

Anisfeld M & Knapp M. Association, synonymity, and directionality in false recognition. *J. Exp. Psychol.* 77:171-9, 1968.  
[Cornell University, Ithaca, NY]

Findings showing that subjects confuse semantically related words in memory suggest that words are represented internally not as unanalyzed wholes but as complexes of features that can be retained independently. The breakdown into features seems to occur at the time of word encoding. [The SSCJ® indicates that this paper has been cited in over 115 publications.]

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This was the first study I did after joining the faculty of the Department of Psychology at Cornell in the fall of 1965. It arose from a discussion with an undergraduate student, Margie Knapp, of an article by B.J. Underwood<sup>1</sup> that she had read in connection with a paper for my course in cognitive processes. Underwood presented subjects with a continuous list of words (from audiotape) and asked them to indicate for each word whether it was new on the list or old. He found that the subjects tended to judge new words as old if the words were associatively related to earlier words in the list.

Underwood's false-recognition finding intrigued us. It clearly demonstrated distortions in memory. But I was not happy with Underwood's behavioristic, associative interpretation. Having recently come from Cambridge, Massachusetts—where I was based at Harvard and attended seminars with Noam Chomsky at MIT—I thought of the internal lexicon not

as a bag of words with fortuitous associations but as a structured system. We designed an experiment that demonstrated that nonassociated synonyms also produced the false-recognition effect. This finding led to the conclusion that words are stored in memory not as unanalyzed wholes, but as complexes of features.

On rereading the article now, I see that we were not bold enough in asserting the role of featural similarities in lexical memory. We accepted the validity of the associative factor and added to it the featural factor. In later publications<sup>2,3</sup> my conviction grew that associations are not primary, but rather derived, processes. Associations themselves require an explanation. Most of the associative responses that subjects give in a free-association test are not due to past co-occurrence but rather to underlying semantic relations, such as antonymy. At the time of this article, however, the concept of association was so powerful and had such strong advocates in the field of verbal learning and verbal behavior that one dared not reject it altogether.

At the same time, the Chomskian revolution in linguistics had already stimulated new, structural approaches to the investigation of language development in children and of syntactic functioning in adults, and the field of word learning was ripe for its influence. Thus, I think that the main reason for the impact of our study was that it demonstrated the validity of the new structural paradigm in a field that had been dominated by behavioristic thinking. Our article was part of the Chomskian revolution that was gaining force in the fields concerned with the study of language and cognition. It is easy to succeed when one marches with a conquering army!

The study was conducted in the departmental coffee room (before I had a laboratory). I take this opportunity to thank publicly the graduate students and faculty who adjusted their coffee-drinking times to suit our subject-testing schedules.

1. Underwood B J. False recognition produced by implicit verbal responses. *J. Exp. Psychol.* 70:122-9, 1965.  
(Cited 165 times.)
2. Kadesh I, Riess M & Anisfeld M. Dichotic listening in the study of semantic relations. *J. Verb. Learn. Verb. Behav.* 15:213-25, 1976.
3. Weingarten M & Anisfeld M. The syntagmatic-paradigmatic shift in dichotic listening. *J. Exp. Child Psychol.* 31:271-8, 1981.