

BOOK REVIEWS

Science in farming: fifty years of the ARC

J.C. Bowman

FIFTY years in being is good reason for any organization to have a celebration. For the UK Agricultural Research Council it is also cause for well-deserved congratulations, especially from the farming industry worldwide and from scientists in other organizations. As part of the ARC's activities to mark its Golden Jubilee it has published *Agricultural Research 1931-1981*, and for this too it deserves congratulation.

There are two main themes to the book. The first five chapters, written by the immediate past Secretary to the ARC, Sir William Henderson, deal with the foundation of agricultural research since 1700, with the establishment of the ARC in 1931 and with its development since then. The important determinants of the success of an organization — the terms of reference, the people, the structure and the relationship with other organizations — clearly emerge from Sir William's account.

The ARC did not have an easy birth nor has its life always been smooth; for instance, the relationship of the ARC with the Agricultural Departments appears to have been uneasy. In 1931 the ARC was charged only with providing criticism and advice on agricultural research. In 1935 the Council, in spite of opposition from the Agricultural Departments, gained the right to carry on agricultural research itself and from then has expanded its research capability both in its own institutes and in university-based units and departments. The money for the ARC programme at that time was provided from the Vote for Scientific Investigation. In 1971 came the Rothschild proposals and the implementation in the following year of the customer-contractor principle between government departments and research councils. Money was transferred from the Science Vote to the Agricultural Departments for them to commission research appropriate to farming's need from the ARC and other bodies.

Now, about 60 per cent of the money spent by the ARC on agricultural research is provided by the Agricultural Departments. The ARC seems to have had a hard task in establishing the need and advantage of having an agricultural research programme independent of the control of the Agricultural Departments and in close touch with the farming industry. Throughout the 50 years the Agricultural Departments seem to have wished to take over the ARC and to act as

Agricultural Research 1931-1981: A History of the Agricultural Research Council and a Review of Developments in Agricultural Science During the Last Fifty Years. Edited by G.W. Cooke. Pp.367. ISBN 0-7084-0180-5. (Agricultural Research Council, 160 Great Portland Street, London W1: 1981.) £23.

spokesmen for the farming industry. Sir William says it is too early to judge the effect of the Rothschild proposals but concludes that

The research policy for agriculture must be to enlarge scientific knowledge so as to provide the options for meeting the changing social, economic and political situations as they arise in the future. The achievement of this objective demands the fostering of good science within centres of excellence.

Many will agree with these views and will go on to ask whether the substantial role of the Agricultural Departments in determining the level of expenditure and the programme of research is appropriate. Sir William's history of the ARC provides a sound basis from which to consider such questions.

The second main theme in the book, complementary to the history of the Council, is a review of the research carried out and the contribution it has already made to changes in farming throughout the world. This part is written by 20 contributors, including Dr R. Riley the present Secretary to the Council and many of the

ARC Institute Directors. The style is surprisingly consistent and the accounts interesting — a credit to the editor Dr G. W. Cooke. Not only do they highlight the way scientific investigation, initially with little apparent application, has subsequently changed the practice and the economics of farming but they also emphasize the international nature of science. The emergence of major farming innovations from the careful collation of small areas of knowledge, produced by research workers in several parts of the world, is a repeated story in crop breeding, animal nutrition, agricultural engineering and other fields recounted in this book.

The appeal of this book will be to readers of several kinds. To those interested in the development of public scientific organizations and the interplay with other public institutions of learning and administration this is a useful case study. (Although it is a pity, for historians, that Sir William Henderson did not list the main sources of his information.) To those interested in the ARC's scientific contribution to farming it is an excellent record of achievement with plenty of scope for economists to engage in post-mortem cost-benefit analyses. To those interested in a story of how scientists work and make progress possible, it is an inspiration. □

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Revisionist zeal for Restoration science

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Science and Society in Restoration England. By Michael Hunter. Pp.233. ISBN hbk 0-521-22866-2; ISBN pbk 0-521-29685-4. (Cambridge University Press: 1981.) Hbk £18.50, \$37.50; pbk £5.95, \$12.95.

HISTORIOGRAPHIC study reveals that for no other period in English history has scholarly debate been as vigorous as it has been for Restoration England. The period was crowded with incident, chronicled by participants and observers equipped with lively pens and livelier minds. Social, economic, political, theological, scientific stresses, beliefs and events divide historians' attention, just as they divided

Restoration society. Michael Hunter's book reflects that turbulence and diversity of the Restoration scientific community and surveys the ensuing historical discussions. In one sense, each of his seven chapters (*Restoration Science: its Character and Origins; The Significance of the Royal Society; The Scientific Community; Utility and its Problems; Politics and Reform; Science, Learning and the Universities; Atheism and Orthodoxy*) focuses in turn on an aspect of the historians' controversies. Hunter's announced aim was

to use a close reading of manuscript and printed sources to show how Restoration science related