

### ***Animal Experimentation: A Guide to the Issues, Third Edition***

V Monamy (2017). Published by Cambridge University Press, University Printing House, Cambridge CB2 8BS, UK. 136 pages Paperback (ISBN: 978-1-316-61494-5). Price £17.99.

First published in 2000, this represents the third edition of a highly accessible and thoughtful book that succinctly introduces ethical issues and principles surrounding research animal use. The book is geared to undergraduate and graduate students as well as early career scientists, but may also be useful to more seasoned scientists and laboratory animal professionals as a concise summary of alternatives, moral viewpoints, and regulatory requirements in several global areas.

*Animal Experimentation* is organised into eight chapters and each opens with a brief quotation from various prominent Western scientists and ethicists that captures the essence of the commentary to follow. Initially, the aims and scope of the book are introduced, followed by an overview of the historical use of animals in research, as well as opposition to animal use in research. The moral status of animals is reviewed, as well as many uses of animals in research, followed by a discussion of the regulation of animal use. The book concludes with a discussion of alternatives as well as consideration of research without animal use.

As the author indicates in the opening chapter, many early career scientists make a decision at some point that leads them into the life sciences, which may include the use of living animals or their parts for research purposes. Living biological systems are endlessly fascinating to study and necessary, at this time, for certain avenues of investigation; however, whether for fundamental or biomedical research, there is a cost to this use and it is incumbent upon those working with animals in this way to fully understand the implications of their actions. How harms to research animals can be minimised and the checks and balances meant to ensure appropriate research animal welfare forms the basis for the following chapters.

An historical overview of the use of animals in research is important in developing context for modern regulatory oversight of research animal use and also serves to demonstrate that there has always been some level of concern or opposition, whether from the scientific community or from the public, for using living animals for the acquisition of scientific knowledge. The historical examples and commentaries used throughout this section of the book echo many modern day public concerns about research animal use, including repetition of well-established results, adequacy of analgesia and anaesthesia use, necessity of induction of pain or distress for research purposes, and relevance of research results obtained from highly stressed research subjects. These concerns were not addressed historically until the discovery of general anaesthetics in the mid-1800s and the advent of specific research animal legislation, led by Britain under the Cruelty to Animals Act of 1876. It is sobering to be reminded that additional specific research animal protection was not legislated in the USA and elsewhere until almost a century later.

The author contrasts concerns over research animal use with the tremendous biomedical advances made in the same period, providing a rationale for the utilitarian approach to animal experimentation as well as an introduction to the discussion of the moral status of animals. The author emphasises in this section the duty of scientists to engage in philosophical discussions regarding the ethics of research animal use. Acceptability of research animal use, including what procedures may be performed and what species can be used, is conferred by society at large, and thus may change over time and may vary in different regions around the world. Scientists must be prepared to openly discuss their work as well as the reasons for which they feel that their work is necessary to ensure ongoing public support for animal experimentation as well as ensuring that their actions keep pace with societal expectations. While not an exhaustive discussion of philosophical theory, several moral viewpoints surrounding animal experimentation are explored, including humanism, animal rights, empathy, reverence for life, and moral stewardship, the latter being a modification of utilitarianism. Moral stewardship, it is argued, is a useful framework for scientists in that it emphasises animal sentience and demands respect for those considered most vulnerable, both human and non-human.

The review of regulatory oversight of animal experimentation is limited to discussions surrounding the UK, the USA, Australia, and New Zealand; contrasting three different oversight processes governing approval for research animal use. A high-level overview is provided for centralised government inspection (UK) vs a hybrid system of central and self-regulation (USA) vs an enforced self-regulation system (Australia and New Zealand). The essence of each oversight system is succinctly described and, while a scientist would need to supplement this information to fully comprehend the nuances of specific oversight to prepare an animal use protocol in any of the countries discussed, it is useful for the reader to see that the ultimate aim of research animal protection is harmonised for many countries today and can be achieved by several different approaches. Each system has its own merits and challenges for those working within.

Appropriately, a lengthy discussion is devoted to alternatives and includes definitions of the 3Rs, as well as detailed examples of replacement, reduction, and refinement alternatives in the areas of research, teaching and testing. Each of these sections provides good questions for the reader to ponder, as well as numerous references for further reflection. For those outside of the field of laboratory animal science, this may confer a greater appreciation for how wide-ranging the consideration of alternatives extends. Concepts surrounding adequacy of experimental design, the need for trained and well-qualified individuals to support research animal care, recognition and treatment pain and distress, and development of humane endpoints are key topics examined in this chapter.

An interesting and brief section at the end of the book explores ethical principles for animal use in teaching and provides a framework for students to consider their own actions and responsibilities. There is significant engage-

ment of students in many different fields with ethical instruction, and students are much more likely to assume at least some responsibility for how they receive education and training. For students training in scientific fields, ethical use of animals for instructional purposes should underpin all subsequent considerations of animal use for research purposes.

In summary, *Animal Experimentation, Third Edition* presents a balanced, focused, and engaging introduction to

many of the ethical issues associated with research animal use, exploring a potentially highly emotionally charged subject in a neutral fashion. Animal welfare is a central theme throughout the book, reminding the reader of the great challenges and responsibilities associated with animal use in teaching and research.

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