

Preface

Within the next few decades discoveries in biology can radically change human life as we know it. While it is true that biology has already had a substantial impact on medicine and food production, by comparison to future possibilities these effects are piecemeal and trivial. Advances in the treatment of disease, in understanding the processes of ageing, in the control of behaviour, in the harnessing of micro-organisms to produce particular chemicals and in food production have potentialities which will expose the limitations of the social and political structures which have evolved for the application of scientific and technical advances. The problem is not simply that we may not derive the maximum benefit from these advances but that if this new information is not correctly applied, our well-being or even the survival of our species is threatened. We are threatened physically as a species by the depletion of resources and poisoning of our environment because of unplanned technological developments. We are threatened socially as a species by the techniques for the control of behaviour which could dehumanize and could destroy creativity. As individuals, our value systems are being undermined as new knowledge on biological phenomena such as heredity and behaviour undermines the myths and dogmas at the heart of our ethical and religious beliefs.

The British Society for Social Responsibility in Science felt that a meeting to discuss these issues could make a real contribution to defining the problems which can be expected to arise and to the development of attitudes and policies to help solve these problems. We attempted to achieve this in the following ways: first, by providing authoritative analyses of likely developments in areas such as genetics, cancer, immunology and agricultural botany by scientists actively working in these areas;

second, by attempting to assess the likely social impact of these developments by inviting contributions from scientists who had thought particularly about these problems and also from non-scientists; third, by programming the meeting so that there was ample opportunity not only for the speakers but also for the audience to have a full discussion on these topics.

From the first the meeting was planned to be public and the press and broadcasting organizations invited. However, it was recognized that there would be very many people not able to attend who would wish to know more about the meeting than could be reported by the media and further that even those present would welcome the opportunity to study the material more intensively. The talks and discussion have therefore been edited to make this book. All discussion speakers were sent my preliminary editing of their contribution and their replies have been most helpful in the final editing. For reasons of space, the discussion has been rather heavily pruned; also I have rearranged contributions to group those on related topics. I have not attempted to impose any uniformity of style on the manuscripts supplied by speakers and have done no more than attempt to minimize overlap. They are diverse not only in content but also in approach and attitude and are, I feel, as interesting from the point of view of the attitudes they indicate in people in a wide range of positions, as from what they actually say.

The general form of the conference was determined by Maurice Wilkins, who made initial contact with most of the speakers. Advice came from many scientists, especially from Arthur Galston, Henry Harris, John Humphrey and Martin Pollock, and from the British Pugwash Group. In addition to the great debt we owe to the speakers we wish to thank the chairman, Dr C. O. Carter, Professor W. R. S. Doll, Dr M. F. Perutz and Professor Pat Wall. Clearly I owe a great debt to all the contributors for the co-operation and promptness which allowed the complete manuscript to be in the hands of the printers less than seven weeks from the end of the meeting. For this aspect I must also record my considerable debt to John Wolfers and Ian Roxburgh for their very helpful professional advice, to Bert Ede and the BBC who recorded the proceedings, to my wife who transcribed the discussion, and to my colleagues at King's College and, in particular Ann Kernaghan, for all their help. Very effective organizational support for the meeting was provided by David Dickson and the BSSRS administrative staff. Robert Avery

and the staff at Friends' House provided such excellent meeting facilities. The meeting would hardly have been possible without an early guarantee of financial support from the Council for Biology in Human Affairs, Salk Institute, San Diego, California.

Finally I should record my debt to Matteo Adinolfi, Geoffrey Brown, David Dickson, Shev Lal, Steven Rose, Bob Smith and Maurice Wilkins, my colleagues on the meeting organizing committee, which held regular meetings during the eight-month period over which the detailed programme was planned. The success of the meeting, at which we had an attendance throughout of over 800, bears ample testimony to their contribution. I hope all who helped to make the meeting possible will feel that this book provides an adequate record and useful basis for further study.

Watson Fuller