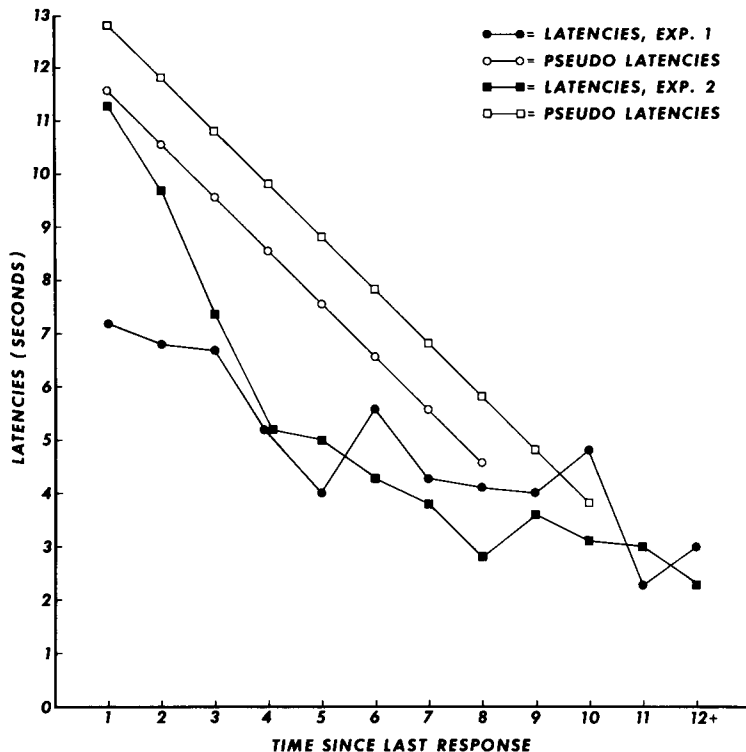


Fig. 2. Mean latencies for RS = 20 sec and RS = 30 sec replotted as a function of time elapsing since last avoidance response. The time the response would have occurred in the absence of the light (pseudolatency) is shown in open figures.

latencies) and the measure of Pavlovian stimulus control (discrepancies between latencies and pseudolatencies) both retain their sensitivity up to latency values of 2-3 sec, where they both reach asymptote. This supports the notion that increases in fear are ultimately responsible for both phenomena. However, the fear providing the motivation for the avoidance response in conditioned acceleration arises from two contingencies independently exerting stimulus control.

The present results on operant control of conditioned acceleration are considered a precise analogy of findings of Lyon (1964) and Lyon & Felton (1966) on operant control of conditioned suppression. These investigators have shown that the degree of suppression suffered by appetitive responding in the presence of a Pavlovian CS+ can be predicted on a linear basis for larger FR schedules from the simple (operant) consideration of how many responses must be executed before the next reinforcer becomes available. The linearity in conditioned suppression is due to the fact that suppression tends to become complete following the occurrence of the first post-CS reinforcer. In the case of conditioned acceleration, the linearity of the latency/safe-time relationship is due to the carryover of the normal increase in probability of an avoidance response as a function of proximity to the next shock due into the CS periods. The relationships between operant control of both conditioned acceleration and conditioned suppression coupled with related types of similar control by Pavlovian variables (e.g., shock intensity—Annau & Kamin, 1961; Riess & Martin, 1969) for these paradigms suggest that the two are reciprocal



phenomena related to each other in much the same fashion as positive reinforcement and punishment.

REFERENCES

- ANNAU, Z., & KAMIN, L. The conditioned emotional response as a function of intensity of the US. *Journal of Comparative & Physiological Psychology*, 1961, 54, 428-432.
- BRADY, J. V. Extinction of a conditioned "fear" response as a function of reinforcement schedules for competing behavior. *Journal of Psychology*, 1955, 40, 25-34.
- LYON, D. O. Frequency of reinforcement as a parameter of conditioned suppression. *Journal of the Experimental Analysis of Behavior*, 1963, 6, 95-98.
- LYON, D. O. Some notes on conditioned suppression and reinforcement schedules. *Journal of the Experimental Analysis of Behavior*, 1964, 7, 289-291.
- LYON, D. O. Conditioned suppression: Operant

variables and aversive control. *Psychological Record*, 1968, 18, 317-338.

LYON, D. O., & FELTON, M. Conditioned suppression and fixed ratio schedules of reinforcement. *Psychological Record*, 1966, 16, 433-440.

RESCORLA, R. A., & SOLOMON, R. L. Two-process learning theory: Relationships between Pavlovian conditioning and instrumental learning. *Psychological Review*, 1967, 74, 151-181.

RIESS, D. Pavlovian phenomena in conditioned acceleration: Stimulus summation. *Conditional Reflex*, in press.

RIESS, D., & MARTIN, L. K. Effects of UCS intensity during continuing coterminous delay conditioning on conditioned acceleration during maintained avoidance. *Psychonomic Science*, 1969, 16, 251-252.

STEIN, L., SIDMAN, M., & BRADY, J. V. Some effects of two temporal variables on conditioned suppression. *Journal of the Experimental Analysis of Behavior*, 1958, 1, 153-162.

ERRATUM

Caul, W. F., & Miller, R. E. Effects of delay conditioning and pseudoconditioning on heart rate and suppression of drinking. *Psychonomic Science*, 1970, 18 (5), 284-285.—On page 285 there is a reference to Caul, W. F., Miller, R. E., & Banks, J. H., Jr. Effects on heart rate in delay conditioning and pseudoconditioning, as appearing in *Psychonomic Science*, 1970, 18 (5), 263-264. It, in fact, appears in *Psychonomic Science*, 1970, 19 (1), 15-17, although it should have appeared before the first article referenced above.