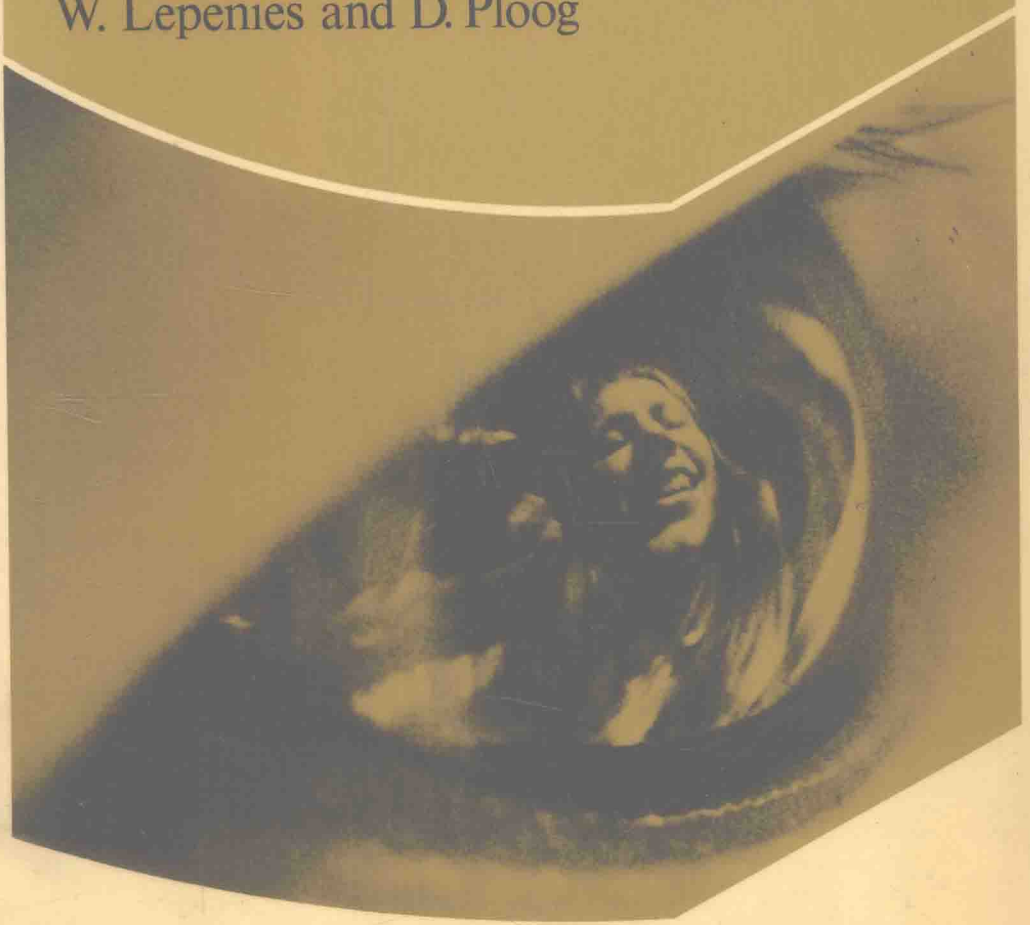
HUMAN ETHOLOGY

CLAIMS AND LIMITS OF A NEW DISCIPLINE

Edited by M. von Cranach, K. Foppa, W. Lepenies and D. Ploog



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To the memory of
Professor Dr Konrad Müller,
Chairman of the Werner-Reimers-Stiftung 1968–1979

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Introduction

According to two of its most prominent founders, Konrad Lorenz and Nikolaas Tinbergen, the field of ethology can be defined as 'the Biology of Behaviour'. It places emphasis on the notion that the behaviour of animals and its physiological basis has evolved phylogenetically and should be studied as one aspect of evolution. The success of this endeavour led to the further attempt to apply ethological methods and the evolutionary perspective to psychological and sociological phenomena of human behaviour. However, the possibilities and limitations of 'Human Ethology', and the question of whether it may rightly be called a new discipline, are still a subject of debate. To mention only a few issues under discussion: What is the logic of inference from animal to human behaviour? Do culture and history provide the same conditions (in principal) for the development and determination of human behaviour as does the natural environment for animal behaviour? Are there typically human forms of behaviour which cannot be dealt with adequately in terms of (animal) ethology?

In view both of the interest shown in this field by scientists from many disciplines and its undoubted importance for a science of man, the Werner-Reimers-Stiftung – with the generous support of the Stiftung Volkswagenwerk – decided in 1975 to sponsor an international symposium under the title 'Human ethology – claims and limits of a new discipline'. Its main purpose was to bring together representatives from various fields of research with a common interest in analysing human behaviour who, at the same time, might not share the same basic assumptions or methodology, or place the same confidence in the usefulness of an ethological approach. The scientific board of the Werner-Reimers-

Stiftung asked Professors Jürgen Aschoff (Behavioural Physiology), chairman, Mario von Cranach (Social Psychology), Irenäus Eibl-Eibesfeldt (Human Ethology), Klaus Foppa (Psychology), Wolf Lepenies (Sociology) and Detlev Ploog (Neuro-Ethology) to act as members of an organizing committee. The committee agreed to focus the conference on three allied subjects for which eleven topics in all were selected (see the table of contents). For each topic, two contributors, whose viewpoints were expected to diverge, were asked to submit papers, and these were distributed to all participants in advance. In addition, a referee was asked to prepare a critical comment on the two papers. At the conference itself, the referee opened the discussion by commenting on the papers and by giving his own views. After short replies from the contributors, the general discussion began. This volume presents the papers of all contributors and referees but omits the discussions. Since the contents of the volume are therefore very rich and at the same time relatively diverse, it is not possible in this introduction to offer a synthesis, or even a simple outline; instead, we shall develop some very general ideas on the book's three parts, and on the field of human ethology in general.

1. Let us look then, in this way, at part I. The higher we place an organism on the evolutionary scale, the more we find that its behaviour is intimately connected with social affairs and is intrinsically social. It is therefore inevitable that a central concern in human ethology, both for the social and for the life sciences, is social behaviour. Although it is clear that we have not yet come to the point where an agreement about the relevance of ethological research for several other disciplines could easily be reached, it may nevertheless be useful to indicate the prospects for the social sciences of cooperation with human ethology and to formulate some 'results'. First of all, the debate over a possible theory of cultural or societal evolution, which plays such an important role in the social sciences today, makes it necessary to define the parallels, the distinctions and the relations between biological evolution and cultural evolution as precisely as possible. The conference, and especially the discussions, made it clear that human ethology is far from presenting a unified view of this problem, but it also became obvious that the frontier dividing those who believe in a theory of cultural evolution and those who believe that the term 'evolution' has only a biological application is not in any way identical with the frontier separating human ethologists and social scientists. It has, perhaps, been one of the most surprising, yet promising, results of the conference that lines of agreement and disagreement on

central topics of research are not necessarily those which form the boundaries of scientific disciplines.

Throughout the conference it became clear that human ethology, whether or not it is regarded as a discipline in the proper sense of the term, may well serve as a link between other disciplines, e.g. sociology and (cultural or social) anthropology. In the discussions on 'Property and territoriality', especially, human ethology at least seemed to provide some sort of common language, in which results from rather different disciplines might be 'translated' and thus fruitful comparisons made.

It is obvious that there are problem areas in the social sciences where ethological results must be taken into consideration. A sociological analysis of rituals, for instance, will have to rely at least on both ethnological and ethological research. There are areas of research in which such interdisciplinary relations would seem to be less necessary. The conference demonstrated, however, that even in regard to those problems which form the core of a well-defined disciplinary problem area, the perspective of human ethology might be useful – at least for a reformulation and perhaps more appropriate definition of central categories of research. In sociology, for instance, this holds true for the theory of action. On the other hand, it should be mentioned that throughout the conference a basic need for conceptual clarification was felt which could only partially be satisfied.

2. Although social topics play an important role in the papers of parts I and III of this volume, social behaviour and social organization are the specific topics of part II.

Clearly, only a selection from a tremendous range of possible problems could be presented in the programme. Strikingly (the more so perhaps because it was unintended), the focus is at the level of the individual; in all three sections of part II, interaction and particularly social organization are considered mainly in so far as they reflect the individual input into the social situation. The emphasis is on 'the organization of individual social behaviour'. This may represent a current trend in ethological thinking; it certainly reflects the line of contact and debate between ethology and the human behavioural and social sciences.

With regard to basic organizing principles of individual social behaviour, there was some agreement in the assumption that both social behaviour and social organization emerge from basic approach–avoidance tendencies, namely aggression, fear and attachment. These tendencies constitute, in their complicated structure and interplay, basic social

needs in the individual animal, including man. On the other hand, it was also apparent that the disciplines concerned were often neither in agreement nor disagreement, since they have yet to meet on common ground. As the discussion on aggression (section 5) made clear, there was no common viewpoint between, for example, psychological and ethological behaviour analysis and the possibilities of neurophysiology, or – and this constitutes the more important example – between a behavioural and social science, where at this moment a unifying principle is emerging in cognition, and an ethology in which, due to its traditions and methods, cognition cannot yet play a major role. Thus, in section 6, which was concerned with social relationship, the influence of sociobiology was made clear in the elaboration of the benefits an individuum gains from his partner in the perspective of primatology. On the other hand, the role of cognitive processes was emphasized when a research strategy for human intergroup conflict was developed in which a 'distal' analysis of the historical, economic and biological basis of intergroup conflict was replaced by a so-called 'proximal' analysis.

Looking back at part II, we see that the approach of ethology and the other behavioural sciences to problems of social behaviour and organization is still far from integrated, but that the borders of this field are emerging and that some of the future lines of debate are becoming clearer. Again, the role of cognition will be one of the important issues in the organization of human individual and social behaviour.

3. Ethology has contributed in two particular ways to our understanding of the ontogeny of behaviour in man and ape. This has resulted, first, from the application of techniques for the precise observation, description and classification of naturally occurring behaviour and, secondly, from the ethological approach to the study of behaviour, especially the development of behaviour in terms of evolution. Of particular interest to the ethologist are questions relating to the function of a particular kind of behaviour, e.g. attachment behaviour, and its adaptive value. The description of the behavioural repertoire of a species, the recognition of patterns of behavioural development and the classification of established behavioural patterns are prerequisites for any comparison between different species or between organisms of a single species. The ethological approach is to study the interaction between the organism with certain innate species-specific structures and the environment for which the organism is genetically programmed. It can be regarded as an established fact today that the human infant has cognitive abilities at birth and

interacts with environmental stimuli even in his first days of life in ways which he cannot have learned, just as it is now considered a fact that within the framework of his innate abilities the newborn immediately begins to learn to adapt to different environmental conditions. The contributions to part III on ontogeny demonstrate convincingly the methodological and theoretical difficulties confronting the student of human behaviour interested in determining where behaviour shows plasticity and variability and where there are invariant behaviour patterns.

It must be assumed that invariant behaviour patterns – those which remain relatively stable in the presence of variations in environment – have a morphological basis, mainly in neuronal structures, which is common to all members of a species and, depending on the kind of behaviour, may also be common to a genus or family or a whole order, e.g. the primates, or even to a whole class, e.g. the vertebrates. In such structures we can retrace and follow the evolutionary process by which the environment has produced structures, especially nervous systems and brains, which generate adaptive behaviour. In organisms with a high level of organization, the processes in which the ethologist is especially interested are those genetically preprogrammed motor and perceptual processes that facilitate social interaction and communication, such as facial expression and vocalization. If we consider the most highly developed means of communication, language and speech, which is found in man alone, the question arises as to the biological foundation of this species-specific behaviour and perceptual skill. The ethologist examines this question primarily from the point of view of ontogenetic development.

In the preceding paragraphs, we have already referred to some of the merits and also the shortcomings of human ethology. Are the claims of the new discipline justified, and what are its limits? We are scarcely in a position to act as arbiters, yet it may be considered our duty to attempt a restricted and cautious evaluation.

The main strength of human ethology is that its approach to old problems is a new one; from the basis of theories, concepts and methods that have proved successful in animal ethology, it has looked at man from a new viewpoint. The essence of this is of course the evolutionary perspective; but since ethologists have been relatively unaffected by the long history of the humanities, they have often referred to facts and interpretations, perhaps obvious, but neglected by other social sciences, in an

apparently naive but very effective manner. Another strength seems to lie in its integrative power. If we look back at the history of the relationship between the life sciences and the social sciences, we find two prevailing modes of theoretical orientation: on the one hand, reductionism, i.e. attempts to reduce human action to animal-like behaviour; and on the other, attempts to separate human action and human society completely from the animal world. The advent of evolutionism in the nineteenth century brought no easy solution to the traditional nature–nurture problem, since it could still be 'solved' in either a continuous or discontinuous manner. It seems as if human ethology, more perhaps than any other 'discipline', has significantly contributed to the disappearance of such simple dichotomies.

However, the contributions of human ethology may give rise to certain dangerous fallacies. First, the desire to make a fresh start can easily lead to the neglect of methods and findings of other disciplines which have their own validity. Consequently, human ethologists may sometimes simply ignore earlier findings about a particular problem, and the methods that have been developed to study it; this can result in the other disciplines concerned overreacting and discarding completely the ethological viewpoint. The second and major difficulty, which has still to be overcome, is a related problem. After all, human behaviour is specific and cannot be considered without taking into consideration, for example, cognitive and cultural processes. It is, therefore, essential to integrate these specifically human characteristics and the general biological human nature, which will only be possible if both these viewpoints and their findings are taken seriously and studied as an integrated system. The emerging descriptions and explanations will be neither truly psychological, sociological, ethnological not ethological, but something new. This integration has as yet hardly been attempted; if it should ever be successful, human ethology will be no longer ethology applied to man, but a science of its own: a new discipline.

A meeting of scientists who differ widely in their opinions and the ways in which they pursue their research certainly runs the risk of achieving little through lack of communication. In fact, the papers as they are published in this volume may appear to the reader a fairly diverse collection. However, attention should be paid to where reconciliation emerges. The general feeling one gets from the sum of the contributions is that some of the areas of misunderstanding have been clarified, and that interdisciplinary cooperation can contribute substantially to a better

understanding of a science of man – even if there are no definite answers to the many questions asked at the conference and to the main question stated in its title.

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