period of tremendous advance in technique and in the output and value of farms. Yet, despite this and the replacement of 300,000 workers by machines, farm wages hardly advanced at all. No wonder there were strikes and that the farmers got little sympathy from the workers in the really bad times that followed. The depression, beginning in the late 1870's, changed the general pattern from tillage to livestock, in particular to dairy cattle, which had become the sheet-anchor of British farming by the early 1900's. The position is the same today, but the per-

formance of the dairy cow is now far higher: likewise the production and quality of grass, where husbandry has undergone a real revolution. It was extraordinary how long Britain persisted with Free Trade, and this at the expense of soil and agriculture, the only real primary asset beside coal. Even the protective measures of the 1930's were piecemeal—subsidies for sugar beet and wheat; the marketing of milk, hops, potatoes, and bacon pigs; a few grants to aid better farm practice—all patchwork. Would anything radical have ever been done, one wonders, had it not been for the war? It was perhaps fortunate for farmers that war-time measures had to be continued into the peace, so that high productivity in agriculture could help meet the external balance of payments. It ensures a precedent of government assistance, which will be difficult to reverse, even now when a period of freer trade and food surpluses—at any rate in the West—seems to have returned.

The conclusions reached by the editor at the end of the first Part of the book are sound, though hardly striking. Perhaps they are too familiar? None the less they should be imprinted on the minds of the townsmen who govern us. They are that, in terms of history, farming has moved from a pattern of crops for human consumption to livestock and livestock products, a feat of remarkable adaptation in the face of years of neglect and—I would add—of the irresponsible exploitation of land; that farmers have shown a high degree of co-operation, are able to assimilate new knowledge and techniques quickly, and are willing to venture despite restricted resources; finally that the State must continue to intervene to iron out the price fluctuations of international trade, and by means of a reasonable expenditure of public money and advice to help maintain agriculture in efficiency and heart.

Those who read the first Part of this book will wish at any rate to glance at the remaining non-historical Parts, where they will find statements of similar caution and balance. In sum, the book renders a useful service in presenting a careful analysis of the relevant ma-

terial, and in summarizing the conclusions. It is therefore useful more as a reference book than as a guide to new thinking. The editor is no less to be congratulated on that account. He must have had a particularly difficult task. Quite apart from the complexity of the subject which he has had to clarify and condense, he has not overloaded the text with technical jargon, and has supplied some excellent tables and graphs. The result, for a specialist work, is comparatively easy reading. But that is not all. As Sir Frank Engledow explains in the Foreword, Mr Williams was called in at a late stage to absorb and refashion the research of an earlier investigator, and bring the book into line with the recent phenomenon of market plenty. He has my sympathy and felicitations.

VICTOR BONHAM-CARTER

Mechanization in Agriculture, ed. J. L. Meij.
North Holland Publishing Company,
1960. 380 pp. 55s.

This is a symposium with contributions by ten writers. Five are from this country, four from the Netherlands, and one from the U.S.A. They deal with agricultural mechanization from many angles: conditions in Europe, conditions in the U.S.A., capital requirements, the problems of management and marketing which mechanization raises, its place on the small farm, and the difference between mechanizing in agriculture and industry. There is also a chapter (Ch. I) which discusses the influence of economic conditions on the development of agricultural tools and machines in history. This is written by Professor Slicher van Bath of Wageningen. It is the only chapter which commends the book to an agricultural historian *qua* historian, for the other contributions necessarily pay little attention to history. But there is so much relevant material in van Bath's chapter that the book deserves attention by historians if only for this contribution.

There is a quite widely held idea that agriculture scarcely changed from time immemorial until the latter part of the nineteenth century. Consequently economic con-

ditions are often thought to have had little or no effect on the development of agricultural techniques. Professor van Bath's thesis is that economic forces, especially the fluctuations in the prices of corn, dairy produce, meat, and wool, have influenced both agricultural production in general and, more particularly in the present context, the development of agricultural tools. "More tools and machines are invented and applied in periods of high prices for farm produce than in periods of low prices;" and when the price ratio of corn to dairy produce is favourable to corn more developments are likely in arable implements, and *vice versa*. (This is an interesting commentary on the adage: "necessity is the mother of invention.")

Professor van Bath places more emphasis on the cyclical periods in agricultural expansion and contraction before industrialization than is usual amongst British agricultural historians, and the connection which he shows existed between these cycles and the development of farm tools and implements is particularly interesting. Thus, the expansion between 1050 and the end of the thirteenth century, "*l'âge des grands défrichements*," would not have been possible without the use of horses and the heavy wheeled plough with a mould-board. But the use of horses depended on the padded horse collar and shafts, both of which were first used at this time, and made it possible to displace the ox with the horse. Similarly, mould-boards were probably unknown before the eleventh century.

During the depression of the fourteenth century corn lost ground to stock farming, and the few improvements that were introduced into farm implements had to do with dairy equipment and with what would save labour, for throughout the period the ratio of wages to corn prices was high.

In the sixteenth century grain prices rose again and improvements were made in grain-growing implements. But although further inventions were made in the seventeenth century, the depression in farming, which extended almost to the middle of the eighteenth,

delayed their introduction into farming practice. Conditions changed again in the latter part of the eighteenth century, when industrialization, by providing an alternative outlet for labour, re-emphasized the need for labour-saving machinery, while the war and the growing population ensured prices for farm produce which made it possible for farmers to afford them. Moreover, with the improvements in transport and in the ways of disseminating information, the time-lag between invention and application was reduced.

By 1770 one European writer had stated that agriculture could not be improved further "with complicated instruments." Yet the growth of mechanization in the nineteenth century was so great that in 1855 complaints were made in Holland that "The poetry of agriculture is lost, it becomes a factory industry." Even in the New World similar laments were made, but in regions where machines could be employed, famines had become almost unknown for the first time in history.

It is unfortunate that printing mistakes throughout the book are so numerous. Although it is written in English, one suspects that English was not the proof-readers' mother tongue. At any rate, to see "Switzerland" with an initial "Z" looks decidedly un-English.

W. HARWOOD LONG

R. D. COLLISON BLACK, *Economic Thought and the Irish Question*. viii+300 pp. Cambridge University Press, 1960. 37s. 6d.

The Irish question of the nineteenth century had two aspects. The political one is well known and indeed has come to be considered something of a bore in this country. The economic and social aspect is less well known and deserves to be studied because of its considerable historical interest and importance in the general sense. The surging population growth before the Famine of 1846-7 and the unplanned reduction which followed at once spring to mind as an example. Again, without going into the question whether Ireland under the Union stood in a 'colonial' relation

to England, it is clear that Irish history provides early examples of the problem of under-development as we understand it today. In fact, the importance of a knowledge of Irish economic and social history might well be argued as a corollary to the necessity of studying the Industrial Revolution in Britain.

This book, although primarily written from the standpoint of the historian of economic thought, is an important contribution to Irish economic history. The point seems to be worth stressing, for there is a danger that the economist may grow impatient with the unfamiliar facts which to his mind clog the discussion of the relation between theory and policy, while the historian on the other hand may stumble over the tough abstractions which seem to him to hinder the narrative. Dr Black has drawn on an impressive array of sources, both manuscript and printed, in the preparation of this work. He has used the papers of the public figures of the day which are available in British and Irish archives, records of the Treasury, Home Office, and Colonial Office, and also had access to collections which have migrated across the Atlantic. To one who knows the material, his labours in the mass of blue-books relating to Irish problems are deserving of praise. In addition to all this, he had to deal with a vast pamphlet literature.

The spectacle of Irish poverty in the first half of the nineteenth century has always been depressing enough, and the picture presented in this book of the inability of those in charge of affairs and their advisers to grasp the problems involved or to provide any remedy makes it worse. Dr Black does not go in much for judgement, but he implies that security of tenure and self-government might have produced better results. Certainly the land system was at the root of the trouble, but in a self-governing Ireland it is hard to see how the problem could have been solved by other than revolutionary means. Security of tenure, too, would have been likely to aggravate rather than cure the population problem in the short run, at least before the Famine. It is

always well to remember that Ireland was created poor and long held down in poverty, and that it will be no easy task for her people to achieve a modest prosperity.

E. R. R. GREEN

A. N. DUCKHAM, *The Fabric of Farming*. Chatto and Windus, 1958. 224 pp., illus. 15s.

This is a day when few can see the whole technological wood for the flourishing trees, no less in agriculture than in any other scientifically based industry. Therefore any man who attempts to present a picture of the wood, as well as of its constituent timbers, earns our gratitude for the attempt. Professor Duckham has used a different metaphor, that of the whole cloth and its warp and woof and thread colours, to hang his text upon, whereof the subject is the integration of all the elements of farming, in its four dimensions, into the national agricultural industry.

This needs to be attempted periodically. I have tried to recall the last man who succeeded in the synthesis: and I think it was probably Caird, one hundred and ten years ago (although everyone will have his pet candidate for the honour). I do not think that Duckham has succeeded, although his is a most meritorious near-miss.

What is it that he has tried to do? To show how man harnesses the forces of nature to his agricultural purposes; to show how, in the historical development of farming, the "natural food cycle" becomes increasingly artificial; to pursue this theme biogeographically; and to extrapolate into the future the picture so built up. That aim is admirable; more, vital. In pursuing it, Duckham seems to me to have lingered too long over the perfections of the techniques of individual trees to leave himself the time, or his readers the patience, to seize the significance of the technological wood. He moves from the delightful chapter-heading texts:

"The town was Anson City, old Jones's county seat,
Where they raised Polled Angus cattle,
and waving whiskered wheat,"

to such stultifying textbookese as "the vitamin B complex and vitamin C are associated with cellular respiration," and back again to such startlingly novel truths as "even though he may not fully understand what he is doing, man has discovered and daily uses ways and means of raising the biological efficiency of the soil."

That, I think, is the fault. Duckham runs us up and down the stairs, between the starlit roof and the fungi in the cellar, too fast and too often, so that we (and he?) are breathless and uncomprehending.

But the idea of this book, and some part of its execution, are so good that Professor Duckham should pursue it in "the series of books that he is writing" (*vide* the blurb). He is one of the very few men today with the imagination, the breadth of knowledge, and the mental catholicism that are needed for the task. This may seem an impertinent comment for an agricultural journalist to make to the Professor of Agriculture in the University of Reading. But it is precisely for the likes of me that the likes of him write this sort of book.

R. TROW-SMITH

A. R. STEDMAN, *Marlborough and the Upper Kennet Country*. Butler & Tanner Ltd, 1960. x+398 pp., illustrated. 42s.

Mr Stedman has amply succeeded in his aim of superseding Waylen's century-old history of Marlborough, and has provided a rich vein for the local reader to quarry. The proliferation of names and dates of solely local significance may, on the other hand, make some passages tedious for the general reader and must have contributed to the mistakes noted on the two *errata* sheets which come with the book. One slip which has still escaped notice is the indexing of William Cobbett as Richard. It is good to learn that a fully referenced copy of this very detailed work will be deposited in the library of the Wiltshire Archaeological Society.

The book is at its best on the intricate and well-documented educational history of the town, with which Mr Stedman dealt in his

earlier history of Marlborough Grammar School. The remainder of the work leans heavily on administrative, political, and religious history, and agricultural and rural matters are passed over rather more lightly than might be anticipated in a regional study. There is little sign that the author has looked hard at the landscape of his district, other than at major architectural features, or read much of the last decade's refreshingly down-to-earth Local History. The map of the loosely defined Marlborough and upper Kennet district is inelegant: must reviewers continue to beg for stencils to be used?

There are some inaccuracies. The site of Aldbourne Chase (p. 4), contrary to the author's claim, is still distinguishable from the ploughland by a thin scatter of scrub oaks. Water meadows (p. 5) can be, and not so far away are, ditched by mechanical digger. The mention of floated meadows at Great Bedwyn in the middle ages (p. 90) reads like an anachronism, although it would be surprising if flooding were not in some way controlled during at least the thirteenth century, and Mr J. E. G. Sutton has found a reference in the *Cartulary of Ramsey Abbey* (I, p. 332) to meadows called Dammede and more significantly Flotgates at Houghton, Hunts., in 1252, which moreover could be mown every year whereas most others could be mown only every second year. It is difficult to believe (p. 241) that the supply of straw in the chalklands really proved inadequate for the straw-plaiting industry of Aldbourne and elsewhere in the nineteenth century, and (p. 261) it would be interesting to learn what mechanical improvements in farming Mr Stedman believes were initiated by the parliamentary enclosures of the eighteenth century.

E. L. JONES

ELIZABETH CRITTALL (ed.), *A History of Wiltshire*. Vol. IV. Oxford University Press, 1959. xx+486 pp., illustrated. £7 7s.

After six pages of introductory synthesis by Dr W. G. Hoskins, this volume settles down to treat *in extenso* of agriculture, the woollen and textile industries, engineering and rail-

way works, other industries, roads, canals, railways, sport, spas and mineral springs, freemasonry, and royal forests. Professor M. W. Beresford contributes very full analyses of the quotas for the subsidies of 1334, 1377, and 1428; and there are tables of population from 1801 to 1951.

Agriculture is handled chronologically by four writers: the medieval period by Richenda Scott, 1500-1793 by E. Kerridge, 1793-1870 by R. Molland, 1870 onwards by F. M. L. Thompson. It would have been hardly possible to find a better qualified team, regarded individually, but the team-work as such might in some respects have benefited from a stricter co-ordination. For example, Dr Kerridge begins the second article with an analysis of the six farming regions comprehended in sixteenth-century Wiltshire. It is unlikely that these divisions appeared suddenly in 1500, but there is no hint of regional characteristics in the earlier chapter.

For a volume of this size, containing such a wealth of detailed scholarship, and handsomely illustrated, the price of seven guineas cannot be called unreasonable. Many students of particular subjects will however regret that the present publishers have not seen fit to revive the practice of V. C. H. in earlier days, which made it possible for some of the main articles to be purchased separately in paper covers. To say nothing of the articles on agriculture, there would surely be a wide sale for Professor Carus-Wilson on the woollen industry before 1550 and Miss Mann on textile industries since that date: two outstanding contributions in an altogether admirable volume.

H. P. R. FINBERG

CLARK C. SPENCE, *God Speed the Plow: the coming of steam cultivation to Great Britain*.

University of Illinois Press, Urbana, 1960.

184 pp. illus. \$4.75.

"Give me a steam engine on a frosty morning with fat dripping off the cylinder and sizzling down the side of the boiler. Why, it smells like bacon and eggs," a one-time steam ploughman is reported to have said recently.

It illustrates well the romantic aura which bedevilled steam ploughing during the comparatively short time that it served British agriculture. The men who worked the engines loved them with tender care; the farmers who used them spoke enthusiastically, almost rapturously, of their work, and the inventors and manufacturers approached their task with fanatical zeal. Yet it is a curious fact that steam cultivation first became of consequence in the 1850's and had declined to comparative unimportance by World War I, though it is true that there are still a handful of sets working today.

Professor Spence in his book, which won the American Agricultural History Society Award for 1959, has dealt faithfully and rationally with the subject. He has resisted the substantial temptation to be carried away by what more than one writer has termed "the halcyon days of steam," and he is left unmoved by the sizzling of the fat on the cylinder. It is the first serious study of the subject to appear and he deserves congratulations on a well-written and important book. His technical material is particularly complete and gives a very clear picture of the development of steam cultivating equipment from the early pioneer days until the end of the nineteenth century. He dispels the common belief that John Fowler invented it, discusses the importance of direct cultivation and its decline, and explains the many cable systems that found vogue until we are fully familiar with such standard steam terminology as "double engine, roundabout and headland opposite." From a painstaking search of journals and the press he gives very satisfactory résumés of the many controversies which raged about types of tackle, their effect on the soil, and the costs of the various systems.

It would, though, have been of interest to know more about the way in which these enormous machines were moved about the country. Those who have worked with steam ploughs know that, even today, it is necessary to give the railways advance notice before driving the engines over a level crossing, and

there must have been few roads capable of taking monsters weighing up to twenty tons without damage. How, for example, was John Heathcote's famous engine of 1836 moved from Bolton-le-Moors in Lancashire to Lochar Moss near Dumfries, into which it finally sank and remained, "bound to the soil by some sort of mortgage"?

The main question which Professor Spence, though he discusses it, never answers convincingly is why steam ploughing was in effect such a failure. Immense sums were spent for comparatively small results. Few technical introductions have ever been accompanied by such high hopes. Even if it is admitted that steam cultivation was most suited to the heavy lands of the country and that it really only suited large farms with large fields, its success was strictly limited. One small firm, Darby's, were estimated to have spent £100,000 in producing thirty machines between 1877 and 1898 and to have lost £8,000 in the process. The sum spent on development by all the firms concerned was huge. Farmers rarely found the reduction in costs as great as anticipated, and in addition the repair, maintenance, and labour costs were often very high. The number of farm horses (in England and Wales) which the experts firmly expected to drop sharply actually rose by over 130,000 during the 'steam age'. The author concludes his very useful chapter on the economics of steam cultivation with an apt quotation by the President of the Royal Agricultural Society in 1867 who described it as "a success which a small amount of ignorance and inattention would convert into a failure." To blame the decline of steam, as Professor Spence does, entirely on the introduction of the internal combustion engine is to fail to take the real failure of steam into account and to ignore the fact that the tractor was of little importance in agriculture in this country even after

World War I, by which time the use of steam had declined.

The author's conceptions of nineteenth-century economic history are at times curious. He writes, apparently without qualms, of "nearly two decades of unmitigated depression and misery for the farming industry" following the Napoleonic Wars, and having averred on page 4 that "steam on the farm came into its own amidst the golden prosperity of the 1850's and 1860's" he enters into an almost flat contradiction of the "Golden Age" theory by explaining in a footnote on page 63 that "the hard times of the 1860's, the difficult winters and dry summers" contributed to the downfall of J. J. Mechi. On page 105, when he invokes Lord Ernle's overworked quotation about a hundred farmers plodding along the Elizabethan road, he ignores the fact that he is applying to the mid-sixties a remark made specifically about 1837.

To be further critical, there are a number of irritating and avoidable errors of a minor sort. For example, the Royal Agricultural Society's steam trials in 1862 were held at Farningham not Farington (p. 38). On p. 44 (footnote 36) the date of the introduction of the Ivel agricultural motor is given as 1904 instead of 1902, and on p. 124 (footnote 67) Chichester is referred to as Chinchester.

The book is lavishly and spaciouly presented with good illustrations, but the typographer has conceived the irritating notion of placing the pagination half way down the outside margin so that there is a good chance of its being hidden under the thumb of any normal reader. These faults apart, it is a valuable contribution to the still slender technical history of nineteenth-century farming and will provide an important source book for the subject. Not the least of its virtues may be to teach us the advantages of spelling 'plough' more succinctly.

J. W. Y. HIGGS

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