Agriculture and industrialisation

Agriculture and the Industrial Revolution. By E. L. Jones. Pp. xiii+233. (Blackwell: Oxford, February 1975.) £5.50.

As the title suggests, this is a book about the relationships between the development of agriculture in Britain and the process of industrialisation which we refer to as the Industrial Revolution. The work, a collection of essays published by the author during the 1960s, is divided into two main sections. A group of essays concerned mainly with agricultural change and the process of industrialisation constitutes the first part, and a further group round the theme of agriculture in the urban industrial economy comprises the second. Many of the essays are detailed studies of agricultural changes in specific locations, as, for example, are the pieces on farming in Hampshire and Herefordshire. But the author is able to bring a considerable degree of theoretical clarification to his materials. This is nowhere more clearly exemplified than in the essay entitled "Agriculture and Economic Growth in England 1650–1815: Economic Change". In this essay the author takes up vigorously the problem of explaining the essential relationships between agriculture and the Industrial Revolution. In particular he has tried to separate, for the purpose of analysis, the "longer term causes of agricultural change in the centuries before the Industrial Revolution, and agriculture's role in the Industrial Revolution through such activities as capital formation, the release of productive factors and demand expansion". The author concludes that, on balance, the agricultural sector made a valuable net contribution to economic growth during the period 1650–1815. He confirms that the typical textbook argument, for example, that labour was ejected into factory industry by the force of the parliamentary movement, needs closer scrutiny.

There is no space in a review as short as this to venture into the rich detail of the essays nor is there space even to give a brief summary of each one. It may, perhaps, serve to draw attention to the contemporary importance of this volume, if I select a passage from R. M. Hartwell's introduction and indicate the range of questions that the author treats. Did the agricultural revolution produce an industrial revolution or *vice versa*? Did more people produce more food or more food, more people? Did an agricultural surplus allow the growth of industry or did industrial change induce agricultural change? What was the relationship of the agricultural revolution to the Industrial Revolution and to the growth of population?

The use of the past tense in the forming of questions should not, however, obscure their contemporary relevance. Three quarters of the world is trying to achieve modernisation through some combination of agricultural and industrial inputs. Further, the balance chosen as a matter of policy is not infrequently frustrated by a seemingly uncontrollable population expansion. Though no one expects that in the modernisation of the Third World history will (or must) repeat itself, intellectuals and the more practically oriented alike should peruse the pages of this volume if they seek to understand the fine structure of the contemporary problem they are attempting to solve.

Michael Gibbons

Human problems

Ethical, Social and Legal Dimensions of Screening for Human Genetic Disease. Edited by Daniel Bergsma. Pp. viii+272. (Symposia Specialists: Miami, 1974. Distributed by Stratton International Medical Book Co., New York.) $13.95.

THE rise of interest in genetic screening over the last few years has probably been very largely the result of technological developments. As Tabitha Powledge says in her contribution to this work by members of the Genetics Group of the Hastings Institute of Society, Ethics and Life Sciences, "It is regrettably true that, just because we *can* do something, we very often proceed to do it, without thinking much about whether we *should*". A recurring theme throughout this book is that we should have a very clear idea of why we want to screen, quite apart from whether or not it is practical. According to Powledge, and her sentiments are echoed by other contributors, research is a rational and legitimate purpose of screening but in that case screening should not be presented as having a service or of being of direct benefit to the screened.

There are, perhaps, two important reasons for screening for genetic disease. First, if there is an effective treatment which, instituted early enough, could prevent the development of severe mental handicap, for example, in phenylketonuria. Second, so that genetic counselling and, where possible, advice on antenatal diagnosis can be given early enough to prevent the possible birth of another affected child in the family. In initiating such screening programmes it is, however, important to keep in mind the general principles of Wilson and Jungner (*Principles and Practice of Screening for Disease;* World Health Organisation: Geneva, 1968), in particular the provisos that the disorder must be an important health problem, it must be treatable (and/or preventable), the screening test must be reliable, and it must be cost-effective to screen.

In the light of these sentiments the value, and problem, of screening for unifactorial, multifactorial and chromosomal disorders are discussed. In the case of unifactorial disorders the main problem is that most are rare, and even for those that are relatively common a reliable screening test is often not yet available; for example, in fibrocystic disease. Two relatively common disorders which have been considered recently for screening are certain protease inhibitor genotypes and familial hyperbetalipoproteinaemia.

In so-called multifactorial disorders (for example, essential hypertension and diabettes mellitus) the main problem is that even if one had a reliable test for detecting preclinical cases, there is as yet little evidence to suggest that treatment at this stage would prevent the development of the disease. According to Mellman the screening of newborn populations for chromosomal abnormalities is now of doubtful justification, for apart from providing incidence figures it tells us nothing of the natural history of such disorders. The process of identifying individuals in newborn surveys and studying them from birth until social maturity is too slow to satisfy society's impatience for information on say the XYY and XXX phenotypes. Such screening would be more informative if it included school children and even samples of the adult population.

Quite apart from the scientific merit and cost-effective benefit of screening, there are the social, psychological, ethical and legal problems associated with genetic screening. Predictably, participants who volunteer for screening programmes (as in the case of Tay Sachs disease) are younger and, on average, better educated than those who do not wish to participate in such programmes. And certainly the knowledge that one is a carrier of a genetic disease may have profound effects on marriage plans and marital relationships. The legal and ethical problems of whether or not information obtained from screening programmes should be communicated to the person screened, and possibly also to his relatives if medically or genetically indicated, require the most careful consideration.

Issues raised by genetic screening are becoming increasingly important to us all. This collection of essays goes a considerable way towards making us stop to consider the implications.

A. E. H. Emery