



EYE MOVEMENTS AND THE ACTIVATION OF NATIVE WORDS IN NON-NATIVE SPOKEN-WORD RECOGNITION

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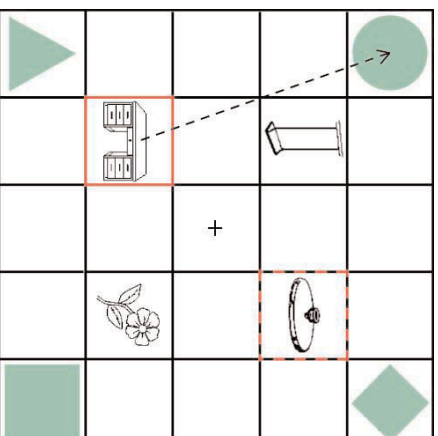
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INTRODUCTION

Words sharing initial segments in the native language are briefly activated during the recognition of spoken words. For example, given the input *desk*, English listeners will initially activate *desk* and *dentist* among other candidates, which will then compete with each other for recognition. However, when one listens to a non-native language, words from the native language might also share initial segments with the input.

QUESTION

Do listeners consider native words as candidates during the recognition of non-native spoken words?



“Click on the desk. Now put it on top of the circle.”

EXPERIMENT

20 native Dutch participants followed spoken instructions in English to click on pictures of objects using a computer mouse. A target picture was presented along with distractor pictures. The Dutch name of a distractor picture was either phonologically related to the English name of the target picture or it was phonologically unrelated.

	English	Dutch
target:	desk /desk/	bureau /byro/
related distractor:	lid /lid/	deksel /deksal/
unrelated distractor:	swing /swɪŋ/	schommel /sxɔmɛl/
	flower /flaʊər/	bloem /blum/

Dutch participants fixated distractor pictures with phonologically related Dutch names more than distractor pictures with phonologically unrelated names. This demonstrates that Dutch listeners activate Dutch candidates during the recognition of English words.

CONCLUSION

Listeners consider candidates of the native language for recognition of a non-native word.

They are not able to deactivate the native mental lexicon even when they are in a monolingual non-native situation where the native language is irrelevant and possibly even misleading.

EYE-TRACKING PARADIGM

Participants' eye movements are monitored while they listen to spoken sentences. On a computer screen they click on pictures of objects whose names are mentioned in the sentence. The probability of fixating a picture is determined by lexical activation of the name of the picture. Eye tracking provides a continuous measure of word-activation level since the comprehension process can be monitored as spoken language unfolds over time.

It takes about 200 ms to program a saccade. When this latency is taken into account, fixation probabilities in the eye-tracking paradigm are closely time-locked to presented speech.

