Comment on McKeever and Forrin¹

by Martin E. P. Seligman²

Egger & Miller (1962, 1963) proposed two hypotheses concerning the secondary reinforcing power of informative and redundant stimuli. Their "strong" hypothesis asserted that a redundant predictor of primary reinforcement should not acquire secondary reinforcing value. Their "weak" hypothesis asserted that if two or more stimuli predict primary reinforcement, the redundant stimuli should acquire less secondary reinforcing value than the informative stimulus. Egger and Miller confirmed both of these hypotheses for the case of secondary positive reinforcement. Seligman (1966) examined these hypotheses in the case of secondary punishment. He found that a redundant predictor of shock did acquire secondary punishing power relative to a non-associative control; this cast doubt on the strong hypothesis. He further found that the redundant predictor of shock acquired less punishing power than the informative predictor of shock; this confirmed the weak hypothesis.

McKeever & Forrin (1966) tested the Egger-Miller hypothesis with rats in a two-choice maze. Hungry Ss were first given brightness discrimination training. The correct (reinforced with food) side of the maze had a black door, leading to a black antechamber, finally leading to a white goal box. (Colors were counter-balanced.) The incorrect side had a grey entrance door, antechamber, and goalbox. McKeever and Forrin claim that the black antechamber is the informative stimulus, and the white goal box is the redundant stimulus. Having acquired this discrimination, Ss were given a position habit to learn. Both sides of the maze were entirely grey, except for the goal box of one side. Half the Ss were run to the "redundant" goal box; the other half were run to the "informative" goal box (which had previously been the antechamber). They found that the choice of both informative and redundant goal boxes was significantly above chance. This disconfirmed the strong Egger-Miller hypothesis, and was consistent with the Seligman results. They further found that the informative and redundant goal boxes did not differ from each

other in their secondary reinforcing value. This finding is inconsistent with both Egger and Miller's and Seligman's confirmations of the weak hypothesis.

I suggest that McKeever and Forrin's results actually are not inconsistent with the weak hypothesis. Assume that *both the antechamber and the goal box were redundant predictors of food*. The informative stimulus, the first stimulus which reliably predicts which side food is on, was the black door at the entrance to the antechamber. Everything beyond that door was redundant. Therefore, in harmony with the weak hypothesis, McKeever and Forrin should have found—and actually did find—that the antechamber and the goal box did not differ in their secondary reinforcing value. It seems probable that, if they had compared the entrance door to either the antechamber or goal box, the door would have been more effective in controlling a new position habit than would the antechamber or goal box.

Apparently, the informative door was the same color as the purportedly informative antechamber. McKeever and Forrin might argue that although the antechamber was actually redundant, through generalization, it might have been expected to acquire more secondary reinforcing value than the goal box. This argument may place too heavy a burden on stimulus generalization.

References

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Notes

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2. National Science Foundation graduate fellow at the University of Pennsylvania.