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### Title

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### Permalink

<https://escholarship.org/uc/item/07t840wc>

### Journal

International Journal of Comparative Psychology, 7(2)

### ISSN

0889-3675

### Author

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### Publication Date

1994

### DOI

10.46867/C4F88B

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## SHOULD SCIENTISTS BOND WITH THE ANIMALS WHOM THEY USE? WHY NOT?

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*The Inevitable Bond* (Davis & Balfour, 1992; Davis, 1993) is a useful and well-edited collection of original essays. Davis and Balfour's introductory remarks and the brief summaries they provide before each chapter are helpful for keeping the central theme -- scientist-animal interactions -- in focus. They and their contributors have produced a volume that is long overdue, one that forces scientists to come to terms with how they interact with the nonhuman animals (hereafter animals) they study, and why they interact in the ways they do. For some scientists this is a topic about which they would rather think than talk, but the many issues that need to be considered in studies of scientist-animal bonds will not disappear if they are ignored. And now they can no longer be ignored; *The Inevitable Bond* brings the issues to the table for much needed open discourse. The opposing views concerning the nature of scientist-animal interactions provide needed balance; there are those who want to use standardized techniques to reduce the confounding behavioral and physiological effects of human contact with the animals whom they study and those who accept the inevitability of the bonds that are formed between scientists and animals. The latter view is consistent with an approach in which the relationships can be used to make for better research; "better" means different things to different people, but the notion seems to boil down to practices that include expediting data collection, coming to understand those experiments or manipulations that are likely to work without stressing the animals to the point that they are no longer the animals on which one thinks one is working, reducing the number of animals to be studied,

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and providing less contrived explanations of the behavior patterns being studied. There seems to be more consensus among those who study social behavior and animal cognition than, for example, among behavioral physiologists, that the view to be exploited for the benefit of both the scientists and the animals is the one that accepts the inevitability of scientist-animal bonds (see the chapters by Pepperberg, Boysen, Oden & Thompson, Schusterman, Gisiner, & Hanggi, and also Lorenz, 1991). I strongly favor this position for a number of reasons that will become clear.

I agree with so much of the material in *The Inevitable Bond* that my review is more of an appeal for an increased willingness on the part of those who use animals in research to recognize that bonding exists, and for an attempt to use this to the mutual advantage of the scientists and the animals they use. This is not what all scientists believe, however, nor has this view enjoyed a lot of popularity for a long time; many still operate on the basis of what Rollin (1989) calls the "common sense of science," according to which science is a value-free, objective enterprise. Thus, Davis and Balfour's recognition that neither their book nor the main topic of interest would have been viewed favorably as few as 20 years ago is realistic. As Deborah Gordon (1992, p. 23) has pointed out, "The way that scientists see animals' behavior occurs... [in] a system embedded in the social practices of a certain time and place." Why has there been a change in attitudes concerning the discussion and analysis of scientist-animal interactions? There seem to be at least three reasons: (i) Many researchers are no longer embarrassed by the fact that they and the animals they use in research form tight social relationships; (ii) many scientists realize that the bonds formed with their research animals are likely to influence how data are collected, interpreted, and explained, and they want to learn more about this phenomenon in order to help their research; and (iii) many researchers recognize that they are responsible for the animals' welfare, and that their decisions about how to treat animals are informed by how they feel about the animals themselves. Davis and Balfour's main agenda concerns points (i) and (ii), although they do pay some attention to (iii). I will mainly be concerned with (iii), namely, how the inevitability of bonding with many/most of the animals one interacts with closely in a research setting bears on many animal welfare issues.

Many different species of animals (rodents, canids, monkeys, apes, birds, octopi, reptiles, pigs, goats, horses, pinnipeds, bears) are considered in *The Inevitable Bond*, and this is a strong positive feature; laboratory rodents, domestic dogs, and nonhuman primates are not the only animals with whom we need to be concerned (for a consideration

of many of the same issues discussed in this volume, see Gordon 's [1992] discussion of ant-watching). However, by studying the ways humans interact closely with familiar animals, a lot can be learned that can be used in studies of human encounters with other animals. For example, Clinton Sanders's (1993; Sanders & Arluke, 1993) work with domestic dogs supports the idea that intense emotional bonds between humans and dogs are central to contemporary social life. (Sanders also notes, in response to a skeptical critic of his work, that the people he studied were not "wacky and lonely people who are over-involved with their pets.") Sanders's work supports the notion (see below) that not allowing bonds to be formed with at least some animals, especially those who might expect a bond to be formed such as members of domesticated species, could be stressful to the animals and could affect research findings. Along these lines, Lorenz (1991, p. xvi) recalls an incident in which a hand-reared gosling was merely deprived of being greeted by the person who reared her "during an apparently harmless experiment." The deprived gosling became so stressed that Lorenz and his coworkers never repeated the experiment. Lorenz also points out that bonds can be formed as a result of very subtle and seemingly unimportant exchanges between scientists and animals, interactions about which we know little.

Among the common themes covered in *The Inevitable Bond* are anthropomorphism and anecdotalism, and questions such as "should humans form bonds with the animals they use in research" and "does allowing bonds to form between scientist and animal result in 'good' or 'bad' science?" In my view and that of others, anthropomorphism is not only an unavoidable part of behavioral research, but necessary if humans are to come to a better understanding of the behavior and mental lives of the animals they study. Even those who take care not to use anthropomorphic explanations usually resort to them anyway because they make the behavior of diverse animals accessible to humans (for a useful discussion, see Myers, 1991, pp. 200ff). Or those who frown on anthropomorphic descriptions or explanations might place objectionable terms such as dominating, submitting, helping, or retreating in scare quotations, and then tell readers that the words should not be taken literally but metaphorically. Occasionally they simply declare "Oh, you know what I mean." The great challenge to those who believe we can dispense with anthropomorphism is to develop other ways to describe and explain animal behavior and the mental and affective states of animals in a way that is as accessible to humans as anthropomorphic descriptions and explanations; this is a very difficult task (Bekoff, 1995). With respect to the main topic of Davis and Balfour's book, Lehman (Chapter 24) points out that using cumbersome terminology to avoid

using the term "bond" really doesn't help matters. Furthermore, he notes that (i) those who criticize others for being anthropomorphic are not necessarily being good scientists, (ii) the desire to be rigorous may lead one to overlook the fact that animals have bonded to the researchers, and that this bonding influences results, and (iii) for many of the animals who are used in research, not allowing them to bond may be stressful and may likewise influence results. A plethora of data show clearly that we are part of the picture, like it or not, and attempts to detach ourselves totally from the animals are fruitless. What is called objective science is not necessarily better science than science that is done with animals to whom one feels close.

Anthropomorphic terms should certainly be used with care (see Burghardt's chapter in *The Inevitable Bond* and Burghardt, 1991; Lorenz, 1991; and Bekoff & Allen, 1995), but I do not think that (i) anthropomorphic explanations are dangerous (Estep & Hett, Chapter 2, p. 23), that (ii) the "dangers of anthropomorphism in science are widely known" (Estep & Hett, p. 23) or broadly feared, or that (iii) anthropomorphism should be avoided at all costs. Thus, I do not agree with Estep and Hett's admonition that "Scientists must keep a constant vigil against anthropomorphic thinking and interpretation when performing animal research" (p. 23), if this vigil is motivated by a fear of the supposed dangers of anthropomorphism. (Kennedy [1992, p. 167] also fears anthropomorphic tendencies because they fly in the face of objective, hard science, but he then goes on to claim, in the absence of any hard data, that anthropomorphism is genetically programmed into humans, [but] "that does not mean that the disease is untreatable".) Perhaps it is Estep and Hett's confused conception of anthropomorphism that is at the root of their worry. For example, they write (i) about "anthropomorphic or zoopomorphic behavior" (p. 15), (ii) about "an organism [is] behaving anthropomorphically," and (iii) that "anthropomorphism and zoopomorphism are little more than descriptions of the behavior of organisms toward one another" (p. 15). I suggest that interested readers see Hugh Lehman's chapter in *The Inevitable Bond* and John Andrew Fisher's papers (1990, 1991) for more informed discussions of anthropomorphism. Lehman correctly notes that anthropomorphism entails attributing "a human affective, emotional, or cognitive capacity to animals" (p. 388); animals do not behave anthropomorphically, nor are there anthropomorphic behaviors.

Anecdotalism also should not receive the bad press it frequently incurs. My colleague Dale Jamieson quips that "the plural of anecdote is data," but one can also correctly claim that anecdotes are, in and of themselves, data; they just may not be the sorts of data with which some



feel comfortable. But few are happy to stop with the collection of anecdotes; most people realize that anecdotes provide the material out of which more rigorous research grows, in all fields, including both the behavioral and the physical sciences (see Fentress's discussion, p. 44). The claim that anecdotes are useless is unjustified. The species of animals with which people form close bonds are diverse, as noted in many chapters, but do humans form bonds with some species more readily than with others? And, if so, why? Scott (p. 89) writes: "It should be easier for a human to become attached to another mammal than to an insect. Although I have no proof that this is true, it should be easier to extend human-human relationships to similar species than to distantly related ones." No one seems to have any hard data concerning this thought. I have often been asked if I felt closer to the domestic dogs, coyotes, or wolves I studied than to the birds (Adelie penguins, western evening grosbeaks, house finches, juncos, cowbirds) I observed, or whether I identified more with the former than the latter. At first these questions made no sense to me, but I came to learn that most people who asked them had already decided that I felt closer to the coyotes and wolves than to the birds. They were wrong. I did identify differently with the canids than I did with the birds, but I did not feel less close to the birds than the canids.

Another issue that receives some attention in *The Inevitable Bond* is the naming of research animals. Although some believe that naming animals is a bad idea (because named animals will be treated differently, less objectively, than numbered animals), others believe just the opposite, that naming animals is permissible and even expected when working closely with at least certain species, especially with the same individuals over long periods of time. Early in her career, Jane Goodall had trouble convincing reviewers of one of her papers that naming the chimpanzees she studied should be allowed. Goodall refused to make the changes they suggested, including dropping names and referring to the animals as "it" rather than "he" or "she," or "which" rather than "who;" her paper was published (Montgomery, 1991, pp. 104ff). It seems noteworthy that researchers working with nonhuman primates and some cetaceans usually name the animals they study; we read about Kanzi, Austin, Sherman, Koko, Phoenix, and Akeakamai (and see pictures of them with their proud human companions; Linden, 1993). We also read about Alex, an African gray parrot (Pepperberg, Chapter 11). Yet most people do not seem to find naming these individuals to be objectionable. Is it because the animals who are named have been shown to have highly developed cognitive skills? Not necessarily, for these and other animals are often named before they are studied intensively. Or, in the case of most

nonhuman primates, is naming permissible because these individuals are more similar to humans than are members of other species? Why is naming a rat or a lizard or a spider more off-putting than naming a primate or a dolphin or a parrot? We need to know more about why this is so.

It is also worth asking whether there is any relation between the resistance to forming bonds with and to naming animals, on the one hand, and the type of research in which one is engaging, on the other. Do field workers differ from laboratory workers? Do those who restrain, isolate, or shock animals differ from those who merely observe them? Do those who have to kill animals differ from those who do not? Does one's familiarity with a given species influence one's resistance or desire to form bonds and to name the animals with whom one works? These are, of course, empirical questions that need further study. However, as Serpell (1986) has noted, increasing the distance between themselves and nonhuman animals is a common practice among scientists and nonscientists. Among the devices used are objectifying animals by referring to them with "it" and "which," and using terms such as collecting, euthanizing, sacrificing, and culling to refer to killing (see Lynch, 1988; Verhoog, 1991; Bekoff, 1993). Likewise, Davis and Balfour point out, bonding with an animal may make it impossible to subject them to different forms of treatment (pp. 1-2). Dewsbury also mentions that an interest in scientist-animal interactions may lead to less exploitative studies (p. 27). Furthermore, for those who want to learn more about animals' mental states, it seems reasonable to treat animals as subjects rather than objects (Bekoff & Jamieson, 1991; Bekoff, 1995; Jamieson & Bekoff, 1993).

Scientists also show different attitudes toward animals of the same species depending on whether they are encountered in the laboratory or at home. Rollin (1989) and others have noted that many scientists who name and praise the cognitive abilities of the companion animals with whom they share their home are likely to leave this sort of baggage at home when they enter their laboratories to do research with members of the same species. In addition, there are those who inform their laboratory research using anecdotes that stem from observations of their companion animals, with whom they are freely anthropomorphic (Rollin 1989). Based on a series of interviews, Phillips (1993) reported that many scientists socially construct a "distinct category of animal, the 'laboratory animal,' that contrasts with nameable animals (e.g., pets) across every salient dimension... the cat or dog in the laboratory is perceived by researchers as ontologically different from the pet dog or cat at home." Rajecki, Rasmussen, & Craft (1993) found that the ways

in which animals are labelled and categorized influences the level of tolerance with which people view different forms of mistreatment. All in all, bonding with animals and naming them seems to influence how the animals are viewed and treated, and I agree with those who believe that these practices should be exploited for the benefit of the scientists and the animals. It seems unnatural not to do so.

Calling animals by name and bonding with them are steps in the right direction for both the scientists and the animals; both sides will benefit greatly from a deeper examination and understanding of the nature of scientist-animal interactions. The knowledge gained by viewing animals as individuals and learning more about each individual's characteristics should work against wholesale species-centered decisions concerning animal welfare (Bekoff & Gruen, 1993). "Speciesists" make decisions about how humans (moral agents) are permitted to treat nonhuman animals (moral patients) based on species membership and not on individual characteristics (Ryder, 1975/1983, 1989). For example, James D. Watson, is quoted in 1993 for his sweeping dismissal of the animal rights movement, claiming that all those who are interested in how animals are used by humans want to "spend all our resources making monkeys happy," and further, that "I don't like monkeys." Does Watson mean all monkeys? I am sure a lot of other people also wouldn't like monkeys if the only monkeys with whom they had had contact were caged ones. Perhaps there are some individual monkeys Watson would come to like? Some scientists may not like (or want to bond with or name) the individual animals on whom they work, and they may extend their dislike to all members of the same species, but their personal views cannot settle questions about the morality of animal use.

*The Inevitable Bond* is one of those rare finds, an edited volume that is worth reading in its entirety. One area that needs much more detailed study concerns the bonds, and the effects of the bonds, that develop between field researchers and the animals they study. Nancy Caine's informative chapter is a good place to begin for those interested in scientist-animal interactions in the wild (other references can be found in Bekoff & Jamieson [1991, 1995]). A combination of information from studies on captive and wild animals is needed to come to a fuller understanding of the many different aspects of scientist-animal interactions.



## ACKNOWLEDGEMENTS

A version of this review appeared in *PSYCHOLOGY* 4(37): human-animal-bond.2.bekoff. I thank Colin Allen and Susan Townsend for comments on this essay.

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