Review Essay


In *Species of Mind*, Colin Allen, a philosopher, and Marc Bekoff, an ethologist, defend and sketch out suggestions for a ‘cognitive ethology’, a discipline bringing the fruits of the cognitive revolution in psychology to the field of ethology. When one reads in the preface their description of this projected discipline as involving a ‘comparative, evolutionary, and ecological study of animal thought processes, beliefs, rationality, information processing, and consciousness’ (p. ix), one gets an immediate sense of the ambitiousness of the project as well as the range of opposing views with which it will have to engage.

Skepticism at the idea that animals think, reason and are conscious seems to have been the ‘official’ view throughout the duration of western culture. Aristotle had thought of reasoning as the capacity to ‘perceive universals’, and had understood this as a distinctly human capacity. After this, as many have pointed out, the Christian account of creation seemed to drive human and non-human forms of existence even further apart. One may think that the more recent scientific displacement of humans from the centre of creation may have aided the idea of the continuity of mindedness across the species, but in this century science had tended to cut both ways in relation to this question.

Early in the century the behaviourist revolution tended to level the difference between human and non-human psychology by eliminating the mind as a bearer ‘thought processes’, ‘beliefs’, and ‘consciousness’ for all. In light of this, the discovery of animal mentality has had to wait upon the rediscovery of the human mind, a process that many see as starting with the ‘cognitive revolution’ which has marked the last third of the century. Behaviourism had always had its critics for whom its apparent dismissal of human mindedness was counter-intuitive, but it wasn’t its counterintuitiveness that led to its eclipse, but rather its inability to adequately account for various aspects of human behaviour. ‘Mentalism’ came back in the form of the postulation of mental processes involving ‘representations’ posited to explain forms of behaviour that had escaped...
the very limited explanatory repertoire of behaviourism. With the re-establishment of human mentality, a general adherence to Darwinism would surely suggest that this explanatory approach could then be extended to the behaviour of other than human animals. Here, however, it will be recalled that one of the first blows struck against the behaviourist orthodoxy in the late 1950s was Chomsky’s critique of the ability of Skinnerian behaviourism to account for a type of behaviour that, in Chomsky's view, is uniquely human – linguistic behaviour. Since then, in various disciplines including philosophy, the thesis that ‘higher’ cognitive functions depend upon a uniquely human linguistic competence, the thesis that ‘thought needs talk’, has emerged as a popular basis for the continued skepticism towards the idea of animal minds.

The sketch above of course over-simplifies what can often seem to be a chaotic jumble of views characterising late 20th century views of the mind, and the authors’ presentation of a clear and cogent case for cognitive ethology against this chaotic background is in general one of the real achievements of this book. As they point out, at its beginning ethology was already ‘cognitive’ with the work of Darwin and his follower George Romanes. As such, however, it was limited to a somewhat anecdotal and uncritical ascription of mentality to animals, and came to be regarded as unscientific with the onset of behaviourism in this century. With the later decline of behaviourism, the issue of animal mentality returned to the scene most forcefully, perhaps, with the work of Donald Griffin. But while sympathetic to the broad goals of Griffin’s work, Allen and Bekoff agree with his critics who argue that his attribution to non-human animals of intentionality and consciousness remains uncritical and anecdotal. Allen and Bekoff see their goal as that of using advances in recent philosophy of mind and cognitive science to suggest ways in which mentalistic approaches to animal behaviour might be tested, and this results in an approach that is admirably open and non-dogmatic. Anyone interested in the issue of animal mindedness will, I'm sure, find the book interesting and enlightening. Moreover, by bringing conceptual and empirical issues together in making their case, the authors fruitfully open up the issues of human consciousness and intentionality to new ways of thinking as well, and so the relevance of the book goes beyond the brief the authors have set for themselves.

Thematically, *Species of Mind* falls roughly into two halves. From chapters 1 to 5 Allen and Bekoff cover in a clear way the relevant background material
needed for understanding exactly what will be at issue when proposals for
a cognitive ethology are later defended. Such coverage is by necessity
synoptic, but these early chapters provide helpful overviews of an array of
complexly intertwining disciplines in a way that makes them accessible for
the general reader. Successively, after sketching out their interdisciplinary
approach, they present a brief history of classical and cognitive ethology,
discuss the methodological problems inherent in describing behaviour,
sketch the main forms of objection to the scientificity of a cognitive
ethology, survey the disputes over the role of ‘folk psychological’
explanations (that is, explanations of behaviour invoking beliefs and
desires) in scientific psychology, and problems facing their extension to the
realm of non-human behaviour.

This last issue, dealt with in chapter 5, is effectively the turning point of the
book, and in chapters 6 and 7 the authors discuss two forms of animal
behaviour which they see as sufficiently complex to require a cognitive
approach, specifically an approach that appeals to intentional contents in its
explanations. These behaviours are those of social play on the one hand,
and antipredatory behaviour on the other. As mentioned, the focus here is
that of a purported animal intentionality, and in particular, on whether the
explanation of these forms of behaviour requires attributing to animals
‘higher-order’ forms of intentionality, for example, an animal's having
beliefs about the beliefs of other animals. In the following chapter they shift
to the issue of consciousness, arguing that a functional approach to
consciousness in the context of the strategy of inference to the best
explanation may settle questions about consciousness which are often not
thought to be empirically tractable. In the final chapter, besides pulling the
various threads together, the authors illustrate their own approach by
resuming a dispute with critics who have challenged the possibility of
using intentionalistic descriptions of animal behaviour in ethological
contexts.

While such debates about animal mentality are never far from hotly
contested ethical and political issues concerning the treatment of animals,
here, such disputes remain largely in the background, and perhaps
congruent with this is the fact that the authors have focused more upon the
issue of animal intentionality rather than that of consciousness. (This latter
tends to come to the fore in ethical debates because of the question as to
whether animals feel pain.) This seems to me to be a wise decision.
Although the authors have interesting things to say regarding the concept
of consciousness, one is left with the impression that the issue of intentionality is the more tractable from this perspective and that the clarification of consciousness is more likely to follow progress made in the understanding of intentionality than vice-versa.

As I have mentioned, it would seem that the front on which the authors are going to have to defend their thesis most strongly is that of the whether or not thought requires talk. (Among recent similar books which are skeptical of animal mentality on this basis, see, for example, Euan Macphail’s *The Evolution of Consciousness*, 1 Stephen Budiansky's *If a Lion Could Talk*. 2 In philosophy, this idea has been advocated by thinkers as different as (the later) Ludwig Wittgenstein, Donald Davidson, and Martin Heidegger.) My feeling was that this was not perhaps dealt with as directly as it may have been. (The authors acknowledge on page 54, that, in this work at least, they do not intend to become embroiled in disputes ‘about what constitutes a language’, but one wonders if such disputes can really be avoided). Perhaps these issues are most directly addressed in chapter 5 where the authors engage with one form of this objection when they address the skepticism of Dennett and Stich over the idea of attribution of concepts to animals. Here the authors’ frustration with philosophers' tendency to believe such issues can be settled in isolation from actual empirical research is apparent, both Stich and Dennett restricting their empirical base to the behaviour of that much studied canid, ‘Fido’. As Allen and Bekoff point out, the Dennett-Stich argument runs along the following sorts of lines. We commonly say things like ‘Fido wants a piece of steak’, or ‘Fido was trying to catch the squirrel’, but are we really justified in attributing concepts like ‘steak’ or ‘squirrel’ to animals? Isn’t it the case that to say that Fido has the concept ‘steak’ under which he can classify that thing in his dinner dish misleadingly suggests that he understands the contents of his dish as being part of a butchered animal? After all, that is part of what is contained in the concept ‘steak’. But this move, the authors respond, stacks the deck against the case for animal mentality by shifting from the issue of whether Fido has a concept of that which is in his dish to whether he has our, English, concept.

But this response does not seem to meet the criticism at the depth at which it is intended to operate. What Dennett, Stich and others mean by ‘concept’ is something that by its very nature will stand in constitutive relations to

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other concepts. In short, to attribute a concept to an organism is to attribute to it the sort of inferential activity which conceptual structures allow, concepts being, as it were, those very hinges upon which inferences turn. Whatever analogue of the English concept ‘steak’ (call it ‘steak-F’) that one attributes to Fido, it will stand in some connections with other concepts just in virtue of its being a concept. And this means that attributing to Fido the belief that x is ‘steak-F’ means that one is committed to attributing a pile of other beliefs to Fido that he knows by inference. It is the idea that only representational media as rich and as articulated as those of human languages are capable of supporting that kind of inferential activity that is the basic idea involved in the ‘thought-needs-talk’ thesis (at least many versions of it — Davidson's, for example).

It is around this basis for skepticism that, it seems to me, the authors' replies pull in two different directions, one helpful, one less so. In places they seem keen to support the idea that the conceptualized content attributable to animals should be thought of as analogous to that the type of propositional content commonly attributed to humans. Thus they invoke a Duhem-Quine style conceptual holism in criticism of Griffin's way of attributing beliefs to animals one by one on the basis of individual behaviours (pp. 50 and 172), and even seem to suggest some type of translation of canid concepts into English with the idea that 'the differentiations of dictionary English' might be manipulated 'so as to delineate the contents of the dog's brain' (p. 81). These are points at which they are most likely to meet rejoinders based on the 'thought-needs-talk' idea. On the other hand they pursue a direction of thought using Ruth Garrett Millikan's suggestive functionalist analyses of concepts based in the notion of 'intentional icon'. This latter direction linking mental states and communicative systems might offer a less contentious way of pursuing questions of animal 'intentionality' and its relation to the capacities we attribute to humans when we speak in that way. With the usual philosophical approaches to human intentionality that tend to trade exclusively in propositional contents, the question of whether on not animals have intentionality seems an all or nothing affair. In contrast, Millikan's focus on the 'iconic' features of human language brings out features which, along with Peircean 'indices, human languages share with communicative systems used by other species, even if those systems do not contain genuine Peircean 'symbols'. Even if it is the case that human communicative and intentional systems have features not found elsewhere, this should not obscure the extent to which such systems might be
understood as continuous with those of the non-human animal world. The
cognitive ethology advocated by Allen and Bekoff promises a way of
understanding the sense in which non-human animals may be said to be
minded, but it also promises a less anthropocentric understanding of the
nature of human mindedness itself.

Paul Redding