Effects of hypnotically controlled strength of registration vs rehearsal¹

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Posthypnotic manipulation of cognitive arousal in three degrees was utilized to test the relative impact of strength of registration vs strength of rehearsal upon response salience. All pairings of high, medium, and low arousal conditions at registration and rehearsal were applied to a task involving oral presentation of strings of consonants. Results obtained with two male Ss clearly favored rehearsal strength as the more influential in affecting subsequent output.

The availability of two hypnotically trained male undergraduate Ss, capable of regulating their cognitive arousal in degree, permitted a comparison between registration and rehearsal as contributors to response strength. Methods for the training and testing of these arousal manipulations have been described in earlier publications (Blum, Geiwitz, & Stewart, 1967; Blum, Geiwitz, & Hauenstein, 1967). For the present study Ss were programmed to process information posthypnotically so as to make it "clear and strong" (high), "medium," or "fuzzy and weak" (low).

Method

The task upon which the posthypnotic arousal manipulations were imposed consisted of S first listening to a string of six consonants (hexagram) presented at a 1-per-sec rate in time with a metronome; shortly afterward repeating the letters to himself with the metronome off; then concentrating all his attention on counting beats of the metronome from 1 to 30; and finally reporting whatever consonant came into mind, for any reason at all, at each of the next six beats. This *salience* technique had been employed successfully in a number of previous studies (Blum, 1967; Blum, Geiwitz, & Hauenstein, 1967) including a series of experiments on cognitive reverberation carried out with the same two Ss (Blum, Hauenstein, & Graef, in press).

Specifically S was told the words "high," "medium," or "low" at two points during a trial: 2 sec before the hexagram was spoken to him, and 2 sec before he began his silent rehearsal. The first posthypnotic cue lasted by instruction through the hexagram presentation; the second was terminated by E saying "stop" at the end of the 6-sec rehearsal period. All nine possible pairings of the cognitive arousal levels appeared six times each in random order throughout a series of 54 trials, conducted in a 2-h session with four rest periods. A different hexagram was used in every trial and no adjacent trials contained overlapping letters.

Table 1.
Mean Salience Scores in Various Strength Pairings
of Registration and Rehearsal.
(N = 6)

			Strength of rehearsal		
			H	M	L
Subject 1	Strength of registration	H	5.17	4.33	2.50
		M	4.83	3.00	2.50
		L	3.17	3.17	3.00
Subject 2	Strength of registration	H	4.17	2.67	1.33
		M	2.33	1.67	1.33
		L	2.50	2.50	1.50

The salience of stimulus consonants at the time of report was measured by a scoring system based primarily upon their reappearance in the report series, with some weight also given to correspondence in position. For example, a maximum score of 6 was assigned if all six original consonants were reported in exactly the same ordinal positions; a report containing five of the letters in their original positions was scored 5, and so on. If one or more of the reappearing consonants was not in the same ordinal position as before, one point was subtracted from the total score for that set.

Results

Table 1 gives the mean salience scores of the nine strength pairings of registration and rehearsal. The largest entries for each S are in the high-high cell. Inspection of the rows reveals a consistent decrease in scores as strength of rehearsal varies from high to low. The columns, reflecting changes in registration strength, do not indicate the same consistency. Separate analyses of variance yield very significant main effects for varying strength of rehearsal in both Ss ($p < .01$). Varying strength of registration, however, shows no main effect for Subject 1 and a weaker effect ($p < .05$) than rehearsal for Subject 2. Interaction was not significant in either case.²

Thus, within the limits of this experimental setting where the weak registration was still sufficient to be discernible, it is apparent that strength of rehearsal is a more potent factor than strength of registration in contributing to salience at the time of output.

References

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Notes

1. This research was supported by NIMH Grant No. 08847-03.
2. The assistance of Louise Hauenstein and Jed Graef in the collection and analysis of data is gratefully acknowledged.