DISTRIBUTED-MEMORY MODEL AND TRANSLATING-ASYMMETRY PRIMING EFFECTS

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Concepts of distributed representation memory and activation-pattern shifting are used to explain bilingual memory and between-language translating-asymmetry effects. In Experiment 1 using lexical decision task, Chinese participants demonstrated greater within-language semantic-priming effects in native language than in second language (English). Experiments 2 and 3 consistently demonstrated that, for Chinese native speakers, priming effects of forward-translation (Chinese-English) was greater than those of backward-translation (English-Chinese). This result occurred both when there was no mediating stimulus and when semantically-irrelevant words or random-dot mask mediated between prime and target items. These findings were consistent with the prediction of distributed-memory model.

Experiments 2 and 3 found that low-frequency words produced greater priming effects on performance than high-frequency words did, both in forward and in backward-translation. This finding was inconsistent with the prediction of distributed-memory model. The translating-asymmetry priming effect are discussed with word-frequency influences.

Keywords: connectionism, distributed representation memory, translating asymmetry, priming effects, word frequency