

# When is there no dog in hotdog? Form preparation in nominal compounds

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## Production of Compound Words

People are able to prepare information in advance about the words they are about to articulate. In Dutch and English, they can articulate words faster when given segmental information, syllables, and morphemes, as long as this information is initial to the words they have to say. So, if people know that all the words they have to say in a list start with *re-*, they are faster to say *remain, rejoice, reestablish* than when the words' onsets are not as predictable because they vary during a production task (Meyer, 1990; Meyer, 1991; Roelofs, 1996). However, it is not clear whether compounds made from free morphemes behave like other complex words, or sequences of independent words.

## Method

### Implicit Priming Paradigm (Meyer 1990, 1991)

- Reveals word form planning processes
- Participants memorize cue-target pairs (e.g. cue=*night*, target=*day*)
- Cue presented alone; participants generate target aloud as quickly as possible (**Diagram 1**)
- Response times are the dependent measure
- Blocks are *heterogeneous* or *homogeneous*

#### Homogeneous Blocks

All target items in a list begin with the same sound.

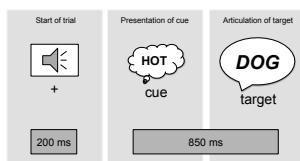
- Set 1** (all /d/): *dog* *day* *down* *dust* *door*  
**Set 2** (all /p/): *pan* *pick* *pipe* *pole* *port*

#### Heterogeneous Blocks

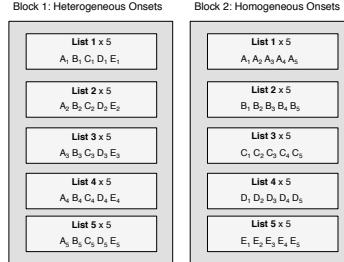
All target items in a list begin with a different sound.

- Mixed Set 1:** *dog* *pan* *mat* *ball* *tail*  
**Mixed Set 2:** *day* *pick* *mill* *box* *tack*
- 6 blocks alternate homogeneous and heterogeneous lists
  - Lists within a block are repeated 5 times for all 5 lists (**Diagram 2**)

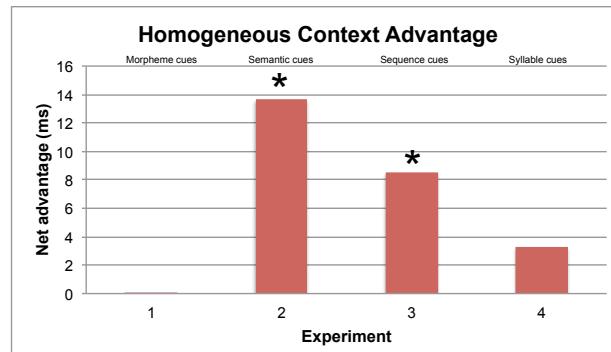
#### Diagram 1: Structure of a production trial



#### Diagram 2: Structure of Blocks



## Results



### Net RT Advantage of Homogeneous Production Context

We find that being able to predict and prepare the onset of a word for articulation depends on the status of the target as a separate word from the cue. Experiments 1 and 4 both failed to find a difference in the speech onset times between homogeneous and heterogeneous production contexts, suggesting that the second parts of compounds cannot be prepared in advance. However, the onsets of whole words within sequences (Exp. 3) are able to be articulated sooner, just like whole words (Exp. 2).

## Conclusions

The results in Experiment 1 suggest that the sounds of later morphemes of a compound such as the *dog* in *hotdog* cannot be prepared in advance. This also appears to be the case for syllables, as seen in Experiment 4.

However, we found that in Experiment 3, when producing words from sequences of independent words like *hard day*, people are able to anticipate the phonological structure of the second word.

These results suggest that a compound is not just a sequence of words. Rather, the results in this paradigm suggest that compounds composed of two free morphemes are actually more like monomorphemic words.

With respect to theories of the production of multimorphemic words, it appears that there is only one starting point for compound nouns, at the beginning of the first morpheme, though both morphemes may be active during the lexical retrieval process. From these results, we might infer that while there may be a *dog* in the *hotdog*,

as we contemplate it and prepare to talk about it, the actual articulation of the 'dog' morpheme is no different from that of any other second syllable. It does not function as a second starting point in the word.

## References

- [1] Meyer, A. (1990). The time course of phonological encoding in language production: The encoding of successive syllables of a word. *Journal of Memory and Language*, **29**, 524-545.
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