EXPERIMENTAL CONTROL DURING AN EARTHQUAKE¹

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An institutionalized male retardate, age 13.5 years, MA approximately 8 (Peabody, Form B), served as subject.

A modified Harvard match-to-sample apparatus (Hively, 1962) had as its top section a single long window at which a sample stimulus was presented. The bottom section contained five small windows at which the choice stimuli appeared.

Procedure

A sample stimulus appeared in the top window. Pressing the window terminated this stimulus and presented 1 to 5 choice stimuli. Pressing the window on which the correct match appeared sounded a chime, briefly lit a lamp in the apparatus, dispensed a bead, terminated the matching stimuli, and exposed a new sample stimulus in the top window. An incorrect response sounded a brief buzzer and started a 5.8 sec blackout. When the blackout terminated, the same sample was presented again. A correct matching response had no consequence unless it lasted more than 0.3 sec. A momentary switch closure was effective for other responses. A response to the top window before a stimulus was projected there had no consequence. Holding a bottom window microswitch closed while responding to the sample delayed the matching stimuli until the window was released. At the end of the session the beads were traded for assorted candies at a set "cost". Each session presented the same set of 80 slides until all 80 were correctly completed. Slide order was scrambled every five sessions to avoid learning of serial order. Midway through the 35th experimental session (April 29, 1965) a 30-45 sec earthquake, rated at 7 on the Richter scale, occurred. A

rating of 9 is equated with total destruction. The 1964 Alaska earthquake was rated just below 9.

RESULTS

The cumulative record of that session is shown in Fig. 1. Each correct match steps the recorder pen. No incorrect responses were made. Point "a" denotes a 15-sec pause in responding during the major tremor. It is not known where this pause fell in the 30-45 sec period of major earthquake activity. At the end of this pause, a tremor displaced the recorder pen. A short time later, at point "b", the power failed, and the subject was returned to his living hall for 90 min. He then returned and completed the session. In Fig. 2, errors and session lengths are plotted for the experimental session (arrows) and for sessions immediately before and after.

DISCUSSION

The reasons for the extreme stability of behavior are not clear. When questioned about

¹This investigation was supported in whole by Public Health Service Research Grant MH 02232-08, from the National Institute of Mental Health.

his behavior during the earthquake, the subject replied: "I wanted to stay and finish so I could get my beads and candy." Explicit control of several important contingencies probably accounts for this stability. Due to the inability to replicate the experiment, it has not been possible to confirm this theory. But the results do pose interesting questions about the common belief that distractibility or poor attending behavior account for much of the learning deficit in human retardates.

REFERENCE

Hively, Wells. Programming stimuli in matching to sample. *J. exp. Anal. Behav.*, 1962, 5, 279-298.