A unified conceptualization for the locative & possessive comprehension of English *have*

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**Phenomena:** Cross-linguistically, certain markers are used to convey both spatial locative (LOC) and possessive (POSS) relations (1-2); this synchronic conflation, manifested as morphological syncretism, is attested in Indo-European, Australian, Dravidian, African, and American languages. Diachronically, these markers often show systematic and unidirectional trajectories whereby LOC markers gradually take on increasing levels of possession, e.g. the Marathi adposition *kade* (3). These systematic conflations, both synchronic and diachronic, have suggested a possible conceptual connection between LOC and POSS. Accordingly, we hypothesize that the process of meaning change not only operates over this conceptual connection, but also is actively driven by individual speakers’ cognitive processing styles (gender + Autism Quotient) during real-time comprehension. We test this hypothesis by investigating English *have*, which, though it is the canonical device used to express POSS in English (4), is also used to express incidental LOC meanings (5).

**Approach:** LOC—as well as POSS—meanings are part of *have*’s underlying lexico-conceptual structure representation. LOC interpretations are dispreferred for bare *have*-sentences because they compete with the POSS interpretations. Hence, for a LOC meaning to be preferred, it requires contextual support. We hypothesize that LOC interpretations of bare *have*-sentences can be made salient and thus more acceptable with relevant linguistic context, and that given independent cognitive predispositions, some speakers will reveal increased sensitivity and thus increased acceptance of a LOC bare *have*-sentence. We test this using contextual facilitation: ambiguous *have*-sentences are presented after differing contexts; the degree to which subjects obtain the intended meaning is measured through acceptability ratings (indexing retrieval success) and reading times (indexing the relative processing costs the different contexts engender). For an ambiguous sentence like *The maple tree has a car* (with potential LOC and POSS interpretations), we predicted higher ratings and lower RTs after a LOC context than a (less plausible) POSS context.

**Study 1:** We showed a target sentence after three contexts and without context (Tab. 1). Acceptability ratings (*n*=106) show that the LOC context significantly facilitates interpretation of the target (*p*<.001); there was no significant difference between the other ratings. Furthermore, in line with well-established gender differences, females (who have been shown to have higher context-sensitivity) are responsible for the whole-group effect (Fig. 1). **Study 2:** The same target sentence was presented after three contexts (Tab. 2). Self-paced reading times (*n*=60) show the LOC-*have* context significantly facilitated interpretation of the target for all subjects at the complement of *have* (*p’s*<0.01). **Summary:** Normally dispreferred LOC-*have* meanings are facilitated by relevant context; the degree of facilitation success interacts with gender, pointing to context-sensitivity as a cognitive factor in meaning composition and change. These results are consistent with a unified conceptual infrastructure for LOC and POSS meanings, retrieved through the lexical item *have*.

**Conceptual structure (CS) analysis:** Specifically, within conceptual semantics we propose an analysis unifying LOC and POSS meanings, which captures the CS connection linking them. LOC is typically incidental LOC, an inherently transient situation represented by an event (Fig. 3). POSS is built by nesting LOC in the regular bi-eventive causal relation, creating a structure where a possessor is the actor in Event1 (causal) and a possessee is the actor in Event2 (Fig. 4). Consequently, (a) what defines possession is not location alone, but the obligatory control the possessor has over the possessee, and (b) if *have* retrieves this structure, then it follows that *have* should express the wide variety of LOC and POSS meanings we indeed observe. Therefore, the linguistic distribution of *have* is inherently principled with this unified CS. Our results support the view that inter-comprehender differences are systematic and quantifiable along a context-sensitivity gradient. Underlying CS and relevant contextual information thus cooperate to guide real-time comprehension; these linguistic and cognitive factors together form the core of normal language processing and the minimal infrastructure for diachronic meaning change.
**Examples**

(1) *Le livre, c’est à moi.* vs. *Le livre, c’est à la bibliothèque.*

‘The book, it’s mine.’ vs. ‘The book, it’s at the library.’

(2) 那本书在我这儿。 vs. 那本书在图书馆。

*Nà běn shū zài wǒ zhē’er* vs. *Nà běn shū zài túshūguǎn*

‘That book is with me.’ vs. ‘That book is at the library.’

(3) Marathi *kade* full shift: incidental LOC >non-incidental LOC >alienable POSS >inalienable POSS

(4) John *has a bike*.

(5) *The oak tree has a bike near it.*

**Tables:**

<table>
<thead>
<tr>
<th>Context-type</th>
<th>Context</th>
<th>Conj.</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locative</td>
<td>The motorcycle is under the pine tree</td>
<td>and</td>
<td>the maple tree has a car.</td>
</tr>
<tr>
<td>Possessive</td>
<td>The pine tree has big branches</td>
<td>and</td>
<td>the maple tree has a car.</td>
</tr>
<tr>
<td>No-context</td>
<td>The maple tree has a car</td>
<td>and</td>
<td>the motorcycle is under the pine tree</td>
</tr>
<tr>
<td>Nonsensical</td>
<td>The motorcycle is under the pine tree or the maple tree has a car.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figures:**

**Fig. 1:** Acceptability ratings by context-type and gender

**Fig. 3:** Conceptual representation of incidental LOC

**Fig. 2:** Self-paced reading times by context-type and gender

**Fig. 4:** Conceptual representation of POSS

**References:**

2. Heine, 1997. OUP.