

THE COMPARISON OF WORD MEANINGS¹

BENSON SCHAEFFER² AND RICHARD WALLACE

University of Oregon

The present paper argues that data on two-word meaning comparisons reflect only the comparison process, not the retrieval from or the organization of semantic memory. A model of comparison is proposed which handles the available data without making assumptions about retrieval or organization. Experiment I supports the model by showing that semantic similarity interferes with the judgment that two words have different meanings, and disconfirms Collins and Quillian's major alternative model; Collins and Quillian's model assumes that the data on two-word comparisons reflect retrieval and organization. Experiments II-V demonstrate an important boundary condition for the proposed model: when Ss respond only to the names of words, formal semantic similarity has no effect on the judgment that two words have different meanings.

Recently, several investigators have begun to study the processes involved in the comparison of word meanings, Schaeffer and Wallace (1969) and Collins and Quillian (1969). They have asked Ss to judge whether two words have the "same" or "different" meanings and have used the data to test various models of the retrieval from and organization of semantic memory. It is possible to argue, however, that the data mirror only the comparison of meanings and not retrieval or organization. To strengthen this argument, the present paper (a) proposes a comparison model which handles the available data but says little about retrieval or organization and (b) describes the results of an experiment which support the model and disconfirm the major alternative model (Collins and Quillian, 1969). This alternative embodies strong assumptions about retrieval and organization, as well as comparison. In addition, the paper discusses and demonstrates the operation of an important boundary condition for the present model.

To contrast the two models and to place the experiment which distinguishes between them in perspective, the data available con-

cerning meaning comparison will be presented and the two models' account of them will be outlined. The major finding that has emerged from studies in which the meanings of two words are compared is that semantic similarity facilitates the judgment that two words have the "same" meaning. Schaeffer and Wallace (1969) found that *lion* and *elephant* were more easily judged "same," both living, than were *lion* and *daisy*; *lion* and *elephant* are semantically similar in that both are animals. Collins and Quillian (1969) found *canary* and *bird* were more easily judged "same" than were *canary* and *animal*; *canary* and *bird* are semantically similar in that both fly, are feathered, are winged, lay eggs, etc.

The present model will be introduced by way of example because its basic terms are most easily understood in this context. The model explains Schaeffer and Wallace's (1969) data, exemplified by the comparison between *lion* and *elephant* that determines that both are living things, as follows. The concept for *lion* may be partially denoted by *lion*, *animal*, *mammal*, *living*, *mane*, *carnivore*, etc., the concept for *elephant* by *elephant*, *animal*, *mammal*, *living*, *trunk*, *herbivore*, etc. According to the model, the concepts are compared in their entirety; the connection between the elements "living" in *lion* and "living" in *elephant*, the representations of the task decision criterion in both concepts, forms the decision unit from which information is sampled to decide

¹ This research was supported by the Advanced Research Projects Agency, United States Department of Defense, and was monitored by the United States Air Force Office of Scientific Research under Contract F44620-67-C-0099.

² Requests for reprints should be sent to Benson Schaeffer, Department of Psychology, University of Oregon, Eugene, Oregon 97403.