The Psychological Present

Linda J. Hayes
University of Nevada

The present paper compares behavior-analytic and cognitive treatments of the concept of psychological history with regard to its role in current action. Both treatments take the position that the past bears some responsibility for the present, and are thereby obligated to find a means of actualizing the past in the present. Both do so by arguing that the past is brought to bear in the present via the organism. Although the arguments of the two positions differ on this issue, neither provides a complete account. An unconventional treatment of psychological history is proposed, the logic of which is exemplified in anthropological, biological, and psychological perspectives. The unconventional treatment in psychological perspective holds that (a) the organism's interaction with its environment, not the organism itself, changes with experience; and (b) the past interactions of an organism exist as, and only as, the present interactions of that organism. This solution to the problem of psychological history provides obligations and opportunities for analysis that are not available when the more conventional positions of cognitivism and behavior analysis are adopted.

Key words: psychological history, history of reinforcement, memory storage

Most modern psychological theories postulate a means by which the past experiences of an organism may be realized or actualized in the present. The alternatives to this thesis are to suppose that the actions of an organism may be understood by appeal to current conditions alone, or to suppose that the actions of an organism are not attributable to experience. The first alternative is contradicted by the enormous complexity of action so frequently observed in impoverished stimulatory circumstances. A prisoner constructing an elaborate plan for his escape from within the bare walls of his prison cell may serve as an example. The second argument, that the actions of an organism are not attributable to experience, is weakened by the strength of two or three centuries of scientific logic and evidence and is defended by almost no one. To repeat, most psychological theories find a way of making the past present.

A common end does not imply a common means, however. Theories differ considerably on this issue. Their differ-

ences arise from differences in their underlying assumptions which, in turn, leave no possibility of agreement or compromise (Kuhn, 1962; Pepper, 1942). Moreover, although each theory postulates its own particular means by which the past is brought to bear in the present, none offers a solution to the more pressing problem of how the past so brought may be contacted in such a way as to explain its influence on present behavior. That is, no theory addresses the problem of knowing the past.

The purposes of this paper are to consider the logic and utility of two examples of conventional theory on this issue and to suggest an unconventional alternative. The alternative, although unconventional, directly addresses the problem of knowing when the events about which one wishes to know no longer exist.

Conventional Treatments of Psychological History

The cognitive argument. For many psychologists, the organism's history is held to be stored in the organism. This is the traditional solution of the cognitive psychologist. In Shoben's (1988, p. 106) words: "Unless one believes that knowledge is some set of learned routines of behavior, it seems necessary to believe that knowledge is stored somewhere and that place must be in memory." Al-

An earlier version of this manuscript was read at the meeting of the Association for Behavior Analysis, Philadelphia, 1988. The author thanks Edward K. Morris, Jay C. Moore, and Mark Swain for helpful comments on the manuscript. Reprint requests may be sent to Linda J. Hayes, Department of Psychology, University of Nevada, Reno, NV 89557-0062.

though cognitive psychologists differ as to the focus of their memory studies, be it the structural components of memory (e.g., Atkinson & Shiffrin, 1968; Waugh & Norman, 1965), the processes of memory (e.g., Craik & Lockhart, 1972), or both (e.g., Schank & Farrell, 1988; Tulving, 1972), all, until very recent times (e.g., connectionism, as described by Shadbot, 1988, and Sharkey, 1988), have taken the position that memory is a storehouse of symbolized experiences. In short, from a cognitive perspective, the past experience of an organism—its psychological history—is converted into a possession of the organism. Copies of experience are stored in memory, where they remain until such time as they are necessary to explain behavior that cannot be explained by appeal to current conditions. The copies are then retrieved from storage and reexperienced.

The behavioral argument. The behavior analyst has a problem with this so-called explanation for current behavior. The objection is a familiar one, Skinner having articulated it on numerous occasions (e.g., 1974, pp. 107–110; 1978, pp. 106–108; 1985). Briefly, the cognitivists' position is regarded as metaphorical, not factual. It is based on factual descriptions of the operations of machines, notably the computer, or on manipulations of verbal products, such as the physical storage and retrieval of memoranda. However, the behaviorist would claim, a storage and retrieval interpretation applied to the workings of the brain goes well beyond the available facts about the brain (Skinner, 1978, p. 106). Moreover, there is little reason to assume that the workings of organic matter will ultimately be found to have the character of machine operations: The storage and retrieval interpretation, bear in mind, is a metaphorical extension of a fact with respect to a machine operation (Skinner, 1957, p. 92). That is to say, the stimulus properties responsible for this interpretation of the workings of the brain, although present in both the operations of machines and in observations of remembering, are adventitious rather than contingent.

In addition to the metaphorical character of the cognitive solution to the problem of psychological history, behaviorists are suspicious, and understandably so, of the ease with which it eliminates other associated difficulties. In Skinner's (1978) words:

By speaking of input one can forget all the travail of sensory-psychology and physiology; by speaking of output one can forget all the problems of reporting and analyzing action; and by speaking of storage and retrieval of information one can avoid all the difficult problems of how organisms are changed by contact with their environments and how those changes survive. (p. 107)

An organism's history of interactions with its environment is also of central concern to behaviorists. They, too, have a solution to the problem of how that history may be brought to bear on the present. The behavioral solution, as implied in Skinner's admonishment of the cognivist for overlooking difficult problems, is to suppose that an organism's past experiences exist as modifications of the experiencing organism as a biological entity. Skinner (1974) writes:

The physiologist of the future will tell us all that can be known about what is happening inside the behaving organism. His account will be an important advance over a behavioral analysis, because the latter is necessarily "historical"—that is to say, it is confined to functional relations showing temporal gaps. Something is done today which affects the behavior of an organism tomorrow. No matter how clearly that fact can be established, a step is missing, and we must wait for the physiologist to supply it. He will be able to show how an organism is changed when exposed to contingencies of reinforcement and why the changed organism then behaves in a different way, possibly at a much later date. (p. 215)

In short, the organism is changed by exposure to contingencies of reinforcement, and it is the changed organism who then responds in changed ways. This solution is not entirely satisfactory, however, because there is no more information on how and in what ways the organism is changed by exposure to contingencies of reinforcement than there is on how and in what ways copies of experience are stored in the organism, as the cognivist would have it.

Commonalities. As different as the cognitive and behavioral constructions

may appear at first glance, they do share certain similarities. For example, both assume that history or experience is something that an organism has. That is, both assume that learning is something that happens to an organism: It is the organism who learns. Accordingly, both take the position that an organism's history is brought to bear in the effective present via the organism.

Both positions also assume that the past bears some responsibility for the present, which is why both are obligated to find ways of actualizing the past in the present condition. This relation of past to present can be postulated only if the past and present are conceptualized as having separate existences. In short, both acknowledge a distinction between the past and present.

These arguments are not unusual by any means. On the contrary, they are quite conventional. The problem is that conventional wisdom with respect to psychological history has not been particularly fruitful: In one breath, we have lamented how little we know about an organism's history, while in the next, we have explained an organism's action by appealing to that history. Something is amiss when the problem is the solution and the solution is the problem.

An Unconventional Treatment of Psychological History

If the past is so important, perhaps other ways of looking at it would prove helpful. Bear in mind that the positions under consideration here are only ways of speaking. Maybe other ways of speaking will be of greater service to us.

For example, let us consider the suggestion that the past is not something other than the present. Let us assume that the past activities of the organism exist in the present activities of the organism and *only* in those present activities.¹ Af-

ter all, the past, as the past, no longer exists. Before we deal with the practical implications of this hypothesis, a little explanation may be useful. What does it mean to say that the past exists only in the present?

First of all, it does not mean that there never *was* a past, only that the past is not now in existence. The past, considered from the standpoint of the present, exists not as the past but as a present event. Further, when the past to which we refer in saying "there *was* a past" prevailed, it too was a present event: an earlier present. This line of reasoning is more readily appreciated in disciplines other than our own. Hence, we turn to an examination of the past-as-present argument in two other domains, anthropology and biology, before returning to its consequences for psychology.

Anthropology. The evolution of the human species serves as a useful illustration of the role of past events. The events involved took place in the distant past and are part of the immediate memories of no one. We might say that the human species has developed through a series of different forms, among them the Australopithecines, *Homo erectus*, and Neanderthal. The human species, then, does have past conditions, and those conditions are distinguishable from its current condition.

But, where are the past conditions of the human species? Do they exist inde-

functions obtaining between stimulating and responding (e.g., Kantor, 1959, p. 84), are historical events, having evolved over the course of individual organisms' histories (e.g., Kantor, 1959, p. 86). They are routinely conceptualized as *products* of those histories, implying a distinction between the past and present, not *as* those histories as herein argued. Still, current responding requires current stimulation from Kantor's perspective, and the concept of substitute stimulation (e.g., Kantor, 1924, pp. 50-51) is articulated to provide for such stimulation in what appears to be its absence. In other words, whatever it is an organism is doing in the present circumstance must be understood in terms of events participating in the present circumstance, not in some previous or subsequent one. Kantor's arguments suggest an interpretation of the sort defended here, although, as previously stated, they are not drawn directly from Kantor's work and are not therefore attributed to him.

¹ This argument, although not made explicitly by Kantor, is implicit in his concepts of the psychological event, interbehavioral history, and substitute stimulation. From Kantor's perspective, psychological events, analyzed as field-situated

pendently of the current conditions of this species? If so, in what do they exist?

Depending on one's perspective, these questions have different answers. From the standpoint of the observer, the past conditions of the human species exist in the observer's actions with respect to the human species and in stimuli functioning in lieu of them, such as fossil remains and anthropological theories. The past exists in observers' current comments about presently observed things and events. Alternatively, from the standpoint of the human species itself, its past conditions exist in its present condition. The current form is merely a point in the evolution of form, where each ever-current form includes all previous forms. Members of the human species in this present moment are the current end point in the evolutionary process, and all previous points constitute what they are.

Taking the side of the human species, as opposed to the observer of the same in this debate, means that the past conditions of the human species need not be regarded as independent entities that must be located somewhere in the present. There are no such entities to locate: *Homo erectus* does not exist now. Further, to argue that the past exists as the present condition of the human species does not imply that past forms exist *inside* the current form. Neanderthal does not exist inside of any current human as Neanderthal. Yet, as a phase in a continuous evolutionary process of which a human being is the end point at this moment, Neanderthal exists as its present form.

Biology. Let us take another example, perhaps a little closer to home: the process of biological development in individual organisms. From the perspective of an observer, an organism changes over the course of its lifetime—it goes through a series of stages—from a period of rapid growth in childhood and adolescence, through one of less obvious change and development in adulthood, to a stage of more or less rapid deterioration in old age. From this perspective, an infant was a past condition of the adult organism.

The organism does have a past, and it is distinguishable from its present condition.

But again, the following questions must be asked: Where are the past conditions of this organism? Do they exist independently of the present condition of this organism? If so, in what do they exist? And again, depending on the perspective, more than one answer to these questions is possible.

From the standpoint of the observer, the past conditions of this organism exist in observers' actions with respect to this organism or in stimuli functioning in lieu of it. It exists in observers' comments about this organism, perhaps in their living memories of it. The past exists in photos and other paraphernalia having to do with this organism. Note, however, that all of these so-called past conditions exist as observers' current actions with respect to immediately present objects and events.

Taking the side of the organism, on the other hand, avoids the difficulty of locating its past conditions. As for the past conditions of the human species, the past developmental conditions of this organism are not found outside of the current condition of this organism. Further, to argue that the past conditions of this organism exist as its present condition does not imply that those past conditions exist *as past conditions* inside the current organism. The infant, as the infant, is not present inside the adult. That is to say, there is no fully formed infant, somehow frozen in time as an infant, that exists inside the adult, the latter having taken on an independent identity. Rather, the infant, as a phase in the process of development of this adult, exists *as* this adult. In this sense, the past does not exist independently of the present: The past is the present.

Psychology. This line of reasoning may now be extended to our own discipline, with its own peculiar subject matter: the interactions of the organism with its environment. Given events of this sort, a common position, as in the previous two cases, is that the current interactions of

the organism are distinguishable from its past interactions. There is a past history of interaction, and it is distinguishable from current interactions. Again, a discussion of where this past exists may take the side of the observer or the side of the events themselves.

From the standpoint of the observer, as already explained, the past interactions of a given individual exist as his or her current actions with respect to presently existing things and events. The psychological past of a given organism exists in an observer's current actions with respect to that organism's interactions with its environment or to stimuli functioning in lieu of them.

From the standpoint of the events themselves, the past interactions of a given individual exist in the current interactions of that individual. Current interactions constitute an end point in the evolution of interactions with the environment, which have continuously evolved over the lifetime of the individual organism. In other words, past interactions exist as current interactions. They have no other existence. The past *is* the present.

As was the case with the evolution of the species and the biological development of the organism, taking this stand avoids the difficulty of locating the past conditions of interaction. There is no such existence to locate. Yet, as phases of a continuously evolving process eventuating in current interaction, past interactions with the environment exist as current interactions.

This argument does not mean that behavioral scientists are obliged to find replicas or residues of previous interactions inside the organism, as does the cognitivists. There are no previous interactions stored there. Neither is there a need to postulate a manifestation of past interaction in the substance of the organism, as does the behaviorist. The past history of interaction does not exist as changes in organic tissue. The past is not stored within the organism. The past does not change the organism. The past history of interaction exists as current interaction.

Implications of an Unconventional Treatment of the Past

If an organism's interactions *are* its past, psychologically speaking, it makes little sense to lament how little we know about the psychological history of an individual. The psychological history of an individual is immediately apparent in that individual's current interactions with his or her environment. Moreover, if our pasts exist in our present interactions—and nowhere else—then it makes little sense to argue that our interactional histories are causally responsible for our current interactions. To suggest as much is to argue that our current interactions are responsible for themselves.

Alternatively stated, the past has no existence outside of the present moment. It is in the continuously evolving present moment that we find the past. By implication, the future also has no existence outside of the present moment. The future is to be found, when it is, in the continuously evolving present. And if only the present exists, there is then only the present condition to be studied and only the present in which to study it.

These arguments should not be taken to mean that nothing is to be gained by a study of learning histories. As previously argued, the past-as-present argument does not deny the occurrence of events at earlier times. It merely suggests that when those events occurred they were present events rather than past events, and further, that they exist now also as present rather than past events. From this perspective, a learning history may be conceptualized as a succession of present events, wherein each new present entails all previous presents. (In less static terms, each new present may be understood as the current point in the evolution of psychological function.) As such, a study of successive presents is the means by which any given present may be better understood: A present event is an historical event; hence, a study of its history is a study of it. Far from denying the usefulness of experimental studies of learning history, the present analysis favors just

this sort of approach—as illustrated by Weiner (1969) in making sense of negatively reinforced human behavior, and as has proven useful in understanding such counterintuitive findings as shock-maintained responding (Kelleher & Morse, 1968) and negative automaintenance (Williams & Williams, 1969), among many others.

Still, an argument might be made that a study of learning histories, as they unfold in successive presents, is not the only means of coming to terms with the psychological present. It might be argued, for example, that what a person says about some particular event may be related in some way (e.g., correspond to, refer to, be the equivalent of, represent, etc.) to their other actions with respect to that event. It is on this assumption that therapists invoke verbal descriptions of clients' past interactions as a means of understanding their current interactions.

What appears to be taking place under these circumstances is action with respect to the past. Poppen (1989, pp. 327–329) makes this analysis, commenting on the various sources of inadequacy in the verbal report and arguing for an experimental analysis of learning histories whenever possible. His solution to the problem of understanding the present interactions of a person, of whom one has no direct historical knowledge, is to study what he considers to be the *results* of history, represented in certain measurable “states” of the individual. “Such states,” he claims, “do indeed ‘fill the gap’ between past causes and current behavior and are important for that reason” (Poppen, 1989, p. 329).

This analysis, although sharing concern over the problem of history, articulates the problem differently and thereby poses a different solution to it than follows from the past-as-present argument. More specifically, what appears to be verbal action with respect to the past in Poppen's account is, in our view, a present interaction, implying present stimulus as well as response events. Analyzed as a present interaction, a verbal report is not subject to the same inadequacies as is a response about the past.

There is no problem of forgetting, for example. From our standpoint, a verbal report is merely ongoing action, and its study over time amounts to a study of its learning history. To reiterate, if only the present exists, there is then only the present condition to be studied and only the present in which to study it.

Admittedly, not all of our analytical difficulties will be solved by taking this perspective on time. After all, if only the present exists, then all along any problems that have arisen are problems concerned with presently existing conditions. The advantage of taking this perspective on time, however, is that certain difficulties inherent in the task of confronting events conceptualized as no longer existing are eliminated. More importantly, the past cannot be cited as an excuse for our analytical failures, and an unknown history cannot be used as a substitute for more fruitful analyses. When the events under analysis are conceptualized as those immediately before us, they provide opportunities and obligations for analysis that were not previously available.

These arguments lead, in turn, to a final question: To what do the terms *past* and *future* refer if only the present exists? Presumably, they refer to the “continuously evolving” aspect of the continuously evolving moment of now. They express a realization that although there is only now, now is a condition of continuous change. In a psychological context, the *past* and *future* refer to the continuously evolving aspect of our ever-current interactions with our environment: They refer to the psychological present.

REFERENCES

- Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. In K. W. Spence & J. T. Spence (Eds.), *The psychology of learning and motivation: Advances in research and theory* (Vol. 2, pp. 89–195). New York: Academic Press.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11, 671–684.
- Kantor, J. R. (1924). *Principles of psychology* (Vol. 1). Chicago: The Principia Press.

- Kantor, J. R. (1959). *Interbehavioral psychology*. Chicago: The Principia Press.
- Kelleher, R. T., & Morse, W. H. (1968). Schedules using noxious stimuli. III. Responding maintained with response-produced electric shocks. *Journal of the Experimental Analysis of Behavior*, 11, 819-838.
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Pepper, S. C. (1942). *World hypotheses: A study in evidence*. Berkeley: University of California Press.
- Poppen, R. L. (1989). Some clinical implications of rule-governed behavior. In S. C. Hayes (Ed.), *Rule-governed behavior: Cognition, contingencies, and instructional control* (pp. 325-357). New York: Plenum.
- Schank, R. C., & Farrell, R. G. (1988). Memory. In M. F. McTear (Ed.), *Understanding cognitive science* (pp. 120-133). New York: Wiley.
- Shadbot, N. E. (1988). Models and methods in cognitive science. In M. F. McTear (Ed.), *Understanding cognitive science* (pp. 23-45). New York: Wiley.
- Sharkey, N. E. (1988). Neural network learning techniques. In M. F. McTear (Ed.), *Understanding cognitive science* (pp. 157-180). New York: Wiley.
- Shoben, E. J. (1988). The representation of knowledge. In M. F. McTear (Ed.), *Understanding cognitive science* (pp. 102-119). New York: Wiley.
- Skinner, B. F. (1957). *Verbal behavior*. New York: Appleton-Century-Crofts.
- Skinner, B. F. (1974). *About behaviorism*. New York: Knopf.
- Skinner, B. F. (1978). Why I am not a cognitive psychologist. In B. F. Skinner (Ed.), *Reflections on behaviorism and society* (pp. 97-112). Englewood Cliffs, NJ: Prentice-Hall.
- Skinner, B. F. (1985). Cognitive science and behaviorism. Reprinted in R. P. Honeck, T. J. S. Case, & M. J. Firment (Eds.), *Introductory readings for cognitive psychology* (pp. 33-44). Guilford, CT: Dushkin.
- Tulving, E. (1972). Episodic and semantic memory. In E. Tulving & W. Donaldson (Eds.), *Organization of memory* (pp. 381-403). New York: Academic Press.
- Waugh, N. C., & Norman, D. A. (1965). Primary memory. *Psychological Review*, 72, 89-104.
- Weiner, H. (1969). Conditioning history and the control of human avoidance and escape responding. *Journal of the Experimental Analysis of Behavior*, 12, 1039-1043.
- Williams, D. R., & Williams, H. (1969). Auto-maintenance in the pigeon: Sustained pecking despite contingent non-reinforcement. *Journal of the Experimental Analysis of Behavior*, 12, 511-520.