

Honig states that the relationship between the non-monotonicity of S- and the ORE can only be demonstrated if "(1) the animals are brought to criterion on one problem and overtrained past the same criterion on a second problem, (2) the S- involved in overtraining is clearly shown to be preferred over the criterion S-, and (3) the ORE is actually demonstrated in the comparative speed of reversal learning of the two problems in the same situation." He then states that none of these conditions are met by Deutsch & Biederman (1965) or Biederman (1967a). In Deutsch and Biederman's study, 10 of 12 rats chose the more trained (MT) S-, and in Biederman's experiment, 18 of 22 rats in the critical training group chose the MT S-. Yet Honig states, "...neither study demonstrated a significant preference for the more trained S-." The choice of the MT S- by 28 of 34 Ss seems a strong preference indeed, and is highly significant as measured by the binomial expansion.

The relevancy of the nonmonotonicity of S- and the ORE is as follows: Theories which claim to be explanations of the ORE and have as a basic assumption that S- is monotonic in its negativity, are based on what appears to be a false assumption. Conditions (1) and (3) (although not logically necessary to this observation) have been recently satisfied in an experiment using pigeons (Biederman, 1967b). The MT discrimination was almost 100% correct after 450

trials, while the less trained (LT) discrimination reached a "criterion" level of about 80% correct. After training the discriminations were reversed; the MT discrimination was learned faster in reversal than was the LT discrimination ($p < .005$), thereby demonstrating a within-Ss ORE. Again, after an amount of training similar to the amounts used in the earlier studies, Ss chose the MT rather than the LT S- ($p = .015$).

The original strong preference of rats for the MT S+ rather than the LT S+ has not been confirmed by the last experiment. Here a strong preference was found for the LT S+ ($p = .004$). This finding seems to lessen the importance of Honig's comments on S+ possibly retarding reversal because of its increased attractiveness. The theories Honig mentions would be hard pressed to explain these data.

References

- BIEDERMAN, G. B. The overlearning reversal effect: A function of the non-monotonicity of S- during discriminative training. *Psychon. Sci.*, 1967a, 7, 385-386.
- BIEDERMAN, G. B. Stimulus function in simultaneous discrimination. 1967b, publication pending.
- DEUTSCH, J. A., & BIEDERMAN, G. B. The monotonicity of the negative stimulus during learning. *Psychon. Sci.*, 1965, 3, 391-392.

Note

1. The number of training trials in Biederman's 1967a experiment was 64 for one group and 128 for the other. The points depicted in the figure represent the last eight blocks of 12 MT and 3 LT discrimination trials for the 128 trial group, and the last four blocks of 12 MT and 3 LT discrimination trials for the 64 trial group.