

BOOK AND VIDEO REVIEWS

Animal Biotechnology and Ethics

Edited by Alan Holland and Andrew Johnson (1998). Chapman and Hall: London. 352pp. Hardback. Obtainable from the publishers, 2–6 Boundary Row, London SE1 8HN, UK (ISBN 0412756803). Price £49.00

Animal biotechnology in general, and genetic engineering in particular, have become major issues in biomedical research and animal production. Humans have long applied genetic principles to animals in order to improve their characteristics. It is, therefore, appropriate to address the question of how new or how different are the ethical issues raised by a technology such as genetic engineering. Are these essentially continuous with those raised by traditional breeding methods in farming or animal research – or is the difference of so great a degree that new ethical issues are raised? Dealing with this question was one of the principal challenges for the 22 authors (all except one originating from either the UK or the USA) who contributed to this book.

The chapters of the book are conveniently arranged. After the editor's introduction with an overview of the book's contents, the following section deals with the scientific procedures of animal biotechnology, their applications in medicine and agriculture and their effects on animal welfare. Here, Wilmut presents an excellent overview of the methods of genetic modification that are presently available or may become available in the near future. The welfare consequences of biotechnological procedures such as transgenics or embryo transfer are expertly addressed by Broom.

The next section consists of five chapters dealing with the social content of animal biotechnology. Why or why not animal biotechnology? Views on this question are given by Rexroad and D'Silva. The first of these two authors favours animal biotechnology because of the enormous potential benefits, whereas D'Silva takes a more sceptical position noting: 'We can only regret that the development of the technological skills of the human species has not been matched by an evolution of compassion for the animals with whom we happen to share our planet.' In this section Klüver, the only author from outside the UK/USA, reports on the Consensus Conference on Technological Animals held in September 1992 in Copenhagen. At this Conference, a panel of 12–16 lay people concluded that biotechnology in animals is acceptable if the primary purpose is to develop new treatments for diseases which cannot otherwise be cured.

The third section deals with ethical and conceptual issues. In six chapters, philosophers, specialized in animal-related topics, explain the new ethical aspects and conceptual issues in relation to this new technology. Rollin adheres to Aristotle's concept of 'telos' as the basis for human rights and argues that this concept, interpreted as 'the set of needs and interests which are genetically based and environmentally expressed', should be extended to other animals as well. According to Rollin, this does not imply that genetic engineering of animals is always forbidden. It can be accepted so long as the needs and interests of the animals are not violated. Attfield, in turn, argues that there is no need to appeal to a 'telos' or to an 'intrinsic value' of animals, and that on consequentialist grounds genetic engineering is wrong if this produces animals that experience a substantial degree of suffering. In this section Frey deals with the ethical aspects of xenotransplantation, whereas Holland, in his chapter 'Species are dead. Long live genes!' emphasizes the importance of a metaphysical view of nature.

In part four, various aspects of biotechnology-related legislation and policies are presented. Two chapters by Pavel and Stevenson deal with legislative and ethical aspects of

patenting animals. A comprehensive overview of past regulations which are of relevance for controlling the care and use of experimental animals is presented by Straughan and Balls.

In the last chapter of the book, Banner explains on which principles the 1995 *Report of the Committee to Consider the Ethical Implications of Emerging Technologies in the Breeding of Farm Animals* (Banner Report) is based, and how these principles could provide a satisfactory framework for the legislative regulation of animal biotechnology. Banner refers to the plea, as stated in this Report, to establish a Standing Committee in order to provide an authoritative forum on the ethical issues related to current and future developments in the use of animals.

Although I find the wording in some of the chapters woolly, and the two chapters on animal patenting redundant, my overall view is that this book provides a well-balanced source of information on both the technical possibilities and ethical implications of animal biotechnology. This book is highly recommended for all those who are involved in animal biotechnology or those who are interested in the developments of a field which could change our living world.

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The Behaviour of Cattle

J L Albright and C W Arave (1997). CAB International: Wallingford. 306pp. Hardback. Obtainable from the publishers, Wallingford, Oxon OX10 8DE, or for North American orders from, Oxford University Press, 2001 Evans Road, Cary, North Carolina 27513, USA (ISBN 0851991963). Price £49.95 or US\$90.00.

A knowledge and understanding of the behaviour of cattle is a key component in any move to improve their welfare, increase their productivity or develop efficient and humane methods of keeping them.

Over the last 50 years an immense amount of material has been published on cattle behaviour. Some of it is hidden away in the standard books on the nutrition, breeding, housing and diseases of domesticated animals; some of it is seen as practically inclined notes in the farming and agricultural trade magazines; some of it appears in the traditional animal husbandry/animal production texts – but most of it is scattered in scientifically inclined papers printed in the agricultural, animal production, dairying, veterinary and behavioural journals.

Quick access to this diverse material has, in the past, been largely through the cattle chapter in the 1962, 1969 and 1975 editions of E S E Hafez's *The Behaviour of Domestic Animals* and, since 1993, through Clive Phillip's semi-popular but still fine book, *Cattle Behaviour*.

The publication of Albright and Arave's *The Behaviour of Cattle* has, however, changed all this. The first port of call – and in many instances the only necessary port of call – for anyone looking for information on nearly any aspect of cattle behaviour is now going to be Albright and Arave. The academically inclined enquirer will, of course, track back through Phillips, all the editions of Hafez and the abstracting and indexing journals. The seeker after information to help solve a practical husbandry problem will, however, be amply satisfied with what he or she finds in Albright and Arave.