The International Journal of Comparative Psychology, Vol. 2, No. 3, Spring 1989

INTRODUCTION: THE EVOLUTION OF COMPARATIVE PSYCHOLOGY

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Why do psychologists study the behavior of animals? The usual response to this question, even from many comparative psychologists, is that explaining animal behavior will help us understand human behavior, and understanding human behavior is the ultimate goal of psychology. Has this, in fact, been the aim of animal psychology, and if so, has it succeeded?

As scientific disciplines go, comparative psychology is relatively recent. Following the publication of Darwin's *Origin of Species* and his subsequent discourse on the evolution of intelligence (Darwin, 1859; 1871; 1872), psychologists became interested in studying animals and their relationship to humans. Early on, a fairly wide range of topics was explored and a large number of animal species studied. However, this was soon to change. The reader is referred to two excellent recent publications—Boakes' (1984) *From Darwin to Behaviourism* and Richards' (1987) *Darwin and the Emergence of Theories of Mind and Behavior*—which examine this early period.

The focus of inquiry narrowed, particularly in North America, when Behaviorism, in all its various forms, began to dominate psychology early in the twentieth century. Soon animal learning became the major area of inquiry. Evolutionary theory had paved the way for this development—if the differences between animal behavior and human behavior are simply differences of degree, then animals, whose behavior is supposedly simpler and more readily subjected to experimental control, are perfect subjects for the psychologist. Animal models of human behavior proliferated and one eminent theorist even "confessed" his belief that "everything important in psychology . . . can be investigated in essence through the continued experimental and theoretical analysis of the determiners of rat behavior at a choice point in a maze" (Tolman, 1938, p. 34).

While evolutionary theory permitted the development of animal psychology, studies of animal, and particularly human, behavior within an evolutionary framework were largely overshadowed by the seemingly successful enterprise of the animal learning theorists. With the study of representative species the future of comparative psychology began to

look bleak, and for decades now psychologists—and others—have been arguing about its impending demise. Recently, however, general process learning theory has fallen upon its own hard times.

At the meetings of the 24th International Congress of Psychology in Sydney, Australia at the end of August 1988, the International Society for Comparative Psychology was involved in the organization of a number of symposia that examined the mandate and current status of comparative psychology. In one of these, *Comparative Psychology: Towards the Year 2000*, convened by Ethel Tobach, speakers from countries around the world discussed the development and future of the discipline from their own national perspectives. Charles Tolman brought the session to a close on a positive note for comparative psychology, arguing that the methodology and evolutionary approach of this field may, indeed, provide a solution to the broader crises now faced by psychology in general. His paper follows on p. 197. Brian Mackenzie, whose paper appears on p. 189, also emphasized the importance of the evolutionary perspective of comparative psychology and its auspicious future in the symposium organized by John Barlow on *The Impact of Contingency Theory on the Development of Comparative Psychology.*

The symposium I organized for the Congress meetings was devoted to the question: *Has Animal Behavior Got Anything To Do With Human Behavior?* This session opened with a paper by Peter Livesey (Livesey & Bell, 1988) who described the ongoing program of research in his laboratory using a comparative method most closely identified with the work of Bitterman (1960, 1975; see also Mackintosh, 1974). Bob Boakes (1988) described work on the detection of causal relations in humans, which grew out of his previous studies with animals. John Staddon (1988) presented a provocative paper suggesting that studying animals merely as models of human behavior is unproductive, and that intelligence—whether it be human, animal or machine—is the proper subject matter for psychology. The paper by Shawn Lockery and Stephen Stich, which appears on p. 157, can be seen as illustrating the theme developed by Staddon in his conference presentation. John Tooby and Leda Cosmides examined two evolutionary perspectives—adaptation and phylogeny—suggesting that depending on the issues addressed one or the other may be the more fruitful in directing attempts to understand both human and animal behavior. Their paper is on p. 175. In the introductory paper which follows, prepared for this issue of the Journal, John Staddon and I address the question—What should comparative psychologists compare?—and proffer a response: compare mechanisms not behaviors or functions, and in so doing be concerned with the importance of theory.

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