REVIEWS

Agriculture and Urban Growth. By G. P. Wibberley. (London : Michael Joseph Ltd., 1959.) 240 pp., 21/- stg.

At first sight the subject of this book—the problems of rational choice involved in the conflict between food production and urban expansion for the use of rural land in the United Kingdom—may not appear to be a topic of interest to the inhabitants of a continent, comparable in area to the United States, whose major desire is to expand their population and economic development as rapidly as possible. But for Australians to dismiss this book with no more than a cursory glance would not only be shortsighted, it would also deprive them of an enjoyable experience in the presentation of a complex subject.

The disparity in the rate of growth in material standards of living between urban and rural populations which is so persistent a feature of industrialization has always been of interest to agricultural economists, viz. T. W. Schultz, D. G. Johnson and Bellerby. The promise of a rise in real income has stimulated a steady flow of people from rural areas into towns and cities whose rapid expansion immediately intensifies local competition for land between food producers and urban and industrial development. This is as true in Australia as in the more highly developed industrial nations, but with its long history, large population and limited land area this economic struggle for land may be seen at its greatest intensity in Britain. In a country where agricultural interests are strongly entrenched, considerable confusion and emotional controversy is generated whenever the impact of urban development on rural conditions and national food supplies is discussed. If there is to be free competition for land between agriculture and urban growth then agriculture, paying the lower price, will always have to take what remains. If price is not to be the sole arbiter of the use to which land is put then a nation is confronted with the problem of effectively planning its land use.

Dr. Wibberley's *cri de coeur* is that British rural and urban land-use policies do not make economic sense, and present methods of arbitration between competing claims for rural land lack both system and a quantitative method of comparison between the economic and social costs and benefits to the nation of locating urban development on alternative sites in agricultural use. In pointing out the defects of the present system, the author presents a detailed and well documented analysis of the problems involved in the measurement and recording of changing patterns of national land-use, which is shown to be a major task worthy of a specialist department of Government, A means of assessing the national value of alternative agricultural sites in relation to differences in the cost of their appropriation for urban development through the application of cost-benefit budgets is demonstrated both in theoretical terms and by reference to actual examples. Finally the author's major contribution is a review of the possibilities and costs of replacing the food now being produced on land earmarked for urban purposes, either from an increase

in the importation of food from overseas or from the agricultural development of new and marginal land in the hills and lowlands.

Throughout this discursion into the agricultural statistics, town development plans, import-saving controversies and other sources which are skilfully used to support the argument, some interesting facts and estimates emerge. For example, it is estimated that 2¼ million acres, or about 7 per cent of the total agricultural area of England and Wales, was lost to other uses between 1900 and 1950. Of these 7 units, only 5 were accounted for by urban development. Cautious extrapolation of present trends suggests that the demands of the 20th century will be responsible for a reduction of 15-20 per cent in the total area of crops and grass in England and Wales. It is estimated that to replace the present output from the 600,000 acres which will be required for urban use up to 1970, the remaining agricultural area will have to increase its " net output ", i.e. gross output net of feed, seeds and livestock inputs obtained from other land, by about £1 per acre. A concept of food replacement is introduced to compare the capital cost of replacing the agricultural output lost from each urbanised acre in the lowlands through various types of agricultural improvement. This analysis indicates that the reclamation of derelict woodland and dry sand and gravel pits are the cheapest forms of land replacement followed by the reclamation of suitable coastal areas, particularly if this land can be integrated into the existing farm pattern where capital resources are often underutilized. However, the highest rate of return from such capital improvements is obtained through the intensification of land use and the reclamation of derelict woodland on existing farms in the lowland regions. In practice new pieces of land can often be woven into the farm system without requiring any major change in the existing farm organization, whilst intensification of a farming system usually requires greater technical skill and a higher standard of business management.

The author's attempt to demonstrate how the present mechanism of land-use planning in Britain may be strengthened is based upon the research work carried out by a small team which worked from 1954 to 1958 under his leadership in the Department of Economics at Wye College, University of London. It is obvious from the careful but easy style of writing, the precise descriptions and explanations of matters concerning agricultural policy, land use planning and arbitration, that the author is wooing a wide audience of civil servants, lawyers, land-use planners and the intelligent layman rather than the academic agricultural economist. Not the least of this book's attractions are the excellent photographs which suitably complement the text, together with the useful bibliography which is provided. Wibberley's book is surely a valuable British contribution to the growing literature on land economics ; a subject hitherto dominated by American writers.

A. H. ROWE — *Bureau of Agricultural Economics, Canberra.*

Trade Protection in Australia. BY A. J. REITSMA. (Brisbane : University of Queensland Press, 1960.) Pp. xi + 195, 40/–.

A critical reassessment of the basis of Australian tariff policy in the light of developments in the theory and in the Australian economy is long overdue. This is provided in Dr. Reitsma's book, which is a comfortable amalgam of an interesting theoretical argument and a valuable historical and institutional survey of the operation of protection in Australia.

Essentially, the thesis of the book is quite simple. The traditional " Australian Case " for tariff protection as embodied in the Brigden Report consisted principally of three arguments : the redistribution of income, the terms of trade, and the diminishing returns to agriculture arguments. These, together with subsidiary arguments, the author examines and finds wanting as a basis for the long term policy of tariff protection in Australia. In their stead, the author justifies past tariff policy on the grounds that it has directed growth in directions where the incidence of external economies is greatest. He argues that it is theoretically possible and practically not unlikely that Australia may have gained in real terms from the tariff. He concludes that there is a presumption in favour of the view that Australia has in fact increased real income by her protection policy.

The Stolper-Samuelson development of the Heckscher-Ohlin theorem, with its conclusion that under certain assumptions, not only the relative but the absolute share of the scarce factor of production may be improved by protection is frequently held to support the redistribution of income argument in Australia. Dr. Reitsma examines the assumptions of this theorem in some detail and shows that relaxing them, particularly the crucial assumption of constant factor intensities, leaves no certainty that labour will gain from protection. The discussion of the theory relating to the distribution of income is careful and illuminating, though for completeness, perhaps some reference to Reddaway's contribution to the subject (*Economic Record*, 1937) would be warranted.

Static analysis, irrespective of the conclusions, the author argues, becomes unsuitable for consideration of a long term policy of protection. In the long run, " . . . any redistribution of income effects, which may be important in the short run, lose much of their significance ". Certainly, mobility of factors increases in the long run, factors tend to become homogeneous, and income redistribution effects of an initial tariff diminish in significance. This may be less true, however, for a tariff changing in coverage and height over time.

The terms of trade argument is rejected on grounds similar to those used earlier by Benham and Viner, and these have become no less convincing. In the discussion of the considerable literature on the terms of trade effect of the tariff, and the optimum tariff, Dr. Reitsma reveals a significant theoretical weakness in the well known Metzler condition, from which the latter, suggesting possible relevance to Australia, concludes that cases where a tariff fails to protect import competing industries because of terms of trade changes may not be too uncommon.

The diminishing returns to agriculture argument, unless couched in terms of external diseconomies, is of little relevance to the author's thesis, which is based on the assumption that external economies are more likely in secondary than in primary industry. Agricultural economists may regret that this assumption is not discussed more fully in the Australian context. The distinction is drawn between the external economies argument and the infant industry argument as commonly expressed. That the theoretical justification for infant industry protection is external economies is frequently overlooked.

The theoretical argument is lucid and persuasive. The gaps in empirical knowledge are revealed by the author's discussion of the tariff and growth in Australian industry. If we accept that the tariff has caused growth in industry, it follows from the assumption as to the incidence of external economies that greater benefits will have occurred from them than would have been the case without the tariff, provided such gains have not been

offset by distortions and inefficiencies induced by the tariff. The available evidence gives no reason to deny the possibility of such a situation in Australia, which is all the author seeks to show.

It might be argued that the significant periods of past industrial growth have been associated causally with factors other than the tariff : e.g. wars, a devaluation, import restrictions. This does not impair Dr. Reitsma's thesis since much of the growth would probably have been reversed without subsequent tariff protection, though it may have significance for future development. It may also support a variant of the redistribution argument which suggests that the tariff has protected the worker's wage by protecting a redistribution of income brought about by other means. The author argues that such a redistribution would not have been possible without the material benefits of economic growth. This would not seem a complete answer as his thesis is that growth has been greater under the tariff, not that there would have been no growth without it.

Although Dr. Reitsma emphasises that his judgment that an absolute gain has resulted from the tariff is no more than a personal judgment, debate on this issue may blur the point that even without an absolute gain the importance of his arguments remains largely unimpaired.

His thesis implies that the emphasis on the excess cost of the tariff has been misplaced, since the initial costs of protection are in the nature of an investment offset by subsequent gains. Presumably it does not imply that we are now at an optimum and that no gains could be made by adjusting existing protection.

Since many external economies are a function of the size of industry, the case for protecting one industry rather than another is reduced. To this extent the case for a uniform tariff would have been strong at least in the past. The uniform tariff as a basis of future protection policy is rejected by the author on the grounds that the external economies have been realised. As the scope for these diminishes with the development of the economy, the need arises for greater selectivity in future protection policy.

Because of the importance of competition in determining within limits just how much of an external economy is in fact external, Dr. Reitsma's argument implies that ensuring competitive conditions in a protected industry becomes even more important, and more directly the concern of the Tariff Board.

Although the emphasis here has been on the theoretical argument, the book is fairly evenly divided between theory and descriptive material. In two chapters, tariff policy from 1800 is surveyed briefly but well ; these are followed by excellent chapters on Imperial Preference and the Tariff Board. Altogether a considerable amount of useful and relevant information has been assembled not conveniently available elsewhere. The inclusion in a later chapter of Professor Swan's hitherto unpublished balance of payments diagrams will also be widely welcomed.

We should be grateful to Dr. Reitsma for a very thoughtful and stimulating work, for his welcome antidote to the undue attention given to the absolute " excess cost " concept, and for his insistence that protection is a long term policy not to be discussed in terms of short term theory.

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History of the National Investigation into the Economics of Milk Production, 1934-1951. By P. MANNING. (Agricultural Economics Research Institute, University of Oxford, 1960.) Pp. 83, 12/6 stg.

As the title suggests, Dr. Manning's main concern is the *history* of the Milk Costs Scheme in England and Wales. Consequently the book's main value will probably be as a lasting reference for those interested in the objectives of the Scheme, the nature of the sample and the methods of costing.

Chapter IV is likely to be found the most interesting as it departs from description and aims at an appraisal of the usefulness of the work carried out from 1934 to 1951. It is explained that the Scheme has been put to three uses : management and advisory work, costing in relation to policy making, and research into the economics of the industry. Dr. Manning feels there has been a similar degree of success in all three functions although costing for policy purposes has received the longest official support owing to the war. She suggests, however, that the Scheme as organized until 1951 was not very helpful on the question of what the dairying pattern should become—whether, for instance, it should incline to specialist dairy farming or milk production on the general farm, or what the relationship of cattle and milk interests should be.

The National Investigation into the Economics of Milk Production is currently in a transitional stage, the field of reference being modified to make the wealth of data more useful for wider research projects. As a first step, the collection of national returns was suspended for three years in 1952 to enable the Provincial Universities to carry out local research into specific dairy problems. This approach was carried a stage further in 1955 when the Scheme was revised to allow for 150 of the sample of 500 herds to be costed according to the needs of the economists at the individual research centres. Thus, in the period since 1951, which is discussed only briefly in this booklet, the Milk Costs Scheme has been oriented more towards fundamental economic research projects than formerly.

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Chance, Skill and Luck : The Psychology of Guessing and Gambling. By J. COHEN. (London : Penguin Books, 1960.) Pp. 201, 5/6.

Psychology of Thinking. By R. THOMPSON. (London : Penguin Books, 1960.) Pp. 215, 5/6.

Agricultural economists, particularly farm management workers, are becoming increasingly interested in decision making. Methodology has been developed to the extent that, given the objective function, useful estimates can be made of what should be done in many situations. However, there is no well constructed theory to explain how farmers fail to achieve an optimum or how they arrive at the decisions they do make. Discussion of this gap in our knowledge has brought forth many suggestions that the psychologist should be able to make a useful contribution.

The two books being reviewed discuss two fields of psychology which could be particularly relevant to the study of decision making. If they are representative of the extent to which psychology has advanced its frontiers, then the economists' hopes do not look like being realised for some time. Psychology, like economics, has a long way to go. The

impression is gained that psychology, as a discipline, has yet to construct a well founded theory which would be of greater assistance in decision making studies than, say, the intuitive judgments of an experienced farm management worker.

Professor Cohen's book is perhaps of more immediate interest to agricultural economists. The author describes his purpose as being " primarily an attempt to make explicit the systematic tendencies or patterns inherent in guessing or gambling activities ". There are interesting chapters discussing " psychological " probability (held by Cohen to be different from subjective probability), the behaviour of experimental subjects playing games involving varying proportions of skill and chance and in some instances different probability of receiving rewards of greater or less size, and of the important part played by belief in luck. The manner in which the behaviour of experimental subjects was at variance with what would be suggested by the fundamentals of probability theory was most pronounced. The interest of this type of study to students of decision making is immediately obvious. Unfortunately, most of the people used in the experiments were either children or university undergraduates and, in all instances, essentially simple games were played for small stakes. Farmers are generally very different from both children and undergraduates while many of their problems are far from simple. Indeed, the hypotheses of people like Heady[1] and the later observations of Partenheimer[2] suggest that some farmer expectation models are quite sophisticated and quite theoretically sound.

However, not all of Cohen's book is of this degree of professional interest. A good half of it is taken up with discussion of the relationship between language and uncertainty, the history of divination and of lucky charms, and to the effect of alcohol on bus drivers when driving under hazardous circumstances. It is to be hoped that not all psychologists fill their adult subjects with alcohol as soon as they get hold of them. Unfortunately we do not know just how many farm management decisions are in fact made under the influence of alcohol.

It is Mr. Thompson's book which is most likely to disillusion the agricultural economist. Largely devoted to theories developed from observations on problem solving by animals and concept formation by children, this book brings home to the economist the immensity and difficulty of the problems confronting the psychologist.

In the most telling sentence in the whole book Mr. Thompson says, " . . . we still have a long road to travel before our knowledge (about thinking) is anything better than speculative ". The speculation still appears to be about very fundamental issues and it appears that theories concerning the essentially complex nature of thinking have yet to be evolved. Thompson admits that, " to explain how the high-level activities are developed from simpler activities is probably the main task for the psychology of thinking in the immediate future ", and points out that it is only eighty years since psychology cast itself loose from a very restrictive and misleading metaphysical approach.

1. E. O. Heady, *Economics of Agricultural Production and Resource Use*, Prentice Hall, New York, 1952, pp, 475-496.

2. E. J. Partenheimer, *Some Expectation Models Used by Selected Groups of Midwestern Farmers*, Unpublished Ph.D. Thesis, Michigan State University, Department of Agricultural Economics, 1959. Abstracts available on request. Partenheimer found that the models used by farmers were more sophisticated than those hypothesised by Heady.

This is an honest book and it is obvious that the author is only too well aware of the problems involved in tackling the psychology of thought. He shows how psychology can help in studying concept formation, habit development and learning ; but in all instances this seems to be at a fundamental and often over-simplified level. Perhaps the most reasonable judgment of this book is pronounced by the author himself in the opening sentence of his concluding chapter when he says : " This discussion has been somewhat piecemeal, a presentation of bits and pieces of information together with an isolated and tentative hypothesis. This reflects the present state of our knowledge about thinking."

W. F. MUSGRAVE — *University of New England, Armidale.*

A Philosopher Looks at Science. BY J. G. KEMENY. (Princeton : D. Van Nostrand Company Inc., 1959.) Pp. xii + 273, 57/6.

The publishers of this book refer to it as an *introduction* to the philosophy of science. This admission, together with Kemeny's broad treatment, indicates that it is intended for a wide reading public.

Kemeny has divided his work into three parts. In the first one, he deals with the problems of language, the place of mathematics, and the need for assumptions and statistics in formulating theories. In the next section, he proceeds to define science methodologically—rather than by its subject matter. In doing so, the author emphasizes the pragmatic nature of all scientific theories ; the most important requirement being that they must permit the prediction of events. In the third part, he deals with problems raised by science, for instance—determinism, life, values and the social sciences.

It appears that Kemeny's familiarity with both science and philosophy was preceded by his interest (and recognized ability) in mathematics. Any of his remarks, then, in respect of mathematics deserve special mention. As a general notion, he has suggested that we must expect a continuous advance on the part of theoretical scientists, but that this progress must go hand in hand with the parallel progress of the mathematician. This latter qualification is based on his assertion that all sciences must use mathematics because all scientific theories, numerical or otherwise, are mathematical. Commenting on the fact that the social sciences are still adolescent compared to physics and chemistry, the author claims that the issue here is the future potential of these under-explored fields. He sides with other mathematicians who believe that the inspiration that mathematics received from the physical sciences has nearly come to an end, and that any great new developments in mathematics will be inspired by problems in the social sciences.

As a popular introduction, *A Philosopher Looks at Science* is informative reading. On his treatment of the social sciences, it can hardly be suggested that the author has contributed much to the subtleties of this field ; the only novel theme being his belief that we have been far too naive about the degree of mathematical problems involved. Hence his prediction that the social sciences will reach their maturity only as a result of new developments in, or entirely new branches of, mathematics.

P. DUANE — *Bureau of Agricultural Economics, Canberra.*

The Economic Background to Agricultural Policy. By Edith H. Whetham. (Cambridge University Press, 1960.) Pp. xii + 147, 37/3 (Students edition, 22/6).

Miss Whetham's book represents a valuable addition to the growing number of books on agricultural policy which are appearing from the English stables. American entries in this field have been both numerous and heavily weighted—perhaps overweighted. Miss Whetham's entry is nicely weighted and should be a good bet over the agricultural economics course.

In the brief span of 147 pages she discusses the objectives of agricultural policy—mainly with reference to the United Kingdom and, to a lesser degree, New Zealand—and the role of agriculture in economic development, using as her main analytical concepts the income elasticity of demand and the propensity to save. Beginning with a closed economy the author, citing empirical evidence from various sources, indicates the role of both these parameters on the growth of real income and its distribution between the farm and non-farm sector. The conclusions reached in this section are modified by making the economy an open one and bringing to bear the role of the terms of trade in fostering economic growth. The analysis here is compact and clear. An agricultural science student would however have his comprehension of this material improved by some prior economics courses. I would have liked Miss Whetham to have broadened the discussion of the effects of differential rates of growth in productivity between the primary and secondary industries. In particular the effects of different rates of growth in technology between different food exporting countries on market shares would, I think, have been very useful.

Turning from the long view Miss Whetham discusses market structures in farm products. Using price elasticity, supply elasticity and shifts in both demand and supply curves, she shows the instability which faces farmers in an open market.

One chapter is devoted to the marketing of farm products with reference to the functions performed in the marketing chain from farm gate to retail outlet. One chapter is concerned with the peculiarities in the supply of farm products. Here some reference to the " fixed asset theory " of G. L. Johnson as well as the usual discussion of the structure of farm costs and the inelasticity of supply of farm inputs—done in subsequent chapters —would have seemed appropriate.

The concluding chapter points out the conflicts which often develop as the objectives of agricultural policy change over time. The last part of this chapter discusses in broad outline the techniques of policy implementation from general monetary-fiscal measures and import controls to control of commodity prices.

Were I in the judge's box, Miss Whetham's book would be given as a clear winner and the stewards would report " weight is right ".

F. G. Jarrett

University of Adelaide, South Australia.

Social Change in a Rural Community. By E. M. Rogers. (New York : Appleton-Century-Crofts Inc., 1960.) Pp. xi + 490, $6.75.

This textbook in Rural Sociology is based upon the judgments of instructors in 77 universities in the United States where courses in Rural

Sociology are offered. The material presented was analysed as to its readability for an audience of introductory course students, and was pretested on at least two groups of students. The author claims that " It is really an introduction to Rural Sociology ".

The survey procedure ensured that the material covered was sufficiently comprehensive and up to date for use in introductory courses in the United States. New topics introduced are : " Culture, Personality and Social Change " ; " The Business of Farming—from Independence to Agribusiness " ; " Agricultural Adjustments and Population Change " ; and " Rural Sociologists and Development Abroad ". The author's lucid style together with the generous use of graphs and pictures, the frequent reference to research findings, and quotations from many sources, makes the presentation quite clear to the reader. However, while the reiteration of points made and the general nature of the presentation are suitable for the purpose of the book, their effect is to reduce the readability for more advanced workers. Too, more discussion of trends in countries outside the U.S.A. might have been introduced to break down some of the more insular aspects of the text and to render it more acceptable to a wider audience. Still, the reader who merely seeks a review of the content of introductory courses in Rural Sociology might well consult this book.

In the Rural Sociology course given at the University of Melbourne, this book will be useful in introducing the theme of adjustment to changes in society which affect the rural scene. Much more attention is then given to theory and methods of extension—how to communicate and how to work with groups—than is outlined in this book. Extension officers in the U.S.A. reported that more emphasis should be given to these topics during their training. This is also the case in Victoria.

HARTLEY A. PRESSER *University of Melbourne.*

OTHER PUBLICATIONS RECEIVED

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LI, J. C. R. *Introduction to Statistical Inference.* Edwards Bros., Inc., Ann Arbor, 1957. Pp. 553, $7.50.

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