Fig. 1. Effect of input mode on serial position of errors: silent = visual, aloud = auditory.

identical to those reported when E speaks the item rather than S himself, and the method is free from intelligibility problems. What the nature of the input is in the visual presentation condition is unclear. But the nature of the error observed (Conrad, 1964) indicates that the

input undergoes drastic recoding; the last items in the visual condition are not merely held in a short-lived visual store. Nor will any simple trace-strength model suffice which depends on input mode to determine strength, since for most of the curve there is no difference. Finally (for the time being) models of the Lepley-Hull type might also have difficulty in explaining how the balance of intra-serial interference becomes shifted when sensory mode of presentation is changed. It seems wisest at present to leave these confirmatory data with minimal comment. The fact of the dramatic absence of recency when material is silently read will need to be accommodated in any model for short-term memory.

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Serial Isolation by Shock: Reply by David C. Raskin and Edwin W. Rubel Michigan State University

The Lippmans have offered some interesting alternative interpretations of the data we reported in this journal (Raskin, Hattle, & Rubel, 1967), and the points which they raised require some comment. First, their speculation that electric shock isolation produced a decrease in intrusions of the isolated item can be checked empirically. We did not collect the pertinent data, and we would be pleased to see this question settled on the basis of data rather than intuition.

Second, their speculation that the shock served to bisect the list in the Shock Isolation (SI) condition raises the question as to why the usual color isolation procedure has not produced similar bisections and resultant facilitation. The verbal reports of five Ss in the SI condition did indicate that the shock served to bisect the list. This is not inconsistent with our interpretation based upon evoked orienting reflexes (OR). Perhaps our explanation was not completely understood. It was not the generalized arousal produced by shock which was responsible for the overall facilitation observed in the SI condition. As we pointed out, if increased arousal were the only important factor, then the Control Shock

condition should have been equally effective. Obviously, it was not. The crucial aspect of the procedure was the consistent occurrence of the shock with the appearance of a particular serial item. We suggested that this procedure produced increased signal value, enhanced ORs, and faster learning of the shocked item. This produced ORs to items in the middle of the list much sooner than ORs normally occur without an isolating stimulus (Thompson & Obrist, 1964). Wishner, Shipley, and Hurvich (1957) offered a similar interpretation of their findings. In essence, our procedure enhanced isolation effects because electric shock is a more salient isolating stimulus. If the shock did not consistently occur in the middle of the list (the Lippmans suggest it should not), facilitation would not be expected to occur.

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