Constructional spaces in contrast: Periphrastic causatives in English and Dutch

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Introduction

- Constructions are form-meaning pairings
- Meaning is a concept

<table>
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<tr>
<th>Within-construction perspective (polysemy), e.g. Goldberg 2002; Colleman 2010</th>
<th>Continuum of abstractness</th>
<th>Exemplars</th>
<th>Prototypes</th>
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<tr>
<td>Cross-constructional perspective (synonymy), e.g. Gries 2003; Levshina et al. In press</td>
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### Quantitative Corpus-Based Methods

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<td>Regressing on near-synonyms</td>
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<td>Collostructional Analysis</td>
<td>+</td>
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<td>+(!?)</td>
<td>?</td>
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<td>Behavioral Profiles</td>
<td>predef. senses</td>
<td>+</td>
<td>?</td>
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<tr>
<td>This approach</td>
<td>+</td>
<td>+</td>
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Method

• set of observations (exemplars) coded for several variables
• Multiple Correspondence Analysis with supplementary points, \texttt{ca} package in R
• semantic space as a low-dimensional map
## Operationalization of Cxl Semantics

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<th>Exemplars</th>
<th>Prototypes</th>
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<td><strong>Within-construction</strong></td>
<td>distribution of exemplars on the map</td>
<td>average position of all Cxl exemplars</td>
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<td><strong>Cross-constructional</strong></td>
<td>overlapping and unique areas of contrasting Cxs</td>
<td>difference between the positions of the prototypes of contrasting Cxs</td>
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<tr>
<td>perspective</td>
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e.g. Semantic Map of Stuhl and Sessel

for rest

for work

comfortable functional

61.2%
Stuhl and Sessel: Exemplars and Prototypes
Contrastive study of English and Dutch causative constructions
Periphrastic Causative Constructions

CAUSER

CAUSATIVE AUXILIARY

CAUSEE

EFFECTED PREDICATE

The joke made the girl laugh
English Causative Constructions

CAUSER

CAUSATIVE AUXILIARY

CAUSEE

EFFECTED PREDICATE

make
have
get
cause
NP/to NP
NP/by NP/0
NP

Vinf/Ved
Vinf/Ved/Ving
to-Vinf/Ved/Ving
to-Vinf
Dutch Causative Constructions

CAUSER

CAUSATIVE AUXILIARY

doen
,laten

CAUSEE

NP/0

EFFECTED PREDICATE

NP/aan NP/door NP/0  Vinf
Objectives of the contrastive analysis

• What is the common conceptual space of the causatives like?
• Are there differences in the way the conceptual space is cut in the two languages?
• Are there cross-linguistic equivalents (i.e. overlapping semantic areas and close generalizations)?
Data and variables
Data

• English: 1925 exemplars from the newspaper component of the BNC:
  – make (be made): 1026 obs.
  – have: 411 obs.
  – get: 356 obs.
  – cause: 132 obs.

• Dutch: equal sample from corpora of Belgian and Netherlandic newspapers
  – laten: 1571 obs.
  – doen: 354 obs.
Variables

• Semantic class of the Causer: animate, material, abstract
• Semantic class of the Causee: animate, material, abstract
• 15 middle-grained semantic classes of the second verb: aspect, bodily processes, change of possession, change of state, creation and transformation, motion, etc.
Common conceptual space
Dimensions 1 and 2

Dim 1 = 52.3%

Dim 2 = 19.3%
Dimensions 1 and 2

Animate Cr, affected Ce

Inanimate Cr, affected Ce

Animate Causees ← inanimate Causees

Dim 1 = 52.3%

Dim 2 = 19.3%
Dimensions 1 and 2

inanimate Cr,
affected Ce

animate Causees

I got the car going.

The crisis caused the prices to soar.

I had the house painted.

The joke made me laugh.

inanimate Causees

animate Ce

autonomous Ce

Dim 1 = 52.3%

Dim 2 = 19.3%
Dimensions 1 and 3

Dim 1 = 52.3%

Dim 3 = 4.9%

material

abstract
Status of common space

- Are language-specific spaces of the English and Dutch constructions different from the common space?
- Correlations between the coordinates of the features on three dimensions in the common and language-specific spaces $r > 0.5$
form-meaning mapping: prototypes
Prototypes: Dimensions 1&2

Dim 1 = 19.3%

Dim 1 = 52.3%
Prototypes: Interim summary

• Commonalities:
  - animate Causees have more chances to be implicit
  - more agentive Causees have more chances to be marked prepositionally

• Differences:
  - the Dutch formal patterns are distributed more regularly wrt. the semantic dimensions based on the properties of the slot fillers
form-meaning mapping:
exemplars and semantic areas
English exemplars: Dimensions 1&2
Dutch exemplars: Dimensions 1&2

Dim 2 = 19.3%

Dim 1 = 52.3%
Exemplars: Interim summary

- The English and Dutch constructions cut the space in unique ways
- English: *make* has the broadest meaning, *have* and *get* are associated normally with human agentive Causees and animate Causers, *cause* is mostly physical
- Dutch: the main *doen* vs. *laten* distinction is along the vertical dimension (agentivity of the Causee), which supports previous research (e.g., Verhagen & Kemmer 1994)
Discussion
Discussion: conceptual space

- the dimensions of causation are very similar in both languages: universal conceptual space (Croft 2001)
- probably, the 'classical' 4 causation types (Talmy – Croft) associated with the (in)animateness of the Causer and the Causee are not sufficient
- more agentive Causees are associated with human Causers: more control is needed to influence a strong participant (cf. Talmy 1976)
Discussion: form-meaning mapping

• the languages cut the conceptual space in unique ways, so there are no strict cross-linguistic equivalents

• yet, some constructions overlap substantially (doen and cause, laten_Impl_V and have_Ved or get_Ved)
• prepositional marking of Causees corroborates the universal hierarchy of affectedness of the Causee (Kemmer and Verhagen 1994):
  
  \[
  \text{zero-NP} > \text{aan/to} > \text{by/door}
  \]

• human Causees are more frequently implicit because of their higher salience and accessibility
Thank you!

for further information:
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