

REMINISCENCE ON THE SPIRAL AFTER-EFFECT AS A FUNCTION
OF LENGTH OF REST AND NUMBER OF PRE-REST TRIALS

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The concepts of massed practice and reminiscence are usually used in discussions of learning experiments, but they appear to be equally applicable to perceptual tasks (Eysenck & Slater, 1958). It may be argued that the neural pathways mediating the rotating spiral after-effect are prone to inhibition or satiation, and that massed practice should lead to an accumulation of inhibition, and consequently to a lessening of the length of the after-effect. A period of rest should lead to a dissipation of inhibition, and thus to reminiscence, i.e., a lengthening of the after-effect to near its original value. It was hypothesized that a shorter rest pause (30'') should produce less reminiscence than a longer one (3'), and that a larger number of pre-rest trials (12) should lead to greater reminiscence than a smaller number (5).

Ss were 62 industrial apprentices, with a mean age of 18 yr. Each S was administered the test individually in one of the four possible combinations of rests and trial numbers (*N*s ranged from 14 to 18). The spiral used has been described elsewhere (Eysenck, 1957). Testing was done under "massed" conditions, i.e., the 1-min. exposure of the rotating spiral was followed by the determination of the length of the after-effect, and this immediately by the next presentation of the spiral. (In normal "spaced" practice, there is a pause between the end of the after-effect and the beginning of the next trial.) After the rest (either 30'' or 3') six more massed trials were given. Reminiscence was scored by subtracting the last pre-rest after-effect from the first post-rest after-effect for the two groups having 5 pre-rest trials; for the other two groups the score was the mean of the last three pre-rest after-effects subtracted from the first post-rest after-effect.

Results are shown in Figs. 1 and 2. Scores for the two different rest groups have been combined for the pre-rest period in each case as there were no significant differences between them. It will be seen that there is in both cases a conspicuous and statistically highly significant decline in after-effect scores from Trials 1 to 5; thereafter no further systematic change can be detected. After the rest there is in both figures an increase in score for the 3' rest groups, and a further decline in score for the 30'' rest groups. Neither effect quite reaches an appropriate level of significance on the *t* test, but the similarity of the two graphs suggests that we are not dealing with a chance phenomenon. It is likely that longer rests are required to get rid of the major part of the inhibition set up by the massed practice. The longer practice periods produce slightly greater reminiscence effects, but the differences are too small to be taken seriously.

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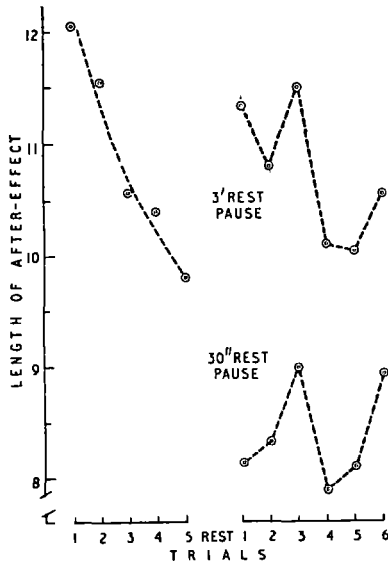


FIG. 1. Effect of 30" and 3' rest pause on length of spiral after-effect when preceded by 5 massed practice trials

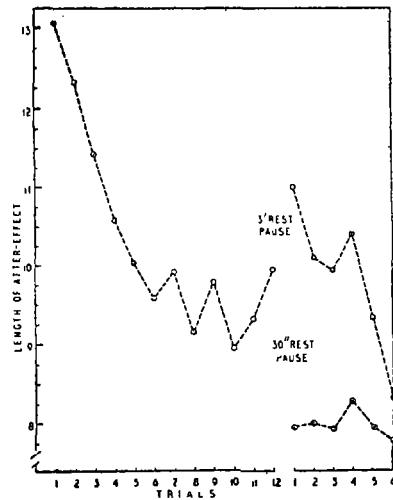


FIG. 2. Effect of 30" and 3' rest pause on length of spiral after-effect when preceded by 12 massed practice trials

Product-moment correlations were run between reminiscence scores and the E and N scale scores on the Maudsley Personality Inventory (Eysenck, 1959) to test the hypothesis that reminiscence was greater in extraverts. Only one correlation was significant, *viz.*, that between E and reminiscence for the 12-trial, 30" group ($r = .55$). This is in line with prediction, but none of the other correlations was different from zero. The correlation between E and a decline score (first pre-rest trial minus fifth pre-rest trial) was positive as predicted, but insignificant ($r = .14$).

Summary.—After-effects of the rotating spiral were compared before and after a rest (30" or 3'), following 5 or 12 massed trials for 62 industrial apprentices. Massed practice shortened after-effects, and long rests produced greater reminiscence effects than short rests. Correlations between performance and personality were slight, but in the predicted directions.

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