

Book Reviews

Animal Machines

R Harrison (2013). Published by CABI Publishing, Nosworthy Way, Wallingford, Oxon OX10 8DE, UK. 224 pages Hardback (ISBN 978-1780642840). Price £27.50.

“The modern world worships the gods of speed and quantity, and of the quick and easy profit, and out of this idolatry monstrous evils have arisen”.

These are the words of Rachel Carson in her Foreword to Ruth Harrison’s *Animal Machines*, which has been republished by CABI to mark 50 years since the original was written. The book is published in hardback and includes short contributions by Marian Stamp Dawkins, John Webster, Bernard Rollin, David Fraser and Donald Broom.

It is difficult to overstate the influence of Ruth Harrison in the modern animal welfare movement. The public outcry after *Animal Machines* pushed the British government to appoint the Brambell Committee to investigate intensive livestock farming. The Brambell Report recommended a government advisory body, later called the Farm Animal Welfare Council (FAWC). The recommendations of this body led to statutory legislation for farm animals, such as the Agricultural (Miscellaneous Provisions Act) 1968. Such government advisory bodies and legislation are the story for many parts of the world. The influence of *Animal Machines* is especially noticeable in the European Union, which has prohibited veal crates, sow stalls and the non-enriched battery cages. The Brambell Report set a research agenda for farm animal welfare, which is being pursued to this day. All of these developments can be traced back to Harrison’s work.

Animal Machines can be divided into two parts. After Carson’s Foreword, the book begins with an ‘Introduction’ followed by five chapters on intensive farming sectors. These are ‘Broiler chickens’, ‘Poultry packing stations’, ‘Battery birds’, ‘Veal calves’, and ‘Other intensive units’. This section is concluded with a series of photographs called ‘The new factory farming — a pictorial summary’. The second part of the book is concerned with a discussion of broader issues. These chapters are ‘The basis of quality’, ‘Quantity versus quality’, ‘Cruelty and legislation’, and a ‘Conclusion’. The book ends with a relatively short bibliography referencing books, and booklets and papers, followed by an index.

The contributions from animal welfare experts in the new publication is revealing in terms of Harrison’s worldwide influence. At the time *Animal Machines* was published all five experts were living in Britain. Bernard Rollin, a philosopher, later returned to the USA and had a major influence working from Colorado State University. David Fraser went to Canada and has influenced the development of animal welfare there. This is not to mention Peter Singer, who read *Animal Machines* at Oxford and which influenced his enormously influential *Animal Liberation* (1975). Marian Stamp Dawkins (Oxford), John Webster (Bristol) and Don Broom (Cambridge) are early animal welfare scientists who helped establish the discipline. All of these experts make excellent

contributions to *Animal Machines* and each gives insight into Ruth Harrison as an individual. To give a flavour of these, I recount an anecdote by John Webster, who spent time with Ruth on the Farm Animal Welfare Advisory Committee (FAWAC) and FAWC. He describes his fellow committee member as a person who was “passionate in the pursuit of justice”, who retained a “scepticism in regard to comforting assurances”. Webster goes on to write: “On more than one occasion, she displayed the true courage of those early physiologists by testing things out on herself. Ruth submitted herself to procedures for carbon dioxide stunning and electro-immobilization, both promoted as humane. The first she pronounced terrifying, the second excruciating. We believed her and acted accordingly”.

Below, I comment on a few of the ideas that reading Harrison’s work generated, to show how important *Animal Machines* is today.

Learned historians often justify the study of history with the claim that some understanding of the past helps us avoid repeating the same mistakes. “There is nothing new in the world except the history you do not know” wrote Harry Truman. Such sentiments are highly pertinent to current policy debates that may impact on animal welfare. In the republished *Animal Machines*, Marian Stamp Dawkins describes the problem of producing a larger amount of food for a growing population in the face of climate change. She then writes: “The watchword is now that agriculture must become ‘sustainably intensive’, raising fears that the improvements in animal welfare we have seen over the past 50 years might become lost, or even reversed, unless we are as vigilant and perceptive now as Ruth was then”.

Remarkably, Harrison had written in her concluding chapter: “Intensive rearing of animals is said to be aimed at increasing the animal protein content of our food and meeting the requirements of an ever increasing population”.

Fifty years ago Harrison reported how nutritionists in the developed world agreed that we eat too much for our own health. She then discussed the problems in the old argument to produce more animal products intensively for the growing population of the developing world. First, the conversion of meat to vegetable protein is inherently inefficient, and second, it is only a short-term fix to supply the developing world with our produce in times of shortage. Ultimately we must help the developing world to help itself. But Harrison also writes “it is to be hoped that care will be taken to avoid wasteful methods we have in the West”. Now, as then, we consume too much meat and dairy products in the West — see World Health Organisation recommendations. But the ‘sustainable intensification’ mantra, where it applies to intensive livestock production, is itself premised on the developing countries growing appetite for meat and dairy consumption. This is one of the reasons why *Animal Machines* is so important today. The arguments for livestock intensification are just as dubious today as they were in 1964.

Harrison's discussion of animal welfare, food security, public health and nutrition points to the second important point about *Animal Machines*. She reported the new intensification of livestock farming in the context of a much broader debate. "Animals do not have a chance to live before they die" may be the central expose of *Animal Machines*. But the real crime was not simply that intensification is bad for animals but good for humans. It was, and is, worse than that. Livestock intensification is bad for animals, bad for humans, and bad for the environment. Harrison's claim that intensive farming is bad for health is her central anthropocentric argument. Ancillary to this is that intensively reared animals simply taste badly. For these reasons, Harrison reports, farmers would often keep a few more extensively reared animals for their own table. To add to the self-interest-based arguments Harrison adds global food security and environmental ones. Thus, 50 years ago, Harrison was using a successful multifaceted strategy, one that many animal welfarists have replicated only in recent years.

Thus, the argument Harrison set out in *Animal Machines* is not simply about animal welfare. The intensive farming animal welfare debate must be conducted in the broader context of global food security. A lesson to draw from this is it follows that the animal welfare literature, unless it is disconnected from its broader context, must be multidisciplinary. To date, it has been dominated by natural science and the values it brings with it. Hence, the next theme that arises from *Animal Machines* concerns how we can make knowledge claims in such an interdisciplinary setting.

Arguably, much that Harrison writes in her book would not be called scientific in the purest sense. Many of her claims are not based on studies conducted using scientific method and hypothesis testing. There are countless examples but I will take one from the first chapter. Harrison visits one of the more extreme veal calves units: "We came out of the bright sunlight into the dark, windowless shed. The farmer switched on the light and there was instant pandemonium within a row of narrow, enclosed crates at one end of the shed. When the noise subsided he carefully let down the shutter in front of one of the crates and revealed a calf standing in a space barely large enough to hold it, its eyes wide and staring, its face a picture of misery. Twice a day it saw electric light when it was fed. Otherwise it dragged out its existence in the dark, cramped and motionless, barely living before it was slaughtered" (p 36).

After Ruth Harrison wrote these words, animal welfare science has added to *science-based* arguments she employed later in the book. Later on, of course, the rearing of veal calves in such conditions in the European Union has been rightly prohibited. There are few, if any, who would now defend such farming practices. Despite this, if we take a purely scientific stance and look at the passage alone, Harrison was making claims that were not what might be called 'evidence-based'. This passage is meant to be illustrative of a broader issue in animal welfare studies, an inherently normative discipline. The Brambell Report pointed to the lack of scientific evidence and recommended further investigations into the matters raised in *Animal Machines*.

In many cases science has supported a progressive animal welfare agenda, such as the prohibition of veal calves units described above. But what do we do if 'the science' isn't there to make based decisions? I write 'the science' because there seem to be two related but different understandings of science. The first is a purist model where hypothesis-driven controlled trials would have to be conducted to show the calf is suffering. Indeed, a number of experiments would have to be conducted, relating to space allowances, roughage, dietary iron, light intensity etc.

In *Animal Machines*, Harrison does use arguments *based* on science. She writes about iron deficiency, the lack of development of the calf's rumen, urine and hair licking, swollen joints etc. So how much science do we need and what exactly counts as 'the science'? In Britain, at least, the animal welfare policy community has been heavily influenced by natural science. This may have contributed to a sort of positivism in agricultural policy: if there is no scientific evidence of suffering, there is no animal welfare problem. Sentient animals should be given the benefit of the doubt, but the precautionary principle is trumped by economic considerations. This is understandable for those set to gain, but there seems to be acquiescence of this in parts of animal welfare academia. A positivism in science contributes to a positivism in policy. To Harrison's words above, the animal welfare scientist might respond: What does it matter that there was 'instant pandemonium' when the farmer switched on the light? How does Harrison know this is relevant? Surely such pandemonium is an instance of excitement and therefore intensity, not valence, of *affect*. The calves might even be enjoying themselves (excitement)! Why is space important (battery hens remain in their cages if opened up to be free)? 'Its eyes wide and staring ... its face a picture of misery.' What subjective nonsense! How can the calf's face reveal to us what they are feeling inside (if, indeed, they are feeling anything)? 'Barely living before it was slaughtered' — completely unsubstantiated and emotive language to boot...

The point being made here is not to denigrate science. Animal welfare science has been enormously important and influential in developing progressive animal welfare policy. But we must not place the discipline on a pedestal. First, science is but one form of evidence. Second, we should always give the benefit of the doubt to sentient animals. We should always apply the precautionary principle. As John Webster has written elsewhere: "Although scientists and scientific research can contribute to the animal welfare debate and suggest courses of action to be taken or avoided, the topic of animal welfare and what we should do about it goes way beyond science, it involves economics and politics as (we hope) the public expression of morality" (Webster 1994; pp 258–259).

In *Animal Machines*, Ruth Harrison used scientific arguments *and* other legitimate forms of evidence to make a judgement. Later in life she was often frustrated by what she saw as policy-makers hiding behind a lack of science to obstruct developments in animal welfare policy.

The last theme I want to address is perhaps the question foremost in the mind when reading *Animal Machines*. The text has had an undoubted impact not only on animal welfare but on world agriculture. But the nagging question remains: Are the lives of animals better now than they were then? In Britain — the focus of *Animal Machines* — and the European Union, the answer at least for animals with the poorest welfare is a guarded ‘yes’. Veal crates, un-enriched battery cages and sow stalls have been prohibited. But fifty years on we still farm animals using morally questionable practices. In addition, there is some criminal infliction of suffering. Despite this, Ruth Harrison’s work helped lift the bottom animals up a rung of the ladder. But what about a more global perspective? I wrote at the beginning that globalisation helped disseminate the animal welfare movement from the nib of Ruth Harrison’s pen to the rest of the world. But globalisation has also impacted agriculture. The developing world moved to intensive farming and has begun to treat sentient beings as animal machines in their many millions. As the back cover of the re-publication warns, we must learn from Ruth Harrison’s classic text because the old demand for intensification of agriculture has reared its ugly head again, this time in the form of ‘sustainable intensification’. So, to end this review of what is a historical piece of literature, we can ponder perhaps the ultimate question of animal ethics. In Ruth Harrison’s eloquent words: “How far have we the right to take our domination of the animal world — *in degrading these animals are we not in fact degrading ourselves?*”

Steven P McCulloch

Royal Veterinary College, Herts, UK

Udder Health and Communication: Proceedings of the International Conference, 25-27 October 2011, Utrecht, The Netherlands

Edited by H Hogeveen and TJGM Lam (2011). Published by Wageningen Academic Publishers, PO Box 220, NL-6700 AE Wageningen, The Netherlands. 428 pages. Hardback (ISBN 978-90-8686-185-9). Price €96.00, \$US144.00.

Scientists working in the field of animal welfare typically hope that their research will someday inform changes in practice and thus improve the lives of animals they work with. They toil away at their studies, with luck developing important insights into the world of animals and how their lot could be improved through changes in the way they are kept and handled. Scientists may write up these results for publication in the peer-reviewed literature, and for eager consumption by fellow academics. A few brave souls (perhaps responding to prods from administrators needing to show evidence of ‘knowledge translation’) will go so far as to write a lay version of their article for a farm journal, or perhaps give a talk to a group of farmers or other individuals involved in animal care. Thus, their success is judged by their clever ideas, journal publications, and perhaps conference and other presentations. But have any animals been helped in the process? Unfortunately, the honest answer is often no; research results often do not find their

way into the hands of farmers or others making decisions about animal care, and even when the knowledge is transferred it often fails to lead to changed practice.

Readers of this journal (with the exception of the lucky few who count themselves as fellow lovers of the dairy cow) would be unlikely to pick up a book focused on udder health. But *Udder Health and Communication* deserves a closer look. The book is focused on understanding the limitations in translating research into improved practice. The authors document what farmers themselves recognise as the problems and what types of communication efforts are most likely to result in sustained changes in practice. These authors had gathered for an international conference in Utrecht in the fall of 2011 and the book provides a record of the ideas and findings presented.

Here, I summarise only a few of the most interesting messages. First and foremost, this book argues that improving cow health has less to do with the latest scientific innovation and more to do with understanding the views of farmers who are deciding whether or not to use these practices. If farmers believe that their actions will be effective they are more likely to adopt new practices. This belief is affected by their confidence in the practices. Confidence comes, in part, from who is providing the advice and veterinarians are often seen as trusted advisors because they are thought to understand the constraints facing that farm and are able to offer tailored solutions. Providing veterinarians (and other professionals working with farmers) training in communication skills, including in eliciting and acknowledging the farmers’ perspective and in the process of making shared decisions, will likely improve adoption and adherence to treatment plans.

Thus, this literature on communication regarding udder health has much to teach people working in animal welfare who are interested in improving the adoption of best practices. Unfortunately, the key messages and literature are not easily accessible. The book is simply the proceedings of the conference, with 84 contributions (ranging from full-length papers to simple abstracts), 12 sections and all of the variation in content and style that you would expect from a compilation of many authors. There has been no attempt by the editors to distil the conclusions in a way that would be useful for readers, especially for those without an expert knowledge of udder health literature. For a group of scholars so knowledgeable and interested in how to communicate their finding to farmers, it is odd that no attempt was made to translate key messages to other scholars whom have much to learn from the progress made within this field.

In summary, should you buy this book? If you work on issues related to udder health you should already know about the book and have a copy. For those with an interest in animal health and welfare, and who wish to be innovators in effective communication with farmers, this book provides a useful compilation illustrating a range of approaches that could be applied to other cases. For the rest of you, borrow a copy from a friend or the library and spend an hour or two browsing through the volume. You