Between semantics and syntax: spatial verbs and prepositions in Latin

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State of the Art

Latin preverbs: **spatial values vs. actionality**

<table>
<thead>
<tr>
<th>ATELIC</th>
<th>TELIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>facio</em></td>
<td><em>perficio</em></td>
</tr>
<tr>
<td>I make/do</td>
<td>I achieve</td>
</tr>
<tr>
<td><em>molior</em></td>
<td><em>emolior</em></td>
</tr>
<tr>
<td>I labor</td>
<td>I accomplish</td>
</tr>
<tr>
<td><em>laboro</em></td>
<td><em>elaboro</em></td>
</tr>
<tr>
<td>I strive for</td>
<td>I achieve (with effort)</td>
</tr>
</tbody>
</table>

*(Lehmann, Haverling, Romagno, García-Hernandez, Bertocci)*
Traditional Reconstruction

Latin preverbs and adpositions

P.I.E. ADV/ADP/PREV

- local or temporal notions
- free movement in the sentence
- undifferentiated functions

\[ ek\ dè\ Chrysēis\ nēös\ bê\ pontopóroio \]  
(II. A, 439)

1. ‘Chryseis came out from the sea-crosser ship’
2. ‘Chryseis disembarked from the sea-crosser ship’
Traditional Reconstruction

Basic structure: NP + X + V

*flumen ad eo ‘I go to the river’

preverbs NP + [X + V]

flumen adeo

postpositions [NP + X] + V

• adverbial accompaniment to reinforce the information given by the cases

• govern the noun by specifying its case

prepositions [X + NP]_{pp} + V

ad flumen eo
An ‘all but clear evolution’

“We may thus hypothesize a fluid situation, where adpositions from different sources evolve at different rates and where each kind ‘grammaticalizes on its own, following its own diachronic trajectory that may or may not be determined by clausal (OV vs. VO) syntax’ (Givón).”

“The evolution is actually all but linear … Basically, the overall picture of Latin where protracted and overlapping transitional stages generate internal and typological inconsistencies is due to the coexistence and mixing of different patterns, and to the different rate at which old structure disappear.”

(Magni, 2008)
Relics of Adpositions Freedom

Festo: *sub vos placo* (= *supplico vos*) ‘I implore you’

Plautus: *distraxissent disque tulissent* ‘they would have torn me in pieces and rent me asunder’

*loca haec circiter excidit mi* ‘I dropped it about this spot’

Cicero: *contraque legem* ‘and against the law’

Caesar: *quos inter controversia esset* ‘those between whom the dispute was’

Pliny: *Gades usque pervectum* ‘after sailing as far as Gades’

fixed expressions: *mecum, tecum* ... ‘with me, with you ...’

*quoad* ‘as far as’

*quocirca* ‘wherefore’
1) Complements coding spatial relations:

- local complements expressed by simple cases:
  - names of city or small island, *domus* ‘home’, *rus* ‘country’

- static location coded by ablative:
  - *locus* ‘place’, *pars* ‘part’, *litus* ‘shore’, … *medius* ‘in the middle’, *imus* ‘the lowest’, *summus* ‘highest’

- lative accusative in some fixed expression:
  - *ire malam crucem* ‘to go to hell’, *exsequias ire* ‘to go to a funeral’, *alicui suppetias ire* ‘to go help someone’, *infitias ire* ‘to deny’
## ‘Grammatical Peculiarities’

### 2) Local complements with some prefixed verbs of motion:

<table>
<thead>
<tr>
<th>Simple Cases</th>
<th>Prepositional Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>exercitum Ligerim traducit (Caes.)</strong> ‘he leads the army over the Loire’</td>
<td><strong>vexillum trans vallum traiecit (Liv.)</strong> ‘he threw the sign over the trench’</td>
</tr>
<tr>
<td><strong>castris egressi (Caes.)</strong> ‘after leaving the camp’</td>
<td><strong>e castris Helvetiorum egressi (Caes.)</strong> ‘after leaving the Helvetians’ camp’</td>
</tr>
<tr>
<td><strong>muro turribusque deiecti (Caes.)</strong> ‘after being thrown down the city wall and the towers’</td>
<td><strong>de muro se deiecerunt (Caes.)</strong> ‘they threw themselves down the city wall’</td>
</tr>
</tbody>
</table>
Goals of this study

All these relics belong to the spatial language:

1) to verify the strength of spatial semantics in keeping archaic structures
   ° we will analyze local complements with no spatial preposition occurring with prefixed verbs of motion/rest
   ° hypothesis: decrease in frequency
     • diachronically: in texts of late Latin
     • synchronically: in texts with hints of spoken Latin in poetry

2) to verify how computational methods used to process modern languages can be fruitfully applied to the study of a dead language as Latin
Corpus-based analysis
Syntactically annotated corpora

1. **Latin Dependency Treebank**
   (Bamman-Crane, 2006) >53000 words

2. **Index Thomisticus Treebank**
   (Passarotti-Busa, 2007) >54000 words
   - Cicero
   - Caesar
   - Sallust
   - Vergil
   - Propertius
   - Ovid
   - Petronius
   - Jerome
   - Thomas Aquinas
Verb selection

- preverbs with “spatial” meaning
  
  *ab ad ante circum de ex in inter*
  
  *intra per prae pro sub trans*
  
- verbs of motion and rest that allow a local complement without preposition

- argument structure: valency lexicons automatically extracted from the treebanks
  
  *McGillivray and Passarotti*
Syntactic alternation

1) NP: case required by the preverb

\[ \text{exercitum Ligerim traducit} \text{ trans} + \text{acc} \]
‘he leads his army over the Loire’ (Caes.)

preposition.ABSENT

2) PP: preposition = preverb

\[ \text{inter me atque te murus intersit} \]
‘there is a wall between me and you’ (Cic.)

preposition.PRESENT
Syntactic alternation (2)

1) NP: the case required by the preverb

   preposition.ABSENT

   • no transitive verbs where the object is the goal of the movement

2) PP: preposition = preverb

   preposition.PRESENT

   • no names of cities, small islands, *domus*, *locus*
<table>
<thead>
<tr>
<th>author</th>
<th>preposition. ABSENT</th>
<th>preposition. PRESENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cicero</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Caesar</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sallust</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Vergil</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Propertius</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Ovid</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Petronius</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Jerome</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Thomas</td>
<td>5</td>
<td>42</td>
</tr>
</tbody>
</table>
Test of independence

- author and preposition are not independent ($p<0.01$)
- medium-sized association
Conclusions
Conclusions

1) Computational methods

• Small size of accessible *corpora* affected our study about a marginal phenomenon prose writers: Caesar, Cicero, Sallust, Petronius

• Great advantage: computational and statistical analyses in short time

• Outcomes showing a clear general trend, consistent with our previous hypothesis
Conclusions

2) Linguistic results

- The construction preposition ABSENT is significantly:
  - less frequent diachronically in late Latin authors, anticipating Romance outcomes
  - more frequent synchronically in poets, who make use of archaisms and precious language

- No claims about texts with hints of spoken Latin < low frequencies for Petronius
Conclusions

• Local complements can be encoded without spatial prepositions even when prepositions are obligatory:
  ° Lat.: *domum eo, domi sum*
  ° Eng.: I go home, I am home
  ° It. L2: learners (even advanced) skip more frequently spatial prepositions (*Bernini, Meini*)

  • accuracy of the “distributed spatial semantics” theory (*Sinha and Kuteva*)
  • spatial domain is basic → languages can use less linguistic material


