Comment on Baron and Galizio (2005)

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From my perspective Baron and Galizio (2005) provide an accurate and very clear version of my arguments against the use of the positive–negative reinforcement distinction in behavior analysis. I have only a few things to add to their presentation.

Conditioned Reinforcement as Stimulus Change

I think a case can be made that most human reinforcement consists of a change from a stimulus condition that has value because of the various events that have occurred in its presence to another stimulus condition with a different value similarly determined. In both cases the value commonly derives from some events that in themselves would function as reinforcement and from others that would function as punishment for the responses that immediately preceded them. The overall value of the stimulus condition will result from a summation of these different kinds of momentary values.

This kind of analysis can be illustrated with a hypothetical animal experimental situation. Consider a food-deprived rat in a chamber in which a painful shock can be delivered to the animal's feet through a floor grid, a pellet of food can be dropped into a food cup, and a high-pitched tone can be turned on and off. We can control the overall value of the stimulus condition by controlling the frequency with which the shocks and the food pellets are delivered (on a random basis) and the duration of the period during which the tone sounds. The condi-

tioned reinforcing value of a change from this stimulus condition to one in which the tone is not sounding will be jointly determined by the values of the two conditions. If during the tone-on condition the frequency of food delivery is quite high and the shock frequency quite low, the overall value of that condition would be quite high, in comparison with a tone-off condition with an opposite food–shock arrangement. The conditioned reinforcement strength of the change from tone off to tone on would be high, in that any response immediately preceding such a change would be increased considerably in future frequency. The tone-off to tone-on change would be a very good one, from the animal's perspective—a change from a very bad to a very good situation.

Now the critical issue is whether such a change—clearly a form of reinforcement—should be considered positive or negative reinforcement. And while we're at it, the change in the opposite direction, from tone on to tone off, should certainly be considered punishment, but should it be considered positive or negative punishment?

One might attempt a classification on the basis of whether the change should be considered presentation or removal, or similarly whether it is the addition of a stimulus or subtraction of a stimulus. Because the change from tone off to tone on might seem to be the addition of a stimulus, we should consider the reinforcement to be positive and the related punishment to be negative. But this is obvious foolishness, because the assignment of the good condition to the tone was completely arbitrary. We could just as well have made the tone-

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off condition the one associated with a high frequency of pellet delivery and a low frequency of shock delivery. Would this make the reinforcement negative and the related punishment positive, because we are decreasing a stimulus by turning the tone off and increasing it by turning it on? It would seem better to abandon the positive-negative distinction in such situations. And if one agrees that this type of conditioned reinforcement is ubiquitous for humans, the distinction can be considered ubiquitously irrelevant.

Positive Psychology

Recently a reasonable point has been made (Seligman & Csikszentmihalyi, 2000; Weigand & Geller, 2004/2005) to the effect that applied behavior analysis should not emphasize the elimination of behavioral pathology to the exclusion of fostering behavioral health or behavioral strength. From a behavioral perspective, this translates into the view that effective behavior should be studied in its own right rather than primarily as a replacement for ineffective behavior (Michael, 2004/2005). This notion does not seem controversial in any major way, but unfortunately the point is confounded with a confused interpretation of the positive-negative reinforcement distinction. For example, Weigand and Geller go on to state that "what positive psychology is missing is an emphasis on the principles of applied behavior analysis, particularly positive versus negative reinforcement" (p. 4).

In his rejoinder to the several commentaries on Weigand and Geller (2004/2005), Geller (2004/2005, p. 178) makes it clear that, although he is aware of the "presentation" and "removal" definitions, he means "pleasant" and "unpleasant" in the quote above and in the context of urging the use of positive behavioral interventions. I think most of us would favor pleasant over unpleasant

interventions, but this is certainly not equivalent to favoring positive over negative reinforcement. In my 1975 paper I commented on this issue as follows: "If the distinction is quite difficult to make in many cases of human behavior, the warning [to use positive rather than negative reinforcement] will not be easy to follow; and it is an empirical question at the present time whether such a warning is reasonable—a question which many feel has not been answered" (pp. 41–42).

A recent double issue of the *Journal of Organizational Behavior Management* (2004/2005) is entirely concerned with the merits and disadvantages of the positive psychology approach, and the journal editor (John Austin) reprinted my 1975 article at the end of the commentaries. Interestingly, none of the eight original articles, except my own, cited the 1975 article. I mention this only to support Baron and Galizio's (2005) conclusion that the paper has had almost no impact on terminological usage in behavior analysis. It was mentioned in Geller's rejoinder (2004/2005) in the same issue. (The reprinting of the 1975 paper is convenient for those who might wish to see it but do not have a library contact with *Behaviorism*.)

Shock-Maintained Behavior

A minor point concerns Baron and Galizio's (2005) mention of shock-maintained responding in questioning the role of emotion in positive and negative reinforcement. They conclude that this paradoxical phenomenon may be the result of a very specific procedure using squirrel monkeys as subjects, and with the results actually depending on the punishment of long interresponse times rather than on the reinforcement effect of the shock pain stimulation itself. However, a simpler literature questioning the role of emotion involves the studies in which

a painful stimulus was paired with food availability, and in which such discriminative stimuli would, under appropriate conditions, have functioned as a form of conditioned reinforcement. These arrangements are discussed by Azrin and Holz (1966, pp. 418–423).

Textbook Coverage

A final point concerns a way to deal with the necessity of knowing the distinction, but not encouraging its continued use. I think a textbook author could first describe the distinction in its traditional sense, then describe its ambiguity, and in the remainder of the book rely on the reinforcement–punishment distinction for any detailed behavior analysis.

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