

# Book News

---

THE QUESTION OF ANIMAL AWARENESS. EVOLUTIONARY CONTINUITY OF MENTAL EXPERIENCE (Revised and Enlarged Edition), Donald R. Griffin (Rockefeller University Press, New York, 1978, \$13.95), and ANIMALS ARE EQUAL AN EXPLORATION OF ANIMAL CONSCIOUSNESS, Rebecca Hall (Wildwood House, London, 1980, £3.95). The common concern of these two books is evident from their titles. Each tries to deal with what lies behind the behavior of nonhuman species – the covert processes of mind that underlie the overt actions of the body. Both authors are obliged to rely upon inference, but in almost every other way, their approaches are as different as chalk and cheese.

Griffin is a famous zoologist, best known for his studies of echolocation in bats and other animals. Five years ago he produced the first edition of this book, a slim volume that caused much discussion, some of it heated. Other readers, however, saw the book as a milestone: the founding of a new area of inquiry-cognitive ethology. In this new edition, Griffin seeks to answer his critics and to amplify his arguments: Both the length of the text and the number of references cited are almost 70 percent greater. Three new chapters, on mental experiences, semantics, and evolutionary continuity, have been added to the original eight. Most impressively, over 30 percent of the studies cited have appeared since the publication of the first edition.

This aptly illustrates one of Griffin's first points, that new findings show unexpected richness and complexity in the behavior of animals, from ants to apes. These include extraordinary sensory capacities, cognitive maps, and especially clever communication. Such knowledge makes traditional, sparse interpretations of animals' behavior seem more and more forced and meager. Griffin argues that we must frame new sorts of questions and expect new sorts of answers in tackling these issues. He reminds us that our position should be that of the open-minded agnostic, that no capacity should be excluded *a priori*.

So: do other species have minds and are they aware of what they do? In trying to answer such questions, the cognitive ethologist faces the same obstacles that have always frustrated psychologists studying human subjects. It is not easy to experiment on intangible phenomena; one can record behavior that achieves goals, but how can one tell if intentions and planning lie behind that behavior? Griffin says that we can start with intuition and then reason by analogy. If the origins of all behavior are in the nervous system, then similarities in neurophysiology across forms (including humans) probably indicate similarities in mental abilities. It is difficult otherwise to interpret the brain asymmetries of songbirds ex-

cept as being linked to the complexities of their calls, for example. Sometimes elegant experiments can be done, *e.g.*: if apes can recognize their mirror-images, it is hard to deny them some minimum of self-awareness.

However, it is communication that Griffin emphasizes as the richest vein to mine. He effectively disposes of the old saw that other species can only signal their motivational states in the here and now. Some of their communication appears to be semantic, *e.g.*, ground squirrels use different alarm-calls for different sorts of predators. Other species send information about the world that is displaced in space *and* time: Bees in the hive at night "dance" the locations of food sources that their fellow workers visit on the next day. Such feats naturally lead to a questioning of the uniqueness of human language. Griffin devotes a whole chapter to this, and offers a point-by-point scrutiny of 16 design-features of language. He concludes that all the human/nonhuman differences in communication are quantitative and not qualitative.

But is this not rampant anthropomorphism? Griffin points out that it is no more so than the sort of inferences upon which comparative anatomy and physiology are based. If we are willing to use parallels based on the functioning of adrenal glands in mice (for instance), why not draw the same parallels in brain functioning? Others have objected that we read too much into the behavior of animals, that their behavior can often be more simply explained. It is significant that such an exercise also *seems* to work for most human actions, but such simple-minded analyses satisfy neither the ordinary person nor the behavioral scientist. There is a danger of bending over backward too far in trying to deny the obvious.

Griffin is usually careful not to overstate his case, but some lapses occur. His references to "pongo-linguistics," the field of study in which scientists try to teach human languages to apes, is too uncritical. Also, he raises hopes at the outset of the book about new methods of at-

tacking the questions raised, but his chapter on this is sparse. It is now up to the cognitive ethologists to fathom the depths to which they have called attention.

Of course, as Griffin notes, most people take it for granted that animals have sensations, feelings, and intentions. Hall is one of these people, and what Griffin presents as cautious conclusions, she takes as her starting points.

Hall not only believes that other animals are equal to human beings in all known sensory, mental, and emotional capacities, but that we share with them supernormal abilities as well. Hence, her chapters deal with such topics as extra-sensory perception, mystical healing, spiritual beings, and even reincarnation. The text abounds with such terms as "karmic burden," "auric sight," "astral planes," "ethers," etc. (In case the reader is not familiar with these, a useful glossary is given.) Thus, one finds such statements as, "When a person is afraid, a murky green colour shows in the aura. This repels animals and transmits fear to them" (p 152). Or, "Cockroaches she found to be friendly creatures, one became a regular visitor to her bathroom in Chicago" (p. 41).

The obvious question is: How can such unusual claims be supported? Hall's evidence comes from lots of anecdotes, seemingly collected over a long time. Many seem to have been culled from the popular press, but others come from personal investigation. Some are only snippets; others are longer: a pony called Dainty gets 14 pages. In some cases, the number of incidents cited is impressive, e.g., for homing. By the end of a chapter, their cumulative effect on the reader mounts. The basic problem is that almost all of the events are treated uncritically.

Hall is explicit in her views on this: "There is always a reason behind every coincidence" (p. 51), and "I believe there is a reason for everything" (p. 152).

Having recognized this, the reader begins to play a sort of game of looking for ordinary explanations for the supposed extraordinary events. These are readily found. They arise from unconscious communication between people and

their pets, from traits deliberately bred in the domestication of animals, and from crediting the normal abilities of the species concerned. Many of the single events seem to be nothing more than random coincidence, and the lack of any mention of probability is telling.

This sort of book might be harmless enough, except for two drawbacks: Some of its claims may be dangerous, and much of its content actually belittles and damages the animals that it purports to exalt. The first drawback is easily exemplified by such statements as, "A rabies wound should be treated like any puncture wound, without fear, with normal cleansing methods" (p. 174); "Any horse can be controlled by telepathy" (p. 22). These are dubious at best. Thesecond drawback is more complicated. Ironically, the author's ignorance often causes her to *under-* rather than over-estimate other species. They are given credit only for sensory capacities equal to ours, but abilities that differ in kind, e.g., sonar in porpoises, are ignored. Recent studies on the mental powers of apes are omitted altogether. More worryingly, cats are presented as being trainable to stop hunting birds, and dogs as being able to thrive on a vegetarian diet.

The viewpoints of the two authors could not differ more, but one common point deserves stress: The long-held assumptions of science about the mental and emotional lives of other species are becoming more and more untenable. Direct evidence is hard to find, but even the most prudent interpretations of the new findings have ethical implications for the relationship between human and other animals.

W.C. McGrew  
*Department of Psychology*  
*University of Stirling*  
*Stirling FK9 4LA, Scotland*