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EFFECTS OF EXPERIMENTERS ON THEIR ANIMAL SUBJECTS CAN BE THE SOURCE OF VALUABLE KNOWLEDGE

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The focus of this volume (Davis & Balfour, 1992) is on the bond that forms between experimental subject and experimenter. The term bond is used quite loosely to mean (a) the reaction of experimenter to subject, (b) the reaction of subject to experimenter, and (c), more specifically, an emotional attachment either way. The editors make it clear at the outset that they are not interested in identifying experimenter contamination effects. For example, cases in which the behavior of the experimenter provides an inadvertent cue to the animal (i.e., the so called Clever Hans effect) are prominently included in experimental psychology textbooks. Similarly, the dangers to the objective collection of data that can result from experimenter expectancies are well known and students of experimental psychology are told to avoid them by making themselves (as experimenters) blind to the experimental treatment. The more interesting facet of experimenter expectancy, according to Davis and Balfour, is the direct effect that such expectancies have on the animal's behavior. In other words, experimenter expectancies not only can affect the observation of behavior but they can affect, as well, the behavior itself.

Identification of the bond as the focus of research interest provides a fresh approach to experimenter-subject interaction. Because traditional approaches stress the contamination of findings that can result when data collection affects the animal's behavior, experimenters have been admonished to avoid, or at least reduce, such interactions. Hence the tradition in experimental psychology has been to objectify the collection

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of data by automation (e.g., by using operant chambers in which responses are recorded by microswitch and reinforcers are provided automatically). The authors of a small number of the chapters in this volume (e.g., Chapters 8, 9, and 10) seem to present the traditional argument for isolation of experimental subject. But authors of the majority of chapters view isolation of the subject from the experimenter as a practice that obscures the observation of valuable behavior. For them the subject-experimenter bond is worthy of study in its own right.

Estep and Hetts (Chapter 2; see also Chapter 3 by Dewsbury) provide an excellent analysis of the various roles that an experimenter can be perceived by an animal to play: predator, prey, symbiont, or conspecific. The authors go on to identify specific emotional mechanisms that can enter into the bond and they suggest how analysis of the particular bond can lead to a better understanding of the animal. Paradoxically, they note that the better the behavior of the animal is understood, the less likely one is to anthropomorphize.

The most adventuresome perspective on the experimenter as coactor is taken by Fentress (Chapter 4) and by Burghardt (Chapter 23) who suggest that the only way to hope to understand the complexities of human-animal interaction is for the experimenter to interact with the animal in a variety of contexts and to observe the behaviors that are evoked. These authors admit to the possible subjectivity of their observations, but justifiably note that one must first observe a behavior before it can be objectively studied. Their approach exemplifies one that is new to the study of animal behavior, in which speculation based on careful observation is used to generate testable hypotheses about underlying mechanisms. There are many (well known) pitfalls to such an approach but the potential rewards make it well worthwhile.

Somewhat closer to the laboratory techniques typical of traditional experimental psychology are procedures described by Pepperberg (Chapter 11) and Boysen (Chapter 12). These chapters capitalize on what the authors have learned from their interactions with animals to facilitate cognitive assessment. Pepperberg's use of intrinsic rewards (the parrot is given the object named) apparently helps the animal to differentiate among responses. The model/rival technique, also used by Pepperberg, takes advantage of the parrot's predisposition to learn from social example. Similarly, Boysen's sensitivity to the social and attentional behaviors of her chimpanzees allows her to demonstrate remarkable learning in these animals.

In edited volumes, an attempt is made to provide the reader with an overview of research in a field. Such a format often has the advantage of providing broad coverage of research presented by researchers having

different theoretical perspectives and in which different methodologies are explored. A drawback often present in edited volumes, however, is an unevenness of writing, as well as a lack of adherence to the central theme of the volume by some of the contributors. It is a challenge to the editors to organize the volume into a coherent whole. As is the case here, this is especially difficult when the editors are attempting to define a new area of research by bringing together the writings of a group of researchers whose work comes from quite diverse disciplines. One needs to view such an edited volume as a means of communicating to researchers outside the area that such a field of study exists and to those engaged in this field of research, that there are others who share similar interests. This volume should serve the purpose of identifying a field of study and acting as a heuristic for further research.

The editors provide brief introductions to each chapter and these were useful in tying the chapters together. Along these lines, however, the editors could have provided additional structure by dividing the book into sections. Although such divisions are sometimes artificial, they often provide context to a set of related chapters. Another means of tying an edited volume together is through reference to authors' research cited in more than one chapter. Unfortunately, no author index was included in the volume.

The last chapter in the volume provides a useful epilogue that mirrors the editors' initial chapter. Written by Lehman, a philosopher, it expresses a sentiment, becoming more popular in the area of experimental research, that a reliance on the objective description of behavior and avoidance of conjecture about underlying mechanisms of learning, cognition or emotion may have as many drawbacks as the anthropomorphism so often criticized by traditional animal researchers.

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