

Book Reviews

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

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not rival Ernle's *English Farming Past and Present*, but in every other respect Ernle can now be regarded as at last superseded as the standard account covering this period, to linger on only in the hands of those External students who are so unfortunate as not to receive the news of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

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

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that there is a great need for such a general statement as this book gives, and that it may conceivably be rendered out of date in the long run is no argument against making the attempt.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

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

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

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

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

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

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

F. M. L. THOMPSON

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

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

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

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

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

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

HUGH PRINCE

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

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

When an eminent scientist, successful in

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GEORGE ORDISH

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

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

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

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

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

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

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

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

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

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

D. J. DAVIS

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

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

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

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

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

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

G. E. FUSSELL

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

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

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

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

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

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

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

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

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

IRENE M. SPRY

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

Merlin Press, 1965. 248 pp. 35s.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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