Regional variation in the lexical profiles of the English dative alternation

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Theoretical background

Two research paradigms:

**Probabilistic grammar**
(e.g. Bresnan 2007)

- grammatical knowledge is partially probabilistic
- multiple probabilistic constraints influence the outcome of grammatical variation

**World Englishes**
(e.g. Schneider 2007)

- structural characteristics and sociohistorical background of varieties of English
Previous research

- regional variation in the probabilistic constraints that influence grammatical variation, i.e. the choice between two variants (e.g. Bresnan & Hay 2008, Röthlisberger et al. 2017)

![Diagram showing ditransitive and prepositional dative structures]

Mary gave [John] [the apple]
- recipient: John
- theme: the apple

Mary gave [the apple] to [John]
- theme: the apple
- recipient: John

Mary gave [him] [the apple]
- recipient: him
- theme: the apple

Mary gave [the apple] to [him]
- theme: the apple
- recipient: him
Research aim

1. Is regional variation in probabilistic constraints reflected in regional variation in lexical profiles?
Lexical profiles

- defined as the system of lexical items (e.g. verbs, recipients, themes) that are mutually attracted to a syntactic variant.
- Measuring the strength of association between lexical items and the constructions they occur in (*collostructions*)
Theoretical background

Three
Two research paradigms:

Probabilistic grammar
(e.g. Bresnan 2007)
- grammatical knowledge is partially probabilistic
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World Englishes
(e.g. Schneider 2007)
- structural characteristics and sociohistorical background of varieties of English

Construction grammar
(e.g. Boas 2010)
- grammatical knowledge is experience- and usage-based
- grammatical knowledge is made up of constructions
A construction grammar approach

• Constructions = arbitrary pairings of form and meaning
• the basic units of grammatical knowledge
• language usage shapes language structure
Taxonomic networks

Macro-Cx
schematic level

Meso-Cx
subschematic level

Micro-Cx
substantive level

TRANSFER of POSSESSION
[V NPrec NPtheme]

[give NPrec NPtheme]  [send NPrec NPtheme]

give Mary a book  give them the answer  send me a copy  ...

Entrenchment and abstraction

[V NP<sub>rec</sub> NP<sub>theme</sub>]

**generalize to macro level**

[bring NP<sub>rec</sub> NP<sub>theme</sub>]
[tell NP<sub>rec</sub> NP<sub>theme</sub>]
[hand NP<sub>rec</sub> NP<sub>theme</sub>]
[offer NP<sub>rec</sub> NP<sub>theme</sub>]
[give NP<sub>rec</sub> NP<sub>theme</sub>]
[send NP<sub>rec</sub> NP<sub>theme</sub>]
[show NP<sub>rec</sub> NP<sub>theme</sub>]

**generalize to meso level**

The teacher gave us the answer
I gave Mary the book
You’ve given them too much already
Bill gave the kids a hand
It gave the people hope
We gave them a warning
He will give me my dues
The noise is giving some of us a headache
**CAUSE X TO HAVE Y**

\[ [V \ ?X \ ?Y] \]

**ditransitive**

\[ [V \ NPx \ NPY] \]

**abstraction over semi-schematic constructemes**

\[ [send \ ?X \ ?Y], [bring \ ?X \ ?Y], ... \]

**semi-schematic abstraction develops from variation in meso-Cxs**
Research aims

1. Is regional variation in probabilistic constraints reflected in regional variation in lexical profiles?

2. To what extent can we observe regional variation in other lexical items besides the verb?

• An analysis of lexical profiles provides new insights into
  ⇨ the link between structural patterns that speakers are exposed to and variation in probabilistic constraints
  ⇨ the level of schematicity/lexicality needed in a constructional grammatical account of syntactic alternations
Methodology & data
Corpus data

Canadian English

British English

Irish English

Jamaican English

Indian English

Singapore English

New Zealand English

Hong Kong English

Philippine E.

English Department

University of Zurich
Corpus data

• International Corpus of English (ICE) - series
  • 60% spoken (transcriptions), 40% written texts = 1m words per subcorpus
    – 500 texts, 2,000 words per text
    – 12 different registers, same corpus structure

• Corpus of Global web-based English (GloWbE)
  • general websites and blogs
  • data sampled in 2012-13 – https://corpus.byu.edu/glowbe/
Data extraction and annotation

(e.g. Bresnan et al. 2007)

• retrieval of dative variants using verb list and perl script
• restrict to choice context (incl. pronouns)
• code for numerous (language-internal) factors: length (weight ratio), complexity, pronominality, givenness, definiteness, person, animacy, concreteness of theme, verb sense
• code for language-external factors: Mode (spoken vs written)

\[ N = 13,171 \]
Distinctive collexeme analysis

= Measure the strength of association between lexical items (verb, recipient heads, theme heads) with the ditransitive vs. prepositional variant

• observed vs. expected frequency of lexical item in one variant opposed to the other

• measure strength of association using the base-ten logarithm of the $p$-value from the Fisher-Yates Exact test (Stefanowitsch & Gries 2005: 9)

• values range from minus infinity (strong repulsion) to 0 (no relation) to plus infinity (strong attraction)
**Distinctive collexeme analysis**

The distribution of *me* in the ditransitive vs prepositional dative in Indian English

<table>
<thead>
<tr>
<th></th>
<th>ditransitive</th>
<th>prepositional</th>
<th>row totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>me</em></td>
<td>139</td>
<td>16</td>
<td>155</td>
</tr>
<tr>
<td>other recipients</td>
<td>773</td>
<td>622</td>
<td>1395</td>
</tr>
<tr>
<td>column totals</td>
<td>912</td>
<td>638</td>
<td>1550</td>
</tr>
</tbody>
</table>
Results
Collostructional strength of the verb

![Bar chart showing collostructional strength for different verbs in different regions.](chart_image)
Collostructional strength of the verb

![Bar Chart]

- **CAN**: submit (9.5), recommend (7.3), pay (6.6), sell (7.2)
- **GB**: submit (10.1), recommend (4.1), pay (4.3)
- **IRE**: submit (6.9), recommend (5.7), pay (6.2), sell (6.2)
- **NZ**: submit (14.8), recommend (7.8), pay (6), sell (6)
- **JA**: submit (9.3), recommend (6), pay (6.6)
- **SIN**: submit (18.6), recommend (6.5), pay (6.5), sell (6.5)
- **HK**: submit (9.9), recommend (9.8), pay (9.8)
- **IND**: submit (11.6), recommend (6.2), pay (6.2)
- **PHI**: submit (13.9), recommend (7.4), pay (4)

Legend:
- submit
- recommend
- pay
- sell
- convey
- explain
- assign

Verb:
- submit
- recommend
- pay
- sell
- convey
- explain
- assign

6/29/18
Collostructional strength of the recipient

[Graph showing collostructional strength for different regions (CAN, GB, IRE, NZE, JA, SIN, HK, IND, PHI).]

Examples:
- *send you NP*
- *give [V PRON_{rec} NP] = meso-Cx?*
- *bring you NP*
Collostructional strength of the recipient
Collostructional strength of the theme

![Bar chart showing the collostructional strength of different themes across various countries. The chart compares the strength of ditransitive dative structures. Countries include CAN, GB, IRE, NZ, JA, SIN, HK, IND, PHI. Themes vary in strength across these countries.](chart.png)
Collostructional strength of the theme
Collostructional strength of the theme
Interim summary

• **verb** is more strongly associated with ditransitive than prepositional dative across all varieties

• difference in association of **recipient**: stronger association with prepositional dative (L1) vs ditransitive dative (L2) & higher association strength of recipient with ditransitive dative in L2 vs L1

• largely stability in association strength of **theme** with ditransitive and prepositional dative & most strongly associated with prepositional dative

`ditransitives seems to be lexically more specific in non-native varieties`
Discussion & Conclusion
Research aims

1. Is regional variation in probabilistic constraints reflected in regional variation in lexical profiles?

⇒ Especially regional variation in the influence of recipient pronominality seems to be reflected in regional variation in the strength of association between pronominal recipients and the ditransitive dative in non-native compared to native varieties

2. To what extent can we observe regional variation in other lexical items besides the verb?

⇒ not only verbs but also recipients and themes add to the regional variability of probabilistic constraints, i.e. a constructional grammatical account of argument structure constructions needs to take all lexical items into account and not just the verb
Take home

Reconsider the existing approach of argument structure constructions by
- also focusing on other elements of the argument structure, and thus
- considering the whole cline of the taxonomic network, from most schematic to most lexically specific constructions and, particularly, meso-constructions

\[ [V \text{ PRON}_{\text{rec}} \text{ NP}] = \text{meso-Cx}? \]
Thank you!

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References


