

■ Living Books About Life

# Veterinary Science

Humans, Animals and Health

Edited by Erica Fudge &  
Clare Palmer

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## Introduction

The water which standeth in the hollowes of Beeches,  
doth perfectly cure the naughty scurfe and wilde  
Tetteres, or scabs of Men, Horses, Kine, or Sheepe, if  
they be washed therewithal.

*The Widowes Treasure* (1631)

The shared physicality of humans and animals -- as suggested by this early modern advice book on animal health -- was widely accepted in the seventeenth century. As historian Louise Hill Curth has noted, in this period ‘Almost all of the procedures that were used for humans were also applied to animals’ (Curth, 2010: 114). Since then, however, human and animal medicine appears to have taken a more dualistic form, with human medical care on one side and animal veterinary care on the other. The establishment of veterinary science as a separate profession, which took place during the nineteenth century, signalled that a very different model of care was -- and should be -- available for humans than for animals. A vet was never a human doctor, and vice versa. But this separation has rarely been more than skin-deep. Taking a close look at

contemporary veterinary science, as we do in this living book, shows how difficult it is to maintain this separation. Everywhere humans and animals are entangled: we choose to share our homes with animals; we eat them; they both sicken and cure us. Equally, many animals rely on us for food and health; they invade 'our' spaces; they eat our (fleshy and other) waste; they suffer because of our illnesses.

Veterinary science is a locus of anxiety about the intertwined nature of human and animal worlds. Whether dealing with pests or parasites that infest our spaces; developing knowledge about the effects of different drugs; increasing productivity; or simply attempting to help a sick or injured animal, animal health practitioners move between human and animal worlds. As the articles we have collected together all reveal in their different ways, it is impossible to maintain a firm divide between human and animal health and wellbeing. Donna Haraway suggests that we live in a world of 'cat's cradle games in which those who are to be in the world are constituted in intra- and interaction' (2008: 4). Veterinary science may be about animals, but it is also -- in a multitude of ways -- about humans: our health, our control, our sense of who we are in the world -- and also, who we are not.

This living book is organised into three sections: 'The Context'; 'The Practice'; and 'The Future'. 'The Practice' is the central and biggest section, and it is where the bulk of our veterinary papers are located. But 'The Context', we hope, will set in motion some of the core issues that underpin what follows. In this first section we start with an essay that traces the troubled emergence and professionalization of veterinary science, an emergence that saw the devaluing of

amateur knowledge -- the kind of hands-on understanding found in our epigraph. Having placed veterinary science in its historical context, the second piece gives an overview of key approaches to contemporary animal ethics, setting the stage for an exploration of why animal health and welfare *matters*. The three following essays all raise questions about what being 'healthy' or 'sick' actually means; how it feels for an animal to be sick, afraid, or in pain; and what veterinary practitioners who confront, treat, alleviate and sometimes create such animal pain experience. In raising these questions, the essays all address issues core to veterinary science and to veterinary practice.

The central section of the book moves to look at the *practice* of veterinary science, to articles dealing with encounters with and treatment of animals. We have grouped these papers into four subsections, which, as they are read, reveal relations with animals that, we suggest, increasingly escape from human control. What begins with apparently orderly separation ends with a recognition that, ultimately, neither control nor separation can be maintained. Human and animal lives are inextricably bound together in terms of our simple shared and creaturely bodies; the human (in)ability to completely restrain either animal (particularly avian) movement or the movement of disease; and in the dependence of humans and animals alike on other living and dead bodies in order to go on living themselves.

The first subsection, 'Agricultural Control,' includes two veterinary articles dealing with productivity. In both, the involvement of vets in the complete control of animals in some aspects of contemporary agriculture

becomes clear. Here 'livestock' are not only, or even *not any more*, bodies: they have become units of production. Indeed, in Velazquez' study of assisted reproductive technologies in cattle included here, the *in vivo* 'production of embryos by superovulation' is claimed to have economic merit, because 'complete herds [can be] transported as frozen embryos'. The idea that a group of frozen embryos can be equated to a herd of cattle shows just how far the idea of animals as individual living, breathing and sentient animals can be discounted in certain forms of modern agriculture. In contrast, the philosopher Bernard Rollin offers an alternative perspective on human relationships with agricultural animals, reintroducing the animal as individual and not just as object. Rollin concludes (linking us back to papers in the 'Context' section of this book): 'In today's world, the ethical component of animal welfare prescribes that the way we raise and use animals must embody respect and provision for their psychological needs and natures.' His animals are beings with minds, needs and behaviours of their own, needs and behaviours that they should be given room to express. They are not merely units of production from which we should try to maximize human benefit.

The next subsection, 'Domesticity and Order,' turns to another set of human-animal relations -- this time in the home. In his 1984 book, *Dominance and Affection: The Making of Pets*, Yi-Fu Tuan argued that 'Domestication means domination' (99). Veterinary science, however, reveals things to be rather more complex than this opposition of dominator/dominated implies, and this is something we show in our selection. Here, we chart a movement from absolute compassion for a single injured companion animal (an animal recognised as possessing a mind), through using pets as

experimental models, to regarding pets as threats. A short discussion of the veterinary treatment a paraplegic kitten receives reveals how close veterinary and human health care *could* be: that injury to animals might be treated with the same persistent care as injury to human beings (although, as the article implies, this is unusual even in the treatment of close companion animals). This closeness emerges in a different context in the next essay, which blurs the boundaries between relations of companionship and relations of utility: it shows that a pet can be given medical care and that animal's treatment can also contribute to an understanding of animal and human medicine alike. This article emerges out of what's called the 'One Medicine -- One Health' movement, which proposes the bridging of divisions between human and animal health care, something becoming increasingly necessary in the light of the dangers of zoonoses such as avian flu (which we consider in the next subsection). Both of the essays that begin this subsection on domesticity show how important care for companion animals can be. Yet in order to achieve this, as Ducceschi, Green and Miller-Spiegel's essay shows, there is a paradox: other members of the same companion species (cats and dogs) are 'harmed and killed' in the teaching and training of vets. Companion animals can therefore be understood as subjects requiring care, but also as objects of utility. And veterinary concerns are not restricted to questions of care versus utility. For veterinarians also note that domesticity itself can be threatening; that the animals we share our homes with can bring with them hidden dangers. As the final piece in this section shows, these dangers can come in many forms: our companions may bite us, infect us and infest us with parasites.

This takes us into the third subsection, which we have titled 'In Place/Out of Place.' Here questions of human control of animal spaces are at stake. It's been persuasively argued that *where* animals are is critical to *what* we perceive them to be. Chris Philo and Chris Wilbert, for example, argue that the 'conceptual "othering"' of animals -- the 'setting them apart from us in terms of character traits' -- is absolutely linked to a 'geographical 'othering' (fixing them in worldly places and spaces different from those that we humans tend to occupy)' (Philo and Wilbert, 2000: 10-11). How we live with animals -- their literal closeness to or distance from us -- has implications for what we take them to mean.

We stay in the home at the beginning of this subsection, tracing out different ways of relating to animals that are 'meant' to be there and those that are 'transgressing'. Pests become central. In the first essay rodenticides -- chemicals that kill unwelcome animal residents such as rats and mice -- are shown also to endanger the health of animals we welcome in our homes. In the second, a different -- and non-toxic -- means is used to control animal spaces. Here the categories of pet and pest are deliberately confused. The transgressive nature of a mouse's behaviour is neutralized by 'translating vermin into pet, pest into guest'. We then move outside of the domestic environment into other human-built spaces for captive animals: sanctuaries and zoos. In the first essay, the pet trade is shown to be linked to not only the need for animal sanctuaries, but also to the potential spread of viruses that might be transmitted across different communities of one species. The following essays focus on care for transplanted animals in human-created environments, and raise questions about what it means

for captive, re-placed wild animals to be well. Can an infertile muskoxen be counted as a healthy animal? Is boredom resulting in excessive masturbation a sign of poor physical condition and welfare in otherwise healthy otters? Do traumatic experiences lead captive chimpanzees to develop syndromes such as depression, [as] the way humans do?

The next and final subsection of 'The Practice,' titled 'Entanglements,' deals with the ways in which human and animal health is intertwined, and can be read as bringing together key issues from the previous three subsections. 'Entanglements' focuses on human-bird relations. The first essay shows how the control of animal health through the use of veterinary antibiotics has unintentional and unforeseen consequences beyond the agricultural environment, consequences which threaten a wild vulture species. The second paper considers how feral animals (that is, animals that were once domesticated but over whom we have now lost complete control) have chosen to live -- undesired and uninvited by us -- in public parks and gardens, and thereby potentially threaten our health. These veterinary issues are raised in a different context in the third essay, which traces the economic underpinnings of outbreaks of avian flu. Avian flu exposes the degree to which animal health has social, cultural and political implications for us, illustrating how the circuit of wild birds, domesticated poultry and human beings has become 'one of the central concerns of global geopolitical-biopolitical medical surveillance of the twenty-first century.' Finally in this subsection we return to vultures, and explore the ways in which failing to recognise the entanglement of *agricultural* veterinary practice with both *wild* and *feral* animals can threaten social structures critical to human health,



for veterinary practices can change animal populations across many contexts in ways we cannot predict.

Unpredictability is a key anxiety that can be traced in the three essays with which we conclude this collection in our final section 'The Future'. Here, the prospect is one in which increasing animal utility gives us both heightened security and heightened vulnerability. In this context, the human/animal dualism that allows us to regard certain animals as simply containers of spare parts collapses. The sharing of organs points to a profound closeness between humans and animals, even as that very understanding brings with it a recognition of danger. This danger comes in the form of new hazards: of disease (transmitted through xenotransplantation) and of bioterrorism (transmitted through the use of biological weapons). The world being outlined here is one of anxiety, for sure, but it is also one that forces us to acknowledge the inescapable nature of human-animal closeness.

We hope by the end of this living book (as it exists at this stage of its development) to have shown how veterinary science might help us to see how utterly and inextricably linked human and animal health issues and practices are; how our literal and conceptual categorisations of animals - as agricultural, domestic, wild and feral -- break down in the face of zoonoses that we can never truly control; and how a single animal -- a cat, for example -- can be the subject of compassionate care, an experimental object for veterinary training and a vector of human disease. But we would also like this selection of essays to show how work in the humanities can help to illuminate what underpins veterinary science, and how veterinary science can importantly inform work in the humanities. In this spirit we have,

in the subsection focusing on birds and the spread of disease, deliberately placed two veterinary science essays alongside two essays written by humanities scholars. This selection is aimed to exemplify how these relations could work. Here we glimpse not only how inextricably linked animal and human health is but also how, in reading across disciplinary boundaries, other critical problems can be revealed: for instance, these cross-disciplinary readings help us to see the ways in which the movements of animals and diseases can globalise the effects of ‘distant’ extreme human poverty.

Work coming out of veterinary science, just as work coming out of the humanities, raises profound questions about ethics, about human and animal natures, about the future worlds we want to see, and about what individuals and species we want to be in it. We hope that this living book, albeit in a small way, will contribute to these discussions.

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# Articles

## The Context

Abigail Woods and Stephen Matthews

“Little, if at all, Removed from the Illiterate Farrier or Cow-leech”: The English Veterinary Surgeon, c.1860-1885, and the Campaign for Veterinary Reform

Clare Palmer

Animals in Anglo-American Philosophy

Stefan Gunnarsson

The Conceptualisation of Health and Disease in Veterinary Medicine

Temple Grandin and Mark Deesing

Distress in Animals: Is it Fear, Pain, or Physical Stress

John Law

Care and Killing: Tensions in Veterinary Practice

## The Practice

### a) Agricultural Control

Miguel A. Velazquez

Assisted Reproductive Technologies in Cattle: Applications in Livestock Production, Biomedical Research and Conservation Policy

Stig Einarsson, Ylva Brandt, Nils Lundeheim, and Andrzej Madej

Stress and its Influence on Reproduction in Pigs: A Review

Bernard E. Rollin

Animal Rights as a Mainstream Phenomenon

## **b) Domesticity and Order**

Dipika Kadaba

Rehabilitation of a Paraplegic Kitten with Acute Depression

Douglas Thamm and Steven Dow

How Companion Animals Contribute to the Fight Against Cancer in Humans

Laura Ducceschi, Nicole Green and Crystal Miller Spiegel

Dying to Learn: The Supply and Use of Companion Animals in US Colleges and Universities

J. K. Kirkwood

Animals at Home – Pets as Pests: A Review

## **c) In Place / Out of Place**

Valentina Merola

Anticoagulant Rodenticides: Deadly for Pests, Dangerous for Pets

Erica Fudge

Pest Friends

Lawrence Mugisha, Claudia Kücherer, Heinz Ellerbrok,

Sandra Junglen, John Opuda-Asibo, Olobo O. Joseph,

Georg Pauli and Fabian H. Leendertz

Retroviruses in Wild-Born Semi-Captive East African Sanctuary Chimpanzees (*Pan troglodytes schweinfurthii*)

K.B. Seidel and J.E. Rowell

Canadian Muskoxen in Central Europe – a Zoo Veterinary Review'

Fabrice Capber

Veterinary Care of Eurasian Otters (*Lutra lutra*) at the

## Otter Breeding Centre of Hunawihr (France)

Hope R. Ferdowsian, Debra L. Durham, Charles Kimwele,  
Godelieve Kranendonk,, Emily Otali, Timothy Akugizibwe,  
J. B. Mulcahy, Lilly Ajarova, Cassie Meré Johnson  
*Signs of Mood and Anxiety Disorders in Chimpanzees*

### **d) Entanglements**

Jesús Á Lemus, Guillermo Blanco, Javier Grande,  
Bernardo Arroyo, Marino Garcia-Montijano, Felix  
Martinez

*Antibiotics Threaten Wildlife: Circulating Quinolone  
Residues and Disease in Avian Scavengers*

Belén Vázquez, Fernando Esperón, Elena Neves, Juan  
López, Carlos Ballesteros and Jesús Muñoz  
*Screening for Several Potential Pathogens in Feral Pigeons  
(Columba livia) in Madrid*

Chris Wilbert

*Profit, Plague and Poultry: The Intra-Active Worlds of  
Highly Pathogenic Avian Flu*

Thom van Dooren

*Vultures and their People in India: Equity and  
Entanglement in a Time of Extinctions*

## **The Future**

Axel Konerup Hansen, Kristen Dahl and Dorte Bratbo  
Sørensen

*Rearing and Caring for a Future Xenograph Donor Pig*

Alix Fano, Murry J. Cohen, Marjorie Cramer, Ray Greek,  
Stephen R. Kaufman

*Of Pigs, Primates, and Plagues: A Layperson's Guide to the  
Problems with Animal-to-Human Organ Transplants*

R. E. Weller

Risk of Disease Spread Through Bioterrorism

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