

# This Week's Citation Classic

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**Sachs J S.** Recognition memory for syntactic and semantic aspects of connected discourse. *Percept. Psychophys.* 2:437-42, 1967.  
[Bell Telephone Labs., Murray Hill, NJ]

**This paper demonstrated that the original wording of a sentence is typically remembered only for a very brief time. When a semantic interpretation has been made, the meaning but not the exact linguistic form is stored. [The *Social Sciences Citation Index*<sup>®</sup> (*SSCI*<sup>™</sup>) indicates that this paper has been cited over 220 times since 1967.]**

J. S. Sachs  
Department of Communication  
Sciences  
University of Connecticut  
Storrs, CT 06268

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"This paper was based on my PhD dissertation research carried out at the University of California at Berkeley. I had long been intrigued by language processing, including the phenomenon of an 'auditory echo' of what one had just heard or said. This example of short-term memory is most startlingly apparent when one suddenly realizes that one has said something incorrectly.

"Most memory studies using verbal material at that time seemed to be based upon the assumption that the stimulus as perceived is stored in memory, with the 'trace' of the stimulus gradually fading with time or due to interference from previous and subsequent experience. Typically, experiments required subjects to learn lists or pairs of lists of words or nonsense syllables that appeared one at a time, briefly, in the window of a 'memory drum.' Serving as a subject in such experiments for many hours at Berkeley, and earlier as an undergraduate at Northwestern

University, convinced me that, although such experiments were convenient to run, the rote memory process had little resemblance to memory in most everyday life contexts. I suspected that at least in language, but probably more generally, a dramatically recoded perception, rather than the original one, was stored in memory.

"My experiment demonstrated that the specific wording of an utterance is forgotten within seconds after it is heard. In contrast, the meaning of that utterance can be retained for a very long period. The 'auditory echo' that allows one to rehear an error is transient and fragile. Later, I showed that this phenomenon applies not only to aural language but also to text that is read.<sup>1</sup>

"I believe that this work is cited so often for two reasons. First, it provided a method for studying memory for language and for changes in meaning that was much less cumbersome than other methods such as scoring accuracy of recall. Also, my study was cast in a theoretical context that was consistent with the developing Zeitgeist: a view of memory (all memory, not just for language) in terms of levels of processing. According to this view, incoming stimuli are recoded, and various aspects of the material may be retained, recast, or cast aside in processing.

"In addition to its contribution to a basic understanding of language processing and memory, this study had practical implications; for example, in the weighing of the credibility of legal testimony. Clearly, if an attorney asks a witness, 'What exactly did the defendant tell you. . .?', the witness's answer is unlikely to be an exact quotation, although it may be an accurate paraphrase.

"In recent years I have turned my attention to how children acquire their first language. In view of the considerable demands that retaining the form of an utterance has for adults, the processing demands upon infants who are learning their first language can be seen to be extraordinary."

1. **Sachs J S.** Memory in reading and listening to discourse. *Mem. Cognition* 2:95-100, 1974.