TECHNICAL NOTE

OPERANT CONDITIONING IN NONDEPRIVED
ADULT AND INFANT GUINEA PIGS¹

A number of researchers working on guinea pigs have found that either food or water deprivation produces a moribund animal that is totally unresponsive in an operant study. Dutch and Brown (1968) were obliged to terminate some of their experiments on water-deprived animals for this reason, and it has been suggested that the rather severe effects produced may be due to the altered food intake shown by such animals (Collier, Levitsky, and Weinberg, 1968). Food-deprived subjects are often no easier to use, as they may show extreme polydipsia (Cizek, 1954); food and water intake are highly dependent on one another and deprivation of one resource is highly likely to disrupt intake of the other.

In my own work on guinea pigs I found food and/or water-deprived animals very unresponsive subjects and I was fortunate to find a reinforcer that was readily taken by adults and infants of all ages that were entirely nondeprived. A soupy solution of one part Oster milk (dried milk for babies) plus two parts of Farex (dried cereal for babies) mixed with eight parts of water produces a reinforcer that all my animals accept. A tiny drop of this mixture suffices to maintain the animal working, for example on an intermittently reinforced lever-lifting task, for up to 300 reinforcers over an hour before becoming satiated. This is a considerable improvement on a reinforcer of carrot juice described

by Gundy (1959), where his animals would take only 30 to 60 reinforcers before satiation.

Adult rats have also been found to accept readily this reinforcer in preference to various types of milk concentrates or cream, but mice do not show any such preference apparently.

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