

Preface

It is a problem, it would seem, with any rapidly advancing science that successive professional publications concern themselves increasingly with progressive refinement of the most modern, or recent, of theories and somehow lose the context in which these are rooted. Thus each generation of academic papers concerns itself only with the developments of theory of the previous two or three years – and tends increasingly to debate their niceties in isolation and out of the broader context of more general theory, which may remain largely unaffected. However, each new publication becomes so concerned with dotting 'i's and crossing 't's that, in paying attention to these minutiae, the main text is sometimes forgotten or, at least, often erroneously, considered as general knowledge by those too close to the finer detail.

As scientific publications become increasingly focused and erudite, more and more involved in what might appear to be a semantic debate of the subtlest detail, so these publications become inaccessible to the amateur or casual reader who merely seeks a simple overview of more general theory. Even such general texts as may be available in support of university courses often get bogged down in overmuch detail or complexity for the non-specialist reader.

The greatest risk in attempting an overview for that non-specialist, however, and in going back to basics, is that the text will be regarded as over-simplistic, naive or simply out-dated, by those specialists who do then pick it up (or worse, review it!). For a number of years I have been tempted to stick my neck out and compose such a book; for an equal number of years I have shied away from the task, waiting for someone more qualified and more articulate than myself to undertake the task. Yet maybe they, also, are too close to the fine detail – or too nervous of the risk of critical review by professional colleagues!

What has finally prompted me to cast caution to the wind – and put onto paper this basic introduction to animal behaviour for the interested non-specialist, was the recent sad task of editing my late father's papers. Amongst them was a series of philosophical essays in which he had tried to make sense of some 80 years' experience of life, as both man and scientist, and offer to himself some conclusions about life, the universe and everything. The essays were illuminating – but in many places sadly flawed by incomplete knowledge or understanding. My father was a successful scientist (a nuclear physicist of some reputation) and a lifelong naturalist – with a passionate interest in behaviour. Many of the essays indeed dealt with an analysis of human behaviour patterns by comparison

with the behaviour of other animals, or at least interpreted within such a context; yet it was in these essays, to my surprise, that the logic was often marred by misconception or, at least, incomplete understanding of things which I myself would have assumed to be common knowledge – especially to one such as my father who, albeit as an amateur, had particular interest in behaviour and who read widely. If even his knowledge was so patchy and incomplete, I had to argue, then there must indeed be many others who would be glad of a simple book reviewing the very basics of our understanding of how and why animals behave as they do.

The current book, then, is a development from a series of essays or lectures of my own, tried and tested in numerous adult education courses given over the years to other intelligent and interested non-specialists like my father. It is not an academic textbook – indeed would be, and doubtless will be, scorned by many professionals as perhaps dated and certainly as over-simplistic. It uses words and concepts which are intuitively easy to grasp, even if they are in places oversimplified, in an attempt to offer to an amateur audience an insight into the way animals behave, but couched within a framework and in a conceptual language with which they can actually identify. I do not seek to patronise, but to inform.

If, in my attempts to make it more accessible, I irritate professional behaviourists by adopting devices or simplifications now frowned upon, or outmoded, I can only apologise – but to an extent accept such criticism in advance, since this book is aimed not at them but at that more general readership.

The book itself is presented in two main parts (although in practice these two sections are effectively independent, and may indeed be read in either order). In the first I seek to explore the 'how' of animal behaviour, taking a mechanistic approach to explore what we know of the way in which animals perceive their environment and what determines how they respond to it in the way that they do and what that response will be. In the latter part of the book, the focus switches more to the 'why' of animal behaviour, asking not so much how given responses are mediated through nerve and muscle systems, or how stimuli are perceived in the brain, but rather what has moulded why a particular behaviour takes the form that it does in its expression, what evolutionary forces have shaped – and continue to shape – the detailed form of more complex behaviours. Why do animals forage in the way they do? How may that foraging pattern be refined to optimal efficiency? Why do animals adopt the particular reproductive strategy and breeding behaviour that they do, (and why is there such a bewildering variety of different ways of solving apparently the same problem)? Why do some animals live as solitary individuals, while others live in groups? The list goes on.

It might be expected that I would end with a chapter comparing animal and human behaviours, but this seemed far too simple, and probably far too contentious, even if it would have echoed my father's earlier attempts. Rather I would leave the reader to make their own analyses of the behaviour of animals around them, human and otherwise, and end instead with a series of questions and answers which have been asked of me over the years by those same 'interested amateurs'.

But this volume is hopefully more than simply a non-technical book about animal behaviour as such; or at least that is perhaps only part of the story. For the intention is that it should also be highly visual – and copiously illustrated throughout, in support and interpretation of the text. To an extent then, while the pictures are there to enhance understanding of the written text, the text itself also takes on an additional role as a showcase for some of the exquisite illustrations of my wife, wildlife artist Catherine Putman, who has agreed to collaborate with me on the project. The book is intended, to a degree, as a joint presentation of text and pictures, in celebration of the delights of a greater understanding of animals and the way they behave.

