Title
Word Order Effects in Conceptual Combination

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The combination of two existing words is a productive strategy used by speakers to convey new concepts and extend the limits of their vocabulary. In English compounds, the first word or modifier attaches further meaning to the second word or head, thus creating a reference to the intended concept. According to Gagné and Shoben’s (1997) Competition Among Relations In Nominals (CARIN) theory, there is a fixed, relatively small taxonomy of standard relations that can be used to link the modifier and head noun concepts. According to this theory, the most available standard relation is the one most frequently used to interpret other compounds containing that same modifier. We investigated whether the alleged importance of the modifier in relation selection is due to the fact that it comes first or whether it can be attributed to the modifier’s functional role. Accordingly, we conducted our study in French, a language in which the order of the nouns is the reverse of that in English.

**Primbing Experiment**

We carried out two experiments using French noun-noun combinations which parallel a speeded sensibility study carried out by Gagné (2001). Gagné’s study investigated the way in which recent exposure to a similar combination influences the processing of a subsequent combination. She found that when the prime and the target had the same head noun, there was no significant difference in reaction times between cases where they shared the same relation and cases where they did not. However, when the modifier was the repeated constituent, primes that used the same relation were more effective than those that used a different relation. Gagné took this as evidence that the modifier is paramount in relation selection. We investigated whether the same effect would be apparent in a language in which the order of the constituents is reversed.

**No Evidence of Word Order Effects**

As predicted by the CARIN theory, we found no influence of the prime’s relation on reaction times when the prime and target shared the same head noun. However, when the modifier was a shared constituent, reaction times were slower when the target was preceded by a combination with the same relation than when it was preceded by a combination with a different relation. Participants responded to targets following a same-relation prime 45ms quicker than they did to targets following a different-relation prime, $F_{\text{subject}}(2, 34) = 4.349, p < .05; F_{\text{item}}(2, 118) = 4.194, p < .05$. Hence “ruisseau de montagne” (mountain stream) was more effective than “chaussures de montagne” (mountain shoes) at priming “glacier de montagne” (mountain glacier) than “sac de cuir” (leather bag) at priming “sac de sport” (sports bag).

<table>
<thead>
<tr>
<th>Prime</th>
<th>Target Response Time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓  ✓</td>
</tr>
<tr>
<td>✓</td>
<td>×  ×</td>
</tr>
<tr>
<td>×</td>
<td>×  NA</td>
</tr>
</tbody>
</table>

Table 1: Response Times for Same-Head Targets.

<table>
<thead>
<tr>
<th>Prime</th>
<th>Target Response Time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓  ✓</td>
</tr>
<tr>
<td>✓</td>
<td>×  ×</td>
</tr>
<tr>
<td>×</td>
<td>×  NA</td>
</tr>
</tbody>
</table>

Table 2: Response Times for Same-Modifier Targets.

Our results follow a similar pattern to those of Gagné (2001). They indicate that people’s ability to select a relation that was used in a recently viewed combination is influenced by whether that combination shares the same modifier but not whether it shares the same head. Since these effects have been replicated in a language in which the order of the modifier and head are reversed, this suggests that modifiers and heads maintain the same role in the process of interpretation regardless of the order in which they are realized. Additionally, it appears as if relational information is predominantly associated with the modifier.

**References**
