

One of the main aims of this book seems to be to bring the science of ethology back into the world of dog behaviour. Dogs are the subject of much popular literature and folk beliefs and, hence, their study can often be disregarded as unscientific. By starting with a discussion of the theories of ethology and the objective frameworks available for investigating behaviour, this book sets the scene of evaluating dog behaviour in a truly scientific manner. Throughout the book, the wealth of recent scientific literature now available on dog behaviour is evident and encouraging; providing support for the author's suggestion that dogs in their natural environment may actually provide an ideal model for behavioural research and should be afforded greater attention. The author also ensures that the gaps in current research are highlighted and discussed with enthusiasm, in order to inspire future investigation, giving the reader a sense that this subject is ripe for a renaissance-style stage of development.

Another consistent theme throughout the book is the use of a comparative perspective, most often comparing dogs to wolves and humans. The author believes strongly in the benefits of using a comparative approach to understand behaviour, not least to shed light on how evolution has shaped behaviour of species faced with ecological challenges. The evidence presented discusses many of the similarities and differences between dogs and wolves and explores how different ecological constraints could have driven evolutionary change. The chapter on social cognition is particularly interesting and insightful, especially in highlighting the difference between dogs and wolves in social competence. Furthermore, the comparative perspective is used to highlight the similarity of the ecological challenges faced by humans and dogs, in particular when discussing social cognition. Through the process of domestication, dogs have been faced with the challenge of succeeding in the social world of humans; as such, humans and dogs have shared some of the same pressures and hence potentially show a convergent evolutionary history.

The chapter on domestication tackles the, sometimes competing, theories of dog evolution and the different methodologies available to investigate evolutionary history.

This chapter is at times a little indigestible, as the subject is complex and the costs and benefits of using different methodologies are not immediately obvious, hence it is difficult as a reader to draw conclusions as to the true evolutionary processes. However, the following sections on how the physical attributes of dogs have evolved in different and sometimes surprising ways and a detailed discussion of the extremely focused experiments on fox domestication are engaging.

There is useful discussion of the challenges and benefits of studying the dog in its natural environment as a companion animal, pointing out one of the greatest benefits of studying dogs is the insights they can provide for understanding human behaviour and hence research must be conducted in the 'normal' anthropogenic environment as opposed to the sterility of a laboratory. The benefit of such research to the dogs themselves is also alluded to in the chapter describing the

role of dogs in society and situations where this relationship can become problematic, such as aggression between dogs and humans, roaming dogs and challenges faced by dogs in shelters. In general, more discussion of the potential to apply much of the behavioural research to real life problems would have been beneficial, and interesting to many readers.

The descriptions of cognitive abilities in chapters 6–8 were a very interesting read, especially the sections covering the more complex cognitive abilities such as those involved in social situations. By relating these findings to the ecological importance of these cognitive abilities, and comparing them to other species, the author gave these findings real relevance and context. Although potentially less interesting, some discussion of the more simple cognitive learning processes would have been good for completeness.

The summary of peer-reviewed scientific research and identification of potential avenues for new investigation make this book an ideal text for any student or researcher with an interest in the study of dogs themselves, or wishing to use dogs as a comparative species. As someone engaged in dealing with the challenges faced by dogs, in an applied practical sense, I found this text excellent for re-establishing my knowledge of the many recent advances in scientific research into dog behaviour, evolution and cognition and in general a very enjoyable and refreshing read.

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Where the Wild Things are Now: Domestication Reconsidered

Edited by R Cassidy and M Mullin (2007). Published by Berg Publishers, Angel Court, 81 St Clements Street, Oxford OX4 1AW, UK. 320 pp Paperback (978-1-84520-153-1). £19.99.

Most biologists will be familiar with the morphological and behavioural differences, such as gracilisation, reduced body size, and reduced flight responses, that distinguish domesticated animals from their wild ancestors. For example, Belyaev and Trut's 50-year experiment to domesticate the silver fox showing that intentional selection for tameness also produced unintentional selection of other neotonic characteristics, such as a shortened muzzle and begging behaviour, is now something of a classic. Some authors even suggest that the behavioural and somatic changes that characterise neotony are not just an outcome of domestication, but a prerequisite for it.

Anthropologists have a rich bank of literature that deals with much wider aspects of domestication than simply changes in behaviour or morphology. Juliet Clutton-Brock, perhaps one of the most widely-cited authors on the subject, emphasised the mastery of animals by humans for economic gain. She defined domesticated animals as those "bred in captivity for purposes of economic profit to a human community that maintains complete mastery over its breeding, organization of territory and food supply"

(Clutton-Brock 1989). However, this is by no means the only definition. The essays by anthropologists collected in *Where the Wild Things are Now: Domestication Reconsidered*, reveals just how slippery a concept domestication is. For example, evidence is presented that suggests that ‘unconscious’ selection rather than artificial selection was responsible for the majority of changes seen since the Neolithic period. Others argue that domestication might be best thought of as a loose collection of practices with intentional and unintentional consequences, which may or may not produce biological changes; and that the effects of the practices are highly dependent upon location and time. In Zimbabwe, wild animals have been variously classified as vermin and game, wildlife and property; the classifications depending upon the prevailing political climate. So, for example, the designation of wild animals as the property of the owners of the land on which they were found, coupled with the concept of sustainable use, radically changed the view of wildlife from competitors with domestic stock, to owned property of economic value.

The book contains some heavy anthropological debates, but is also a fascinating read. I discovered that Darwin once kept more than 100 fancy pigeons “to see whether crosses are fertile and for the fun of seeing what sort of creatures appear”, and that he encouraged Sir Charles and Lady Lyell to visit by promising to show them his birds. Another ‘fancy’ domesticate, the fancy mouse, was the origin of the laboratory mouse, with scientists working alongside amateur fanciers to develop some of the inbred strains still produced today. The collection also convincingly dispels the myth of ‘untouched’ wilderness and ‘wild’ animals that contrast with ‘domesticated’ animals under human control. A particularly interesting chapter highlights the lack of interest in the potentially catastrophic loss of genetic diversity in ‘domesticated’ rice in Vietnam, compared with the tremendous external investment in protecting ‘newly-discovered’ charismatic fauna such as the saola in that country. The author argues that this investment was driven by an erroneous concept that the species were truly ‘wild’ and could be protected by the preservation of pristine habitat. In fact, the areas had been subjected to substantial anthropogenic activity for a considerable time, and it appears that the conservation efforts have been largely unsuccessful.

Unfortunately, readers will find very little in this book of direct relevance to animal welfare. There is a brief discussion of Francis Galton’s proposal that animal domesticates were initially raised in a caring and protective manner, and probably had a non-economic relationship with humans, much like modern-day pets — but little else of note. Even detailed studies of temple macaques, and of the recently ‘domesticated’ Atlantic salmon in fish farms, make no mention of animal welfare implications. Given the importance of the human-animal interface to animal welfare, this book serves to highlight the need for greater cross-disciplinary dialogue.

Reference

Clutton-Brock J 1989 *The Walking Larder: Patterns of Domestication, Pastoralism and Predation*. Unwin Hyman: London, UK
F Mathews,
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Applying HACCP-based Quality Risk Management on Dairy Farms

Edited by J Noordhuizen, J Cannas da Silva, S-J Boersema and A Vieira (2008). Published by Wageningen Academic Publishers, PO Box 220, NL-6700 AE Wageningen, The Netherlands. 312 pp Hardback (ISBN 978-90-8686-052-4). €85.00.

The Hazard Analysis Critical Control Points system of risk management has been established in many parts of the food industry with the intention of managing risk where it can have the most effect. This book makes a valiant attempt to apply this system to dairy farms, but it is evident that the authors soon realise that the system does not lend itself well to animal populations with biological variations and the confounding factors of animal management and economic expediency add complications that make the rigid use of the system unworkable.

As the book progresses with this impossible task it becomes somewhat confusing and confused. The ease of reading and understanding of the book is not helped by its peculiar style of English grammar which belies the nationality of its authors. There are numerous errors, including a most basic one where one of the central cores to the principles of HACCP — “12 steps to design a Quality Risk Management Programme for a farm” — are incorrect in the text, and have been replaced by a table, inserted loose in the front of the book cover.

It is apparent that the authors aspire to a system of risk assessment and risk management on any dairy farm, initiated by a “strengths and weaknesses assessment” (SWA) using scoring sheets that are pictured in the pages of the book. However, these are shown in a way that they cannot be read, and while they are also available on a supporting website, this is still currently under construction. These assessment sheets are comprehensive and an excellent guide to risks in the various ‘domains’ that the authors identify as the major health areas of dairy cattle.

The second chapter of the book proposes the creation of standard operating procedures (SOPs) to manage the risks and problems identified by the SWA. Examples are given of such hugely complex and comprehensive systems as the storage and use of veterinary medicines, along with much more useful examples of procedures for the provision of colostrum and neonatal calf care. Building such a manual of SOPs for all animal husbandry tasks on the farm would create a very comprehensive document, but would it change farmer and stockman behaviour? Such basic guidance as “cleaning and disinfection of the milking machine should not be done during moments that the milk