Ethological Studies of Child Behaviour

Edited [redacted] Jones

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ETHOLOGICAL STUDIES OF CHILD BEHAVIOUR

Edited by

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ETHOLOGICAL STUDIES OF CHILD BEHAVIOUR

FOREWORD BY PROFESSOR N. TINBERGEN, F.R.S.

It is a pleasure to introduce this collection of ethological studies of children, edited by Dr N. G. Blurton Jones. As an animal ethologist of standing who has, since obtaining his doctorate, spent a number of years applying ethological methods to the study of child behaviour, he was the obvious man to take the initiative for bringing to the attention of child psychologists these examples of the ways in which ethologists study behaviour.

As I was reading the variety of studies on which the book reports (many of which I had until recently been following only from a distance), I was increasingly reminded of the early days of animal ethology, and I felt that what is now just beginning to happen in human ethology is reminiscent of what occurred in the later 'twenties and early 'thirties to the science of animal behaviour; a new type of research worker is busy building the foundations of a science, by returning, with renewed attention and interest in detail, to the basic task of observation and description of the natural phenomena that have to be understood. I call this 'building' because, with due respect to human psychology in its widest sense, I consider that it is not yet really a science.

When, well over thirty years ago, a small group of zoologists began to revive the study of animal behaviour, they looked in vain for guidance from the psychological literature. The earlier writings of Lashley and Watson were helpful, and so was the work initiated by Yerkes and his co-workers, but their work soon became part of a trend toward concentration on laboratory-oriented and experimental research on essentially human problems, which was to lead to the preoccupation with too few phenomena and too few methods, and to theoretical weaknesses that have characterised psychology for a long time. The zoologists, being acquainted with the bewildering variety of behavioural systems that were so obviously typical of separate species, felt the need for recording and classifying all these behaviour repertoires. The pioneering studies of Konrad Lorenz stimulated work on what were then called 'ethograms' – monographs on the behaviour of a variety of animal species, at first mainly descriptive, but gradually incorporating a growing body of interpretations and hypotheses. Thus the science of animal Ethology was born, which, whatever its initial shortcomings, has been, to use the words of Huxley, like a 'breath of fresh air', and has no doubt been largely responsible for a more biologically oriented approach in other behavioural sciences. It also has itself profited from its interaction with those sister disciplines.

As Ethology grew up, claims began to be made, first diffidently and vaguely, later with increasing confidence, that animal Ethology would one day become important to the study of human behaviour. These claims made at first little impact, partly because ethologists could not provide hard evidence, partly because human psychologists and psychopathologists were not interested. The first psychopathologist who really applied the modern ethological approach to human studies, and who drew the attention of his colleagues to Ethology was John Bowlby, whose work on the effects of mother deprivation on subsequent social behaviour in Man has acted as an important catalyst.

Recently, the application of Ethology to the study of Man has been given worldwide publicity by Konrad Lorenz's *On Aggression* and Desmond Morris' *The Naked Ape*. As I have pointed out elsewhere, these books, while in many respects of great importance, have had two undesirable effects. On the one hand, they have led to an uncritical acceptance of their bold but not sufficiently substantiated extrapolations to Man – an attitude which Callan has recently called ' ethologism '. On the other hand, professional students of human behaviour have, in rejecting some of Lorenz's and Morris' claims, thrown away the baby with the bathwater, and so the Ethology of Man finds itself at the moment in a false position: over-acclaimed by many, shrugged off by others.

But in the meantime, Ethology has begun to invade the human sciences in a less spectacular, but in the long run perhaps more influential way. Rather than extrapolating interpretations from animals to Man, a growing number of young ethologists have themselves begun to collect factual information about Man's behaviour, using ethological methods. These ethologists are by no means all zoologists; they come in part from psychological, psychopathological and anthropological training centres. But what they all have in common with the early animal ethologists is that they are beginning to construct a human ' ethogram '. Working thirty years later than the early animal ethologists, they are naturally doing so with more sophistication. But also, like the ethologists, they did not need much time to discover that the descriptive/interpretative task is much more formidable than initially envisaged. If ethologists who have devoted a lifetime to the study of one species, or group of species, now feel that they have not done more than make a good start, it is not surprising that the handful of ethologists who are reporting here on their first few years of research on children cannot claim more than that they are scratching the surface of an enormous field; nor will they deny the tentative, searching nature of much of their work. At the same time they can justifiably claim that even this little scratching has produced a surprising amount of information of the greatest interest. Being less assertive than we were thirty years ago, Dr Blurton Jones makes this point quietly and persistently rather than shouting it from the rooftops, but the message is clear enough: it is on the one hand surprising how much is being

discovered which so far has simply been ignored by the professional psychologists; on the other hand it is clear that this simple, careful observation of normal children is going to be a very demanding task indeed. But it will give a wider scope and more purpose to human studies. And, no less important: by gradually building up an ethogram of our species, work such as is represented here will provide the yardstick by which behavioural pathology can be measured. The words of Sir Peter Medawar could well have been taken as a motto: '. . . it is not informative to study variations of behaviour unless we know beforehand the norm from which the variants depart'. The research effort that will be needed to provide us with this knowledge of the behavioural 'norm' will have to become an important task for medical research, and it is clear that ethologists will have an important part to play in this effort.

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Acknowledgements on a broader scale are also appropriate at this juncture. The development of ethological studies of human behaviour owes a great deal to several people who have gained too little of the credit. Dr M. R. A. Chance gathered together a vigorous group at Birmingham among whom Ewan Grant's work is best known. The Birmingham group is represented here by Brannigan and Humphries. My own part in this field is due to a series of fortunate coincidences, beginning with a chance discussion in Oxford in 1960 with Eileen Molony and John Burton of the B.B.C. Natural History Unit, while I was a research student working on bird behaviour under Professor N. Tinbergen. Miss Molony suggested that ethologists should look at human behaviour, and overcame my initial objections with the suggestion that nursery school provided the obvious and ideal setting in which to start. Mrs Kate Lee of the College of Further Education in Oxford provided further encouragement to start the research and arranged access to suitable facilities. The work immediately got off to a good start although several interruptions followed, until I moved to Professor Tanner's department at the Institute of Child Health. His decision to seek out an ethologist and give him the chance to study development of behaviour in children (while at the same time continuing work on animals) was at that date a brave piece of scientific management and prediction. I hope that this book and the steadily growing number of ethological studies of human behaviour will reward his remarkable foresight. Linked with this has been the most encouraging, and essential, financial support from the Nuffield Foundation grant to Professor Tanner. The Foundation has also supported other contributors to the book and these indications of their interest in this work have been an encouragement in the often uphill struggle to convey the justification for our approach to others in related disciplines.

N. B. J.

CONTENTS

COMPARATIVE STUDIES

INTRODUCTION

1

CHARACTERISTICS OF ETHOLOGICAL STUDIES OF HUMAN BEHAVIOUR

N. BLURTON JONES*

SUMMARY

This chapter outlines the author's view of those characteristics of ethology which may be of practical importance, particularly in child development research. It starts from the origins of ethology in zoology and the division of questions about behaviour into questions of (1) causation (2) development (3) survival value (4) phylogeny. The book and this introductory chapter concentrate on applications of methods of studying causation, particularly in interactions between individuals, to the study of child behaviour. The numerous popular books relating ethology to human behaviour are rather undisciplined attempts at discussing the phylogeny of human behaviour, which, whatever they claim, have little to say about causation or development.

Ethological methods are held to be partly characterised by emphasis on a preliminary descriptive and observational phase, use of large numbers of anatomically described items of behaviour as the raw data, a distrust of large preselected and untested categories of behaviour. They are contrasted with the use of rating scales and interviews as ways of assessing child behaviour. There is a brief discussion of class and cultural differences and the commonly held but erroneous view that ethologists are looking for human innate behaviour. It is also argued that the use of numerous variables in fairly rigorous analyses will not mask the presence of fine individual differences.

Introduction

There has been a welcome trend in recent years towards closer relationships between previously separated branches of the behavioural sciences. One part of this movement has been a convergence of the interests and methods of developmental psychologists and of ethologists. This convergence has occurred in several ways and this book concerns itself with one of these: the direct application of ethological methods in studies of human behaviour. There have been other points of contact such as: (1) use of animal studies as a source of hypotheses, thoroughly summarised by Ambrose (1968); (2) increasing use of more empirical and 'objective' measures of social behaviour, e.g. studies of gaze direction in adult interactions by Argyle

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(1967) and others, in studies of the child in the first year by Kagan and Lewis (1965) and in studies of older children by Hutt and Ounsted (1963, 1966), Hutt and Hutt (1970) and others; (3) the use of an evolutionary framework, and of recent data on the processes of ontogeny of behaviour, to form a theory of the child's attachment to its mother more directly testable than previous theories (Bowlby, 1969; Ainsworth, 1970); and (4) relatively speculative accounts of the 'taxonomic position' of human behaviour, e.g. Morris (1967), which impinge on the more serious field of human evolution studied by anthropologists, e.g. Lee and DeVore (1968), Jolly (1970).

My original aim in organising this book was to make available in one volume some examples of recent work where methods used in studying behaviour of animals (especially social behaviour) had been directly applied in studies of human behaviour. I hoped that this would enable readers from the other behavioural sciences to see some of the things that this particular aspect of ethology has to offer. It has been very evident that many of the interested people outside ethology have found it hard to locate summaries of recent work or views in ethology, and consequently are pre-occupied with using or criticising theories long ago discarded by ethologists. They have also found it hard to see which aspects of ethological method are applicable to human behaviour or why this may sometimes be useful. Some have also been put off the scent by the spate of popular books purporting to give authoritative ethological accounts of vital aspects of human behaviour.

Despite the availability of excellent textbooks like Manning (1967), Marler and Hamilton (1967), and Hinde (1966), 'ethological' still makes too many people in related disciplines think of discarded concepts like 'innateness', 'displacement activity', or 'spontaneity' of behaviour; of superficial comparisons with other animals, or of specialised areas like imprinting, territory and dominance. This is unfortunate, not only because these are outdated or limited specialised topics, but also because it neglects the wider and more fundamental issues of theory and methodology (described for example by Tinbergen, 1963, 1969).

Ethological theory has diminished at a rate that some find alarming. But the process was active and a great deal of clarification of methodology resulted from the criticisms by Lehrman (1953) and Hinde (1956, 1959) of early ethological theory. Some of us feel that theories in the behavioural sciences have more often concealed ignorance than explained facts, others feel that a 'new wave' of theory is called for. But one or two basic issues seem to be undisputed, yet to some extent still peculiar to ethology, for instance (1) emphasis on the use of a large variety of simple observable features of behaviour as the raw data; (2) emphasis on description and a hypothesis-generating, natural history phase as the starting point of a study; (3) a distrust of major categories of behaviour whose meaning and reality

have not been made clear; (4) belief in the usefulness of an evolutionary framework for determining which kinds of questions need to be asked about behaviour.

The traditional divisions of the behavioural and human sciences are probably impossible to maintain on the basis of subject matter. But workers originating from different traditional disciplines usually bring useful differences in attitude and approach into the field. It is my hope that this will prove no less true of ethologists, who originate from zoology. In this introductory chapter I wish to summarise what I see to be the characteristics of ethology. Most ethologists would shrink from defining ethology and even if they are called ethologists by others, many would scarcely know how to decide whether to apply the classification to themselves. This introduction is consequently a highly personal view of the characteristics of ethology and its potential role in the study of human behaviour. Many other ethologists would disagree with my emphasis of some points rather than others, and some might even find that, although what I say is not very original, it was new to them. Many of the contributors to this book give their own evaluations of ethology in their own papers. Some general discussion of the relationship between ethology and psychology, and some actual studies, have already been published, for example: Ambrose (1968), Ainsworth (1970), Berg (1966), Blurton Jones (1967), Callan (1970), Clancy and McBride (1969), Clark, Wyon and Richards (1970), Crook (1970), Eibl-Eibesfeldt (1968, 1970), Esser *et al.* (1965), Esser (1968), Foss (1961–9), Freedman (1967), Grant (1965, 1968, 1969), Kaufman (1960), McGrew (1969), Rheingold and Eckerman (1970), Siegel (1960), and Zegans (1967).

Meetings of previously isolated disciplines, while usually fruitful, also often produce hostile reactions from those who cling to the traditional camps. The reader may locate a few hostile remarks in the papers in this book. But the contributors hope that their provocative comments may result in thought and cooperation more than entrenchment. Unfortunately there has often been a tendency for ethologists to take up an arrogant attitude towards psychology. This attitude has sometimes been based on ignorance of the wide range of activities of psychologists, sometimes on the difference in the aspects of behaviour in which they are interested, and only rarely and to a very small extent has it been based on the advantages given by a training in biology and evolution. It is therefore pleasant to be able to report that the contributors to this book are of such mixed academic backgrounds as to be immune to any charges of purely sectarian arrogance. Their undergraduate training ranges from physics, zoology, physical anthropology, to psychology. Their postgraduate experience ranges from invertebrate genetics to psychotherapy. The majority have worked at both ends of these scales, although most either graduated in zoology or spent a long time working with zoologists, and all are intentionally applying an ethological approach to human behaviour. But, simply because the subject

matter of psychology is all around us and has for long been investigated, the suggestion that ethological methods can contribute to psychology must imply criticism of the methods of psychologists who have worked on the same topics. Thus some rivalry and competitive responses seem to be inescapable. It also follows that I will be able to illustrate most easily some of the points that I wish to make by criticising established methods. But it should not be forgotten that the use of ethological methods on humans is still in its infancy and that they are usually more time-consuming, and are often more intrusive on the subject than are traditional psychological methods.

The implications of the zoological origin of ethology

Ethology has grown from the traditional discipline of zoology. This means that ethologists have tried explicitly to treat behaviour in the way that a zoologist treats any other feature of an animal. This results in a number of differences between their approach and those prevalent in the other behavioural sciences. My account of the characteristics of the ethological approach relies very much on the writings of Professor Niko Tinbergen. His views as expressed in the early chapters of *The Study of Instinct* (1951), the introduction to his comparative paper on gull displays (1959) and in his celebration essay for Konrad Lorenz 'On the aims and methods of ethology' (1963) are exactly those that I would like to express.

Since ethology draws its methods and subjects of study from general zoology it can be easily classified into studies of causation (physiology), development (embryology), survival value (ecology), and comparative studies (taxonomy and comparative anatomy). These are of course linked around an interest in the evolution of both the form and the behaviour of an animal. An interest in evolution coordinates these disciplines and makes zoology a unified subject. In practice ethologists move freely across these fields, and across anatomy and behaviour. For instance behavioural studies of *Tupaia* led Martin (1968*a*) into revisions of the taxonomy of mammals using a great deal of anatomical as well as behavioural data (Martin, 1968*b*). Studies of the behaviour of Black-headed gulls towards their predators led Kruuk (1964) (see also Tinbergen, 1965) to conclusions about interacting selection pressures in animal ecology. A comparable reflection of the unity of biology is rarely found in behavioural sciences perhaps because of the belief that man is an exception to the rules that cover the rest of the animal kingdom. A notable exception is the work of the anthropologists and archaeologists who contributed to Lee and DeVore (1968) which I find provides convincing examples of the interrelationship of all features of human behaviour and biology. Similar examples are provided in the present volume by the papers of Konner and of Richards and Bernal.

Many of the studies described in this book derive not from this general

view of ethology, which might well provide a useful framework for a genuinely biological view of human behaviour but more specifically from methods developed for studying interactions between animals and for studying the causation of behaviour, predominantly social behaviour. The details of the rationale of these methods are described by Tinbergen (1959) in relation to the motivation of behaviour of one individual in complex motivational states. Their extension to studies of interaction between animals, based on earlier work described in Tinbergen (1953) is described by Altmann (1962, 1965) and by Hinde and Atkinson (1970).

When one transfers this zoology-based methodology to studying human behaviour one comes up against the belief that man is completely unique among animals. This is well known as an argument (in my view fallacious) against comparative studies which cover human behaviour. But it is conceivable that it could also be used to argue that even the methods of investigating the behaviour of animals are inevitably not applicable to human behaviour. It is probable that there are large areas of human behaviour, such as language, which are not readily investigated by these methods, and it remains to be seen just where this sets the limits to the use of ethological methods in studying human interactions. There may be other areas of psychology, if not behaviour, which could not be studied in this way either in man or animals, such as features of conscious experience.

It seems unnecessary and too time-consuming to review the evidence that man is an animal, though a unique one just as is any other animal. It may be worth commenting that the most eager proponents of 'man is the only animal which . . .' statements are those who know least about animals. One may hope that by now enough heads have fallen in this particular game (culture, kinship, tool-making, food-sharing, and now perhaps language) for people to be learning not to play it.

The really important points here are that (*a*) most biologists think it unreasonable to isolate man from other animals and assume that it is reasonable to expect some behavioural as well as anatomical and physiological continuity, (*b*) we may discover that ethological methods have limited usefulness, and that methods that are no less scientific in a general sense demonstrate this to be so by providing better explanations of behaviour, and (*c*) we may discover that there are limits to the usefulness of the scientific method in its broadest sense. It is my view that we are unlikely to make these discoveries if we do not try, and that these possibilities do not excuse us from attempting to investigate human behaviour by any form of scientific method, including the specialised methods of ethology.

Kinds of question about behaviour

A major feature of the zoological approach to behaviour is the division made by Tinbergen in 1951 of questions about behaviour into four different