

Investigation of the Access to the Semantic Memory by Words and by Pictures

Martine Cornuejols (mc@limsi.fr)

Jean-Pierre Rossi

LIMSI-CNRS

Human Cognition group

University of PARIS XI - Orsay

B.P. 133

F - 91403 ORSAY Cedex FRANCE

Phone: (33 1) 01 69 85 80 07

Our research, on the semantic memory, examines the nature of the storage, i. e., the form in which semantic units (or signified) are stored and also the modalities of access to the semantic memory (i. e., his relationships with the signifiers). The goal is to determine if the semantic networks activated by words are similar to those activated by pictures. Two experiments examine the effect of cross-modal semantic priming by pictures and by words with lexical decision task. The first data show that access to the semantic repertory by pictures or by words is not equivalent. The semantic priming effect by pictures could occure under certains conditions of prime-target associations different from the one which conduct to semantic priming with written-words. The second experiment shows that the associative network of pictures is not exactly the same as the associative network of words.

The crucial question is the question of the nature of the semantic code. Two types of models are in opposition : the first considers that the semantic structure is amodal, independant from the modalities of access ; the second supposes that the semantic storage is multimodal, that is to say, dependant from the modalities of access to the semantic memory. Our experiments bring us few elements in favor of amodal conception.