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## BOOK REVIEWS

*Australian Agriculture. Reconciling Change and Tradition.* By KEITH O. CAMPBELL. (Longman Cheshire: Melbourne, 1980.) Pp. 274, ISBN 0 582 71089 8.

Recently one of Australia's leading agricultural journalists wrote nostalgically of the more willing exchanges which, he claimed, used formerly to enliven discussion of agricultural policy issues. 'Whatever happened', he asked 'to the economists such as Keith Campbell who made their positions known so unambiguously'. I don't know where the others may have gone but there's a lot of Keith Campbell in this book.

Campbell sets out to do two things. First he explains to the uninitiated—including city-bred agricultural economists or agribusinessmen in the making—something of farmers' attitudes and aspirations, and of the social and economic environment in which farmers work. Second, he points up to farmers, and others connected with the rural industries, the complexities and ramifications of the issues facing Australian agriculture.

The thirty-three chapters are organised in seven parts. In Part 1, Campbell presents a brief survey of the factors which have shaped, and are currently influencing, agricultural land use and farm structure in Australia. He describes sympathetically the uncertainties faced, the types of decisions which have to be made and the values and attitudes of farmers.

This leads into an examination of the main forces altering the economic climate and position of agriculture in Australian society. The influence of research and technological change, improvements in transport and marketing, developments overseas in agricultural protection and international trade policies, inflation and growth of the mining sector are all described. The resultant continuing need for adjustment and structural change is outlined.

The institutions serving or constraining agriculture, including the Federal Constitution, land tenure systems, the economic organisation of service industries and financial institutions, are surveyed in Part 3.

Campbell examines in broad outline the nature and extent of government intervention in agriculture in Part 4. The wide range of services, regulatory measures and assistance programs is sketched—research and extension, price and income support measures, rural reconstruction, marketing and promotional assistance and intergovernmental trade arrangements.

The political framework and the means used by the rural community to exert power and influence, including the role of farm organisations and marketing boards, are examined in Part 5.

In Part 6, Campbell reviews some of the major new challenges and issues posed for agriculture by dearer energy, environmentalism and the declining relative importance of agriculture, while in Part 7, he highlights the interdependence of Australian agriculture with the economy at large and with overseas developments. He concludes with the observation that, if the complex interrelationships dealt with were better understood,

fewer farmers would resist or procrastinate in adapting to change and few city folk would lack insight into and sympathy for the farmers' problems.

Perhaps the book's greatest value is that it represents a full-circle look at all dimensions of the Australian agricultural environment—economic, social, political, legal and institutional—and at the economic interrelationships between Australian agriculture and the national and world economies.

The thirty-three chapters are lean and unpadding but in no way superficial. They place the policy issues and developments surveyed in their long-term historical perspective. The significance of many earlier initiatives and analyses—from the Brigden Report to the 1974 Green Paper on Rural Policy—is concisely explained. Notes and references at the end of each chapter document the argument and indicate suitable reading for those seeking further information on particular topics.

The vast range of subjects dealt with reflects a lifetime of in-depth concern with all aspects of agriculture by a generalist agricultural economist, who has refused to restrict his scholarship to a fragment of his subject and whose contributions range from farm management to agricultural policy and marketing.

It is, incidentally, the passing of the generalist which may explain the apparently less visible face of Australian agricultural economists in the policy arena rather than any reluctance on the part of the younger generation to tangle with sensitive issues. It is just that these days most people have to restrict themselves to fewer targets if they are to be sufficiently informed to contribute usefully. Professor Campbell represents an exceptional non-conformist holding out against this general trend.

There are some agricultural economists who review all the pros and cons but leave the reader in doubt where they themselves stand. Campbell does not belong in this group. It is generally possible to detect his position. The prose here and there develops a more pronounced curl of the lip which betrays the author's inner thoughts. Thus, one gets an impression that Campbell has reservations about the co-ordination of research. 'Original research' he states, 'flourishes in freedom, not under the stultifying hand of the co-ordinator, no matter how good his intentions'. He also brushes aside the alternative expedient of peer review arrangements which he warns, 'can develop into systems of mutual support and provide no guarantee of social relevance or budgetary responsibility'.

Campbell has, over the years, developed the cutting aphorism as an effective instrument for infiltrating an economic viewpoint into the consideration of agricultural policy and developmental issues. Indeed it might be said that he has elevated sarcasm to a higher form of wit. It could perhaps usefully contribute to the development of greater iconoclasm and critical ability amongst students of agricultural economics if some of his more pertinent and trenchant observations were marketed in the form of a desk calendar with daily extracts from this book and his other works. Thus, January 1, 'Water and irrigation seem to bring out all that is irrational in man'.

January 2, 'The land laws of the country were basically designed to promote a type of rural society which is no longer tenable'.

January 3, 'It is difficult to convince farmers that banks would probably

be willing to lend more money to agriculture if they would give up their long standing fetish about concessional interest rates'.

January 4, 'The part which agricultural economics has to play in improving managerial efficiency at the farm level has scarcely been tapped'.

January 5, 'Life from time immemorial has been beset by risk situations and it is absurd, in the late twentieth century, to begin avoiding risks by instituting bans on the use of substances which in many cases promise immense benefits from their use'.

Doubts concerning release of copyright deter me, however, from taking this enterprise further and I must leave it to readers to make their own selection from the abundance of pithy or provocative comments with which the book is laced.

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*Surveys of Australian Economics Volume 2.* Edited by F. H. GRUEN for the Academy of Social Sciences in Australia. (George Allen and Unwin: Sydney, 1979.) Pp. 266, ISBN 0 86861 1299.

The second volume contains four surveys, and an overview chapter by the editor. This volume brings together material of a less technical nature than volume 1, and may, therefore, be of particular interest not only to professional Australian economists but to social scientists generally, and as a background reference for economics students at tertiary and secondary educational institutions in Australia. A relatively comprehensive bibliography accompanies each contribution and this should enhance the volume as an aid to teaching and to studies in tertiary educational institutions. The book is likely to appear (and in fact has already done so) on first-year university reading lists for economics and as a reference in some secondary schools.

The topics surveyed in this volume and their authors are: (1) Income Distribution, Poverty and Redistributive Policies by S. Richardson, University of Adelaide, (2) Urban Economics by Max Neutze, Australian National University and Graeme Bethune, Department of Housing and Urban Affairs, Adelaide, (3) Economics of Education by Richard Blandy, John Hayles and Alan Woodfield, (4) Radical Economics by P. D. Groenewegen, University of Sydney, and (5) Australian Economics 1968-78 by F. H. Gruen, Australian National University.

Richardson's survey is relatively comprehensive. She reviews Australian contributions on the distribution of earnings, the functional distribution of income, the distribution of personal income and wealth, the measurement of poverty, life cycle poverty and the impact of redistributive taxation, social welfare and housing policies. She points to some areas where further research is needed in Australia. For example, there appears to have been a paucity of research into life cycles of poverty in Australia. However, one wonders why she posed a fundamental question in the concluding paragraph without answering it or throwing light on it. She concludes:

Finally, the fundamental question arises why a society such as Australia's generates poverty at all. Must there always be a sizeable group at risk of poverty, or to be rescued only by the generosity of an

effective welfare system? Or is it possible that the social and economic system may be modified in such a way that people are assured an opportunity to provide adequately for themselves in all circumstances? The question is intrinsically very difficult and perhaps ultimately unanswerable. It is also, however, important and intriguing.

Apart from this paragraph which may give the impression of ambivalence or the 'washing of hands', this is a workman-like contribution.

The review by Neutze and Bethune of urban economics is also thorough and covers theoretical as well as policy issues. Such matters as the growth and size of cities, suburbanisation, local government, public utilities, urban land, housing, and transport are considered. Their setting of urban economics in a general context will be appreciated by many. Urban economics involves microeconomic applications that have 'to allow for the complications of externalities and for activities with both public and private good dimensions'. This study can be read profitably by those interested in urban economics as such and those seeking microeconomic applications.

The study of Blandy, Hayles and Woodfield of the economics of education in Australia is one of the more controversial surveys in the book, since it systematically presses for libertarian policies in the educational field. Indeed, the survey might be music to the Lynch Committee (the so-called 'Razor Gang') in its bid to reduce educational expenditure by the Commonwealth Government! The policies favoured by Blandy, Hayles and Woodfield include student loans instead of grants and the use of educational vouchers. They review the financing of education in Australia, equality in education, abolition of fees, student loans and grants, educational vouchers, rates of return to education and cost functions for Australian education.

Groenewegen had the difficult task of surveying radical economics in Australia and by all accounts had no lack of advisers, including Fred Gruen who had done an earlier survey for the *Australian Quarterly*. A feature of Groenewegen's survey is his provision of background to the Australian literature in radical economics of the 1970s. World-wide schools of radical economic thought are identified and the historical antecedents to Australian radical economics are outlined. Other surveys in the collection provide less background material. But Groenewegen's coverage is at the expense of an examination of right-wing and radical liberal economics in Australia, although Gruen gives some attention to the latter strand in his survey.

Fred Gruen's 'Survey of the Surveys' is a relatively personal account of 'Australian Economics 1968-1978', reflecting to some extent his experience and observations as economic adviser to the Labor Government in the earlier part of the 1970s. He identifies in footnote 3, twenty-four academic economists who were involved in government during the Whitlam years and goes on to examine the growth of libertarian economics in Australia and claims that 'Both at ANU and at Monash (and perhaps at other universities) the Libertarian stance has become — if not the new orthodoxy — at least the predominant intellectual movement among the younger members of the discipline'. After naming selected young liberal economists, Gruen then surveys the material in the commissioned surveys.

Gruen's survey is very readable and at some future date should provide useful material for sociologists studying academic tribalism and the sub-culture of academic economists. Whether or not future historians of economic thought will see Australian economic thought of the 1970s in the same way as Gruen remains to be seen. I consider that it is a short-coming of the survey of surveys that it does not attempt to explain the reasons for the trends in Australian economic thought and ignores the contribution of some of Australia's leading economists where these contributions have been published abroad. The latter seems to me to be a parochial stance. Furthermore, it might have been interesting if there had been some speculation about whether there is anything unique about the Australian economics of the 1970s in comparison to other countries or even in relation to earlier periods. Description is a poor substitute for a grand vision and at least in a publication from the Academy of Social Sciences in Australia, I believe that we might expect a vision. I am not sure that the following conclusion supported by a quote from the American economist, Robert Solow, provides a very satisfying vision:

Of course economists themselves could contribute to their professional standing by not being quite so opinionated and appearing certain on the basis of scanty and often inscrutable evidence.

At a more pedestrian level it is *especially* disappointing to see that this book has no index. An index would make the book more valuable for reference purposes. There are also some typographical errors (for instance the running head for the last survey) and at least on my paperback copy, the cover is so thin that it curls up and will soon become 'dog-eared'. I am surprised that a better standard of production has not been possible given the generous financial support mentioned in the Preface to the book. However, despite these shortcomings, most Australian economists are likely to find this volume to be valuable for reference purposes and a useful reading source for tertiary students.

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*Economics (Australian Edition): Principles, Problems, Policies.* By JOHN JACKSON and R. MCCONNELL. (McGraw-Hill: Sydney, 1980.) Pp. 854, ISBN 0 07 072916 6.

There are three major reasons why this is a valuable book for Australian undergraduates. Firstly, it incorporates in a textbook some of the more significant theoretical developments and changes in the Australian institutional framework which have taken place over the last decade; secondly, it contains substantial Australian empirical content with time series data up to 1978-79, and thirdly, it attempts to provide some integration between macro and microeconomics.

The text is divided into seven parts, a description of which will give the reader an idea of the emphases of the authors. There is what I think is an excessively long introductory section of eight chapters (accounting for 18 per cent of pages) on the market mechanism, the circular flow of income, and the role of government; five chapters (14 per cent) on income and employment analysis; five chapters (10 per cent) on monetary policy and

the Phillips curve; three chapters (7 per cent) on economic growth in Australia and the less developed world, with a section on the question of the desirability of growth; twelve chapters (25 per cent) on market organisation and the price system; four chapters (8 per cent) on international economics; and seven chapters (17 per cent) on current economic problems—monopoly and foreign ownership, rural economics, urban economics, income distribution, labour markets (including the economic status of women workers), radical economics, and economic problems in the USSR. Thus, it is not surprising that the result is a very large book. In one sense, the length is not excessive since it covers every topic that could be expected of an introductory text, although for many courses this coverage is more extensive than required. In another sense, however, the book is too long because a substantial part of the theoretical analysis is not dealt with systematically, so that a lot of the material which is covered in a general fashion in Part 1 is covered again in more detail in 'specialist' chapters later on. For example, specialisation and comparative advantage is covered in Chapters 3 and 34, while demand and supply analysis is dealt with in Chapters 4 and 23. Likewise, a basic concept such as diminishing returns is introduced in the chapter on economic growth and then repeated in more detail in a later chapter on costs of production.

Each chapter comprises text, summary, questions and study suggestions, and a 'last word' which takes the form of an extract from a popular publication which is generally relevant to the subject of the particular chapter. It is noteworthy that the 'last words' are printed conventionally across the page, a style which involves the eye of this reader in much less fatigue than the pages of text which are curiously divided into two columns with lines of an average length of seven or eight words leaving many hyphenated words on the end of lines. It is to be hoped that future editions of the book will change this system which could create unnecessary eye strain.

The book has many strengths. The author has his priorities right in the relative amount of space which he devotes to those topics which will be in the minds of most students and teachers—unemployment and inflation, monetarist and Keynesian economics, international trade, and the special topics covered in the final section. Second, the language is clear and the analysis is appropriately non-mathematical. Moreover the authors go to great pains to present, where possible, views alternative to those of 'mainstream' economists. The questions and study suggestions are helpful and the 'last words' are as apt as can be expected, given that they were not written for the book. However, I do think that some of the core chapters in the book need considerable revision in later editions in the direction of providing more detailed explanation of many of the key concepts which are used. For example, on page 250 the balanced budget multiplier is explained in only three sentences, while a little further on an attempt is made to explain the idea of long-run 'fiscal drag' which I found very confusing. Similarly, in Chapter Ten an attempt is made to discuss the distributional effects of inflation without reference to the effect of expectations on interest rates. I was also surprised to find the difficult topic of long-run competitive pricing being treated in less than half a chapter. Doubtless such revisions would increase the length of the 'specialist' chapters but this could be compensated for by reducing the length and

number of the introductory chapters in Part 1 and by avoiding repetition between various chapters.

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*The Economics of Agricultural Production.* By EDWARD WITKOWSKI and ARNOLD WELLS. (Alfred Publishing Company, Sherman Oaks, California, 1979.) Pp. 231, ISBN 0 88284 072.

*An Introduction to Economics for Students of Agriculture.* By BERKELEY HILL. (Pergamon Press, Oxford, 1980.) Pp. 346, ISBN 0 08 020509 7.

Introductory economics has long been regarded as an easy subject to teach, but a hard subject for students to learn. From an educational point of view such a situation is somewhat inconsistent. Single-minded educationists would argue the opposite: the subject should be hard to teach and easy for students to learn. Some realists might say that both teachers and students of agricultural economics have a hard row to hoe.

The introductions of both these books refer to matters of pedagogy in economics. Witkowski and Wells emphasise that their textbook was written to aid the student rather than 'to impress one's colleagues'—suggesting, perhaps, that the *Journal's* reviewing panel needs considerable expansion. Witkowski and Wells have chosen a limited number of production economics concepts which they reinforce thoroughly. They adopt a well-organised but narrow and mechanical approach to the three major resource models of production economics. The book becomes somewhat laboured with their repeated descriptive, tabular and graphical approach to the large number of hypothetical examples presented. In seeking to 'emphasise method and process rather than facts' these authors are likely to have students suffering from educational overkill. Hill's *Introduction to Economics for Students of Agriculture* aims to describe universal economic principles. It is not a book on the economics of agriculture but one 'on general economics illustrated primarily by examples drawn from farming and the food industry'. Its aim is to provide a basic knowledge of economics to pave the way for the study of the various specialist areas in agricultural economics.

In assessing the educational worth of these two texts it seems useful to establish a few criteria. J. M. Keynes, introducing the *Cambridge Economic Handbooks*, pointed out that 'the theory of economics . . . is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor draw correct conclusions'. The educational philosopher Jerome Bruner, stressed that an understanding of the principles of a subject will be aided by making its context clear in the broader field of knowledge, allowing the student to generalise from what he has learned to what he will encounter later. The best way to create interest in a subject is to render it worth knowing, which means to make the knowledge useable beyond the situation in which the learning has occurred.

Hill's book provides an excellent coverage of topics relevant to an introductory course in economics. He provides perspective and context to the economic models he presents; an approach which should appeal to



teachers who want to introduce economic principles, and students who want to see relevance to agriculture. Witkowski and Wells produce an introductory text of operational clarity but provide little insight or perspective to the relevance and use of production models in the real world.

In the first three chapters of *The Economics of Agricultural Production* the production function, the costs of production, and the revenues from production are considered. Then follow four chapters on decision making, covering profit maximisation, factor-product, factor-factor, and product-product decisions. Finally there is a simple introduction to linear programming. The book avoids mathematical complexity and will have appeal in clarifying explanations to students in introductory production economics courses which take a non-mathematical approach. The chapter on the profit maximisation decision is particularly good in integrating the theory of production decisions by the individual firm with industry price theory in perfectly competitive markets.

The problem with this book is that it falls between two camps. It has insufficient depth and coverage of ancillary topics to provide the basis of a full level course in production economics. Nor is it sufficiently applied to provide the basis for courses in economic principles related to farm management. There is no coverage of risk, the effect of time on resource decisions or consideration of the effect of capital limitations. Opportunity costs are only considered in terms of external opportunities for the firm and no mention is made of shadow prices in the discussion on linear programming. A farm management perspective would require some reference to the relationship between the marginal principle and budgeting. However, there is little attempt to show the application of theory in real world situations or to link theory to practice. Because of these limitations this book is unlikely to be suitable as a text. However, it could be a useful 'remedial text' in a teaching library for courses in introductory production economics.

*An Introduction to Economics for Students of Agriculture* covers most of the topics normally found in introductory economics courses. The first chapter is a good outline of the essential concepts of economics. For students of agriculture it is important to clarify the differences between the social and the biological and physical sciences. I particularly liked the discussion on theories in economics and the scientific approach to the discipline of economics.

The next three chapters are concerned with explaining the behaviour of individuals (theory of consumer choice), demand and supply, and markets and competition. The latter chapter covers perfect and imperfect competition, use of monopoly power and market discrimination, monopsony, price movements in agriculture, the changing place of agriculture in developed economies, and a brief mention of the price system in centrally planned economies. Then follow chapters on production economics, theory of distribution, problems of using the market as a resource allocator, macroeconomics, and international trade. The author successfully links the chapters and establishes a flow between the various areas of economics.

The chapter on factors of production and the theory of distribution has a somewhat simple discussion of the nature of capital and poverty, a rather brief discussion of capital markets and no discussion of the theory of capital. Otherwise, the book's coverage is generally adequate for an

introductory economics course, and at the end of the book, students are referred to further reading in the standard texts.

A number of British and European situations are referred to as examples, but the examples tend not to be exclusively European. Most of the situations are world-wide in nature and their relevance should easily be seen by Australian students. Odd examples such as the suggestion that there are economies in capital use with larger scale traction machinery don't currently hold in Australia. As with Witkowski and Wells's book, there is generous use of diagrams and questions at the end of each chapter to allow students to check their understanding of concepts presented. Hill's book also provides extended answers to the questions posed in the exercises.

This book should find a very useful place as a student text in first level economics courses for agricultural students. It caters for a market in which there is no current agricultural text. Its clear style communicates the techniques of economic thinking referred to earlier; its sense of perspective and context, and discussion of alternative explanations of current economic problems will alert students to the limits of economic science, but should encourage them that economic knowledge is worth having.

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*Agricultural Modernization, Poverty and Inequality.* By DAVID S. GIBBONS, RODOLPHE DE KONINCK and IBRAHIM HASAN. (Saxon House: Farnborough, 1980.) Pp. 225, ISBN 0 666 00331 7.

In this comparative study of the impact of the green revolution on a number of villages in north-west Malaysia and in Aceh, Indonesia, the authors ask 'what proportion of the innovators benefit from innovation and how much and why do they benefit' (p. 3). They were analysing the immediate consequences of *technical progress* and the attainment of *social progress* and considered the extent to which *government agricultural aid* fostered both types of progress at the same time as it acted as a link between the two (p. 13).

The focus is narrower than that of other studies which concern themselves not only with the benefits to the innovators, but also with the changes in the living conditions of the community in general. To answer the questions in their area of study, the authors designed a 'technical progress index' and related it to a 'governmental agricultural aid index'. Both indexes comprise a number of complex elements, the impact of each on production being considered separately, and then in various combinations, including a single index for both. For the Malaysian villages governmental aid was mainly in the form of irrigation (in this case the Muda scheme) and a communications network; Acehinese villagers receive their government assistance through an extension service (*Bimas*).

The results of this research demonstrate once again that technological progress in the form of the green revolution is largely neutral to scale but 'farmers with greater access to land get a disproportionately greater income from adoption of innovations' (p. 148). To say as they do that this finding is a refinement on the proposition that the green revolution

aggravates poverty and inequality is surprising, given their comments on the impact of the new technology in other countries in Chapter One. Studies on the green revolution in Mexico, the country of its origin, and Asia in general come to a similar conclusion: the seeds are neutral to scale but rural structures and institutions favour the larger farmers as do government policies which foster their diffusion.

Assessment of *social progress* is the most important task the authors set themselves (p. 148). The discussion on social progress involves them in an analysis of the basic human needs concept and they express disagreement with the tendency of those who look at needs to consider the issue at the national level only. In their own study they have concentrated on small farmers, so they argue that 'any index of social progress among small farmers (has) to include ownership of their means of production', greater concern for the household rather than the individual and greater emphasis on non-material elements such as family and religious solidarity (p. 149).

Concern for property and family seems to be an inevitable result of a study dealing with individual farmers but an attempt to look at basic human needs at an individual level seems to contradict their expressed concern for poverty and inequality among the majority of mankind (p. 148). The desire to own 'enough' land may be an acceptable basic need for a household in isolation, but such a desire would run counter to an egalitarian ideal under conditions of land shortage. Given the importance of *access to land* for a household to meet its basic needs and given the tendency of the green revolution to exacerbate inequality of access (in their own region of study and elsewhere), it is possible to predict that there will be an increase in the number of villagers forced to rely on wages for an income. At present, they indicate that there are few tenant households, most of the hired labourers coming from within the ranks of the farm-operating households (p. 203). If present trends continue in the context of a 'full market economy' (p. 1) and with a high population growth rate we can expect the appearance of a 'caricatural classification of tenurial groups (and) for a clear distinction of operators versus landless labourers' (p. 203). This possibility is anticipated by the authors themselves in a section where they also discuss the introduction of harvesting and transplanting machinery (p. 204).

Communal ownership is mentioned in a footnote on p. 23 with reference to socialist countries and in a somewhat pessimistic conclusion on 'the prospects for equal development' they do mention the need for government policy to reduce inequalities in access to agricultural land (p. 209). But they do not indicate the type of land reform which would meet their own concern for poverty and inequality, regardless of its feasibility, politically. (Apart from their comments on the fact that individual farmers want 'enough' land and suggesting that land be taken from some and 'distributing it, or the right to operate it under reasonable conditions to . . . the small farmers' (p. 20)). At present, governments in both Malaysia and Indonesia are pursuing policies which tend towards unequal development and they do not see, in either region, the 'political forces that would be necessary to bring about the formulation and implementation of the required policies' (p. 210). They do see the existence of 'dissatisfaction' in both regions noting that 'it is upon this basis that the necessary political forces could be mobilized'. The riots in the Muda

area in January 1980 is an indication of such dissatisfaction but whether it will lead to any radical change of policy remains to be seen.

It is difficult to assess their claims that 'probably our findings have important implications for other less developed countries' and that although Malaysia has been more 'successful' than most LDC's in following a 'western model' of development, absolute poverty is still widespread and many inequalities are increasing. Such an outcome should be of great concern to all advocates of Malaysia's approach (p. 211). Mexico, the home of the new wheat varieties, went through the same process much earlier and provided the first example in the green revolution of the inequalities inherent in a technological change introduced into a setting of unequal access to land. Poverty and increasing inequalities were generated in the process of unequal development. Agricultural production increased to the stage where Mexico was able to export grain 'surpluses' even as many of the rural population lost access to land and employment, and malnutrition and hunger became widespread. A significant part of the Mexican 'success' story was an industrialisation which far exceeds Malaysia's. One might well ask why Malaysia did not take heed of the Mexican case!

This study is just one more example of the process of technological change in unequal structures. It is well-researched and includes some interesting features specific to the regions covered. It is the variations on the general theme that makes this study worth reading. But the findings are not surprising and, given past experience, there is no reason to expect changes in Malaysia, Indonesia and elsewhere in the implementation of policies so that poverty and inequalities are reduced significantly as part of the development process.

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*Cattle, Economics and Development.* By RAYMOND CROTTY. (Commonwealth Agricultural Bureaux: Slough, 1980.) Pp. 253, ISBN 0 85198 452 5.

This book deals with the contribution of cattle to economic welfare and development in less developed countries. The orientation is global, based on a generalised model of economic decision making by cattle owners. Six types of cattle-keeping situations are identified and characterised as typical of different cattle production regions of the world. The regions are Western Europe and North America (considered together), South America, Africa, South East Asia and India. It may be noted that Australia and New Zealand are not considered, and in fact the book's index shows only four page references to Australia and two to New Zealand.

For the cases that are considered, arguments based on social, political, cultural and husbandry consideration are combined with economic reasoning to diagnose inadequacies in policies relating to cattle production and to derive adjustments to policies designed to improve the contribution of cattle to development objectives.

The author has had experience of farming in Ireland and has worked as a consultant in various LDCs. He has drawn extensively on his ex-

perience in writing the book. His coverage of his topic is extraordinarily broad, not only geographically (notwithstanding the neglect of Australasia) and in the number of disciplines touched on, but also in terms of historical spread. The economic model used is developed in part on the basis of a historical review of early agricultural methods. It is refreshing to find, in an essentially agricultural economics text, references to the writing of C. J. Caesar and C. Columbus. However, the very breadth of the treatment means that seemingly important details or variations from the general case are often swept aside. Some of the discussion about the economics of cattle production at the level of generality of whole continents like Africa or South America inevitably is painted in very broad strokes. As a result, some of the conclusions that are drawn seem implausible, or at least not totally convincing.

This difficulty is compounded by the nature of the economic model that is provided and by the way that model is used. In Chapter 5 a mathematical model is developed to represent the decision making processes of cattle owners. The model is based on many simplifying assumptions. For example, categories of inputs are restricted to land, time and 'other', without differentiation within these categories. Furthermore, profit maximising behaviour is assumed and risk is totally ignored. The author lists several other simplifications. Yet

the model and its operations are complex notwithstanding the abstractions . . . Even if values for the four exogenous variables and the 17 parameters can be obtained by researching or guessing, several hours of computer time are required to establish the optimum values of the independent variables (p. 53).

As the author recognises, a model that cannot be readily solved is of little use and one wonders why the exposition was cluttered up by introducing it in the first place. In a sense, the model is counter-productive because it emphasises the complex interactions among variables in cattle production which the author then tends to play down in subsequent partial analyses of particular components of the whole system. Moreover, the model implies a degree of quantification of relationships which he seldom achieves in his partial analyses that are usually in the form of hypothetical graphs.

Despite these criticisms, this is a book that is well worth reading by anyone interested in the role of cattle in development. It is a good example of the application of economic thinking to important policy questions that are too often resolved without the benefit of economic logic. Crotty argues that explosive change is occurring in finely balanced grazing systems. The agents of this change, he says, are 'western' states who are opening up unparalleled opportunities for private gain at public expense. He seeks to show what improvements in policy are needed if the many poor and weak cattle producers of the developing world are not to continue to be exploited and seriously disadvantaged by these changes.

Not everyone will agree with Crotty's conclusions, but he writes in a persuasive and entertaining style: many drought-stricken Australian cattle producers would agree that 'A malevolent providence confounds man in his use of pastoral resources and technical knowledge, turning their abundance into dearth' (p. 193). And how about the suggestion that

'If it is true that those whom the gods would destroy they first make mad, pastoral man appears ripe for destruction' (p. 193)?

Crotty takes social scientists to task for being poorly informed about cattle production and blames them for many of the problems he identifies. I wonder, though, how true of Australian agricultural economists is his claim that

Hardly any social scientists have acquired the understanding of farming that comes . . . when the last shovelful of earth has been replaced on the grave of a promising cow, or of a bullock that pined instead of fattening. Hardly any social scientists have experienced, or are members of families that have experienced, these moments of truth that illuminate the unspannable gap between farming practice and academic theory (p. 115).

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