The most notable result is a comparison between the rats licking at .1 M Sucrose paired with water and those licking at .1 M Sucrose-with-noise paired with water. Rats in the former case showed an almost immediate preference for the sucrose that reached a high value by the 36th hr. of testing. Rats run to .1 M Sucrose and water displayed a slight initial preference for sucrose that declined quickly and in one case improved after the 48th hr. of testing. Another interesting point is the gradual development of the measured preference for .3 M Sucrose over the first 72 hr. The rats tested on .1 M Sucrose in the noise-cue condition developed their preferences more rapidly than did the .3 M Sucrose animals without a noise-cue. The first sign of a stable preference for sucrose occurred at .07 M concentration. One animal shows a stable preference by the 36th hr. The other animal begins to decline in sucrose-preference after the 48th hr.

The cumulative records that monitored all intake showed that most, though not all, eating occurred just prior- and subsequent-to eating. Periods of self-deprivation ranged from 1-6 hr. Most self-deprivation ranged between 1 and 3 hr. Continued licking lasted for as little as a few seconds and in some cases continued for half an hour. Most licking ran for 10-15 min. stretches.

Discussion

The data may be interpreted to show that preference functions derived from various testing techniques may be non-linear with respect to the animal's stimulus bias. The rapid stimulation may be considered reinforcement that both generates and sustains instrumental responding. A testing situation with an abundance of cues associated with reinforcement of an instrumental response may show a learning curve similar to that shown by the three rats run to .3 M Sucrose (no noise cue) and water. If an average is taken for 48 hr. responding as an indication of preference, the figure will be at a lower level than the terminal preference. A testing situation with an abundance of cues may cause the data to reveal lower thresholds than one with minimal extra-gustatory information. The importance of non-gustatory cues appears to vary inversely with the strength of the stimulus, e. g., .1 M Sucrose with and without noise, .3 M Sucrose without noise in Figure 1. The 1-min. between sucrose presentation did not appear to function

as an effective temporal cue. Falk (1963) found that preference functions for saline preference increased as time-of-presentation increased from 5 min. to 10 min. to 15 min. in a successive preference method. The function was nearly horizontal at 5 min. suggesting that our 1-min. presentation precluded temporal discrimination by the rats.

References

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Notes

1. This research was conducted under grant G-14332 from the National Science Foundation.
2. The author is indebted to Miss Judith Jay for collecting a large portion of the data reported in this paper.

Errata

The Editor regrets that two errors appeared in the November issue of the journal. In the first case (Ashida), two capital sigmas were omitted in a formula. In the second case (Cross), a line was omitted, and the omitted material is indicated below by underlining.

ASHIDA, SACHIO. Modification of early experience of the tendency toward gregariousness in rats. *Psychon. Sci.*, 1964, 1, 343-344.

$$\frac{1}{n} \sum_{i=1}^n \log f(T_{jg1}) = \frac{1}{n} \sum_{i=1}^n \log m_j(R_{E1}) - \frac{1}{n} \sum_{i=1}^n \log m_j(R_{C1}) \quad (4)$$

CROSS, HENRY A. Reply (to Routtenberg's Comment concerning Cross, Rankin, & Wilson). *Psychon. Sci.*, 1964, 1, 334.

This was clearly a call for research, and the two factors discussed by Routtenberg provide a perfectly acceptable starting place. However, Routtenberg's proposed research would not necessarily control for the visual factor since it remains a distinct possibility that operation-induced emotionality or disruption might be quite different for two organisms which differed greatly in their initial dependence.