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052134980X - Domestication: The Decline of Environmental Appreciation

Helmut Hemmer

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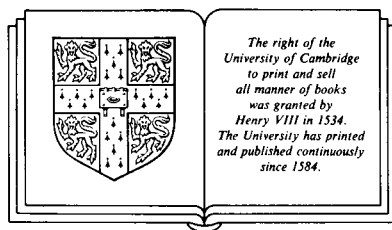
# Domestication

## the decline of environmental appreciation

HELMUT HEMMER

TRANSLATED INTO ENGLISH BY

NEIL BECKHAUS



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## Preface to the German edition

In order to understand biological systems, more than a formal description of their precise structure is required. Even a knowledge of their highly complex biochemical foundations or an insight into their biomechanical functioning is not sufficient. All this is undoubtedly a prerequisite for total comprehension, but in the end only an overall view provides a really profound understanding of the life of organisms. One has to attempt to construct a complete picture from the many small pieces of the mosaic provided by single disciplines in the biological sciences. The more pieces that are available, the more the rough outlines, which are all that is initially visible, can be refined and filled in so as to bring the full picture closer.

The study of domestic animals provides a good example of this general problem of advancing knowledge in the sciences by using painstaking studies of single problems from all branches of biological research, while constantly renewing attempts to combine the information available at any one time to form an up-to-date picture. The enormous importance attached to comprehending the 'domestic animal' as a special zoological phenomenon was appreciated by Charles Darwin in the last century. Nevertheless, research on domestic animals has been fragmentary. There have been few attempts to produce an overview. Those who do attempt overviews inevitably leave gaps and are criticized by the producers of fragments of information.

A uniform overall concept for the 'domestic animal' phenomenon may acquire practical significance over and above purely scientific interest in fundamental knowledge, since, as will be shown in the first chapter, the domestic animal is an essential element in the development of human civilization. An understanding of domestication as a developmental process under human control should be convertible into realistic strategies for planned production of quite distinct kinds of domestic animal.

Such strategies might improve food production for peoples living on the threshold of subsistence, build up alternative methods of land use, obtain new laboratory animals for use in urgent problems of medical research or gain new breeds which can be productive in today's intensive husbandry techniques without welfare problems. This book should provide an incentive and a foundation for such research. Using information from previous studies on domestic animals and from the recent work of

the author's research group, it endeavours to outline, in an intelligible way, an overall concept of the phenomenon of the 'domestic animal' and to present a completely new view of this. The analysis has been intentionally restricted to the Mammalia, since this class is very diverse and contains most of the important domestic animals. Mammals are the subject of particularly wide interest, and all the essential problems can be studied using them.

The central point for understanding the phenomenon of the 'domestic animal' lies in the structure of its behaviour, especially in the underlying changes from the wild condition. In this connection, it has proved to be extremely fruitful to revive and extend the concept of environmental appreciation, based on the term *Merkwelt* or 'perceptual world', coined by the Baltic zoologist and founder of ecological research, Jakob von Uexküll. Environmental appreciation will be used here to designate the totality of perception and the evaluation of the components, characteristics and events in the environment of an animal. In other words, the world as the animal experiences it. There is a large span between an environmental appreciation which is impoverished because of genetic or environmental inadequacies, and one which is enriched. There is a network of relationships that links seemingly independent factors such as stress and psychosocial tolerance, behavioural flexibility, activity and intensity of action, aptitude for life in social groups and differentiation of social relationships, sexual and aggressive reactions, and even pigmentation and bodily development, into a closely interwoven system. That this network could also serve to provide a more profound knowledge of human nature independently of the 'domestic animal' phenomenon may be mentioned in passing. The parallels – and any ideas implicit in them – will not escape the attentive reader.

The gradual progress achieved by the author's research group, which is concerned with problems of mammalogy in general and the study of domestic animals in particular, played an important role in the origin of the overall concept presented here. Although the members of this group have changed several times over the years, the mutual goal of attaining understanding persisted and led to ever deeper insight. In view of the very different importance of individual contributions, a list of all co-workers who were involved in one way or another at any time is omitted here. Those responsible for providing important pieces of the mosaic are mentioned at the relevant places in the text. Thanks for the painstaking execution of the drawings used in this book are due to Ms Käthe Rehbinder. Finally the *Vieweg-Verlag* have kindly made possible the generous layout and so provided a form that will surely facilitate the understanding of the contents.

Mainz, August 1982

Helmut Hemmer

## Preface to the English edition

Since the publication of the original German version of this book, many people from the international community involved in aspects of the life of domestic animals, from archaeozoologists to game farmers and zoo managers, have asked me for an English translation of the new synthetic view of the nature of domestication put forward. They would then have better access to the various aspects of interest for their own work. Greatly influential in having the translation published by the Cambridge University Press were Dr Juliet Clutton-Brock of the British Museum of Natural History, London, and Dr Colin P. Groves of the Australian National University, Canberra, to both of whom I proffer my best thanks for their really valuable help in successive stages of this work. I am also grateful to Robin Pellew, Susan Sternberg, Martin Walters, Robin Smith and Sandi Irvine, Cambridge University Press, for being so co-operative during the negotiations for the publication of the English edition. I was fortunate in being able to have the book translated by Neil Beckhaus of my home department at the Johannes Gutenberg University, Mainz, which allowed constant discussion and checking during the process of translation and considerably shortened the preparation time necessary.

The text has been updated for this edition by the inclusion of new research results, ideas and discussions. The most far-reaching relevant event in the years since the publication of the original German edition has been the successful and novel domestication of a large mammal by the strict application of the basic concept originally outlined as a strategy for domestication. The fallow deer project described in outline in Chapter 12 has finally crossed the borderline of the transition zone from the wild to the domestic animal within the second breeding generation and produced the first primitive, but truly domestic fallow deer. Details on the history and course of the project and subsequent experience gained during the dissemination of the new domestic deer will be published in the future.

*Mainz, August 1988*

Helmut Hemmer