North Sámi Ambipositions: Radial Category Profiling & Typological Comparisons

Laura A. Janda, Lene Antonsen, Berit Anne Bals Baal

CLEAR-group (Cognitive Linguistics – Empirical Approaches to Russian)
Giellatekno (Sámi Language Technology Center)
University of Tromsø
Radial Category Profiling

- **Radial Category Profiling** – Comparison of radial categories of polysemous elements (Nesset et al. 2011)
  - If two linguistic units are close synonyms, they share the same radial category
  - Usage will differ across the nodes of the radial category, and this can be measured

- **Other types of profiling** (methods for investigating form-meaning relationships):
  - Grammatical Profiling, Constructional Profiling, Collostructional Profiling, Historical Profiling
  - Each can be thought of as a subset of behavioral profiling (Divjak & Gries 2006, Gries & Divjak 2009)
North Sámi...

- A Finno-Ugric language
- About 30,000 speakers
- In contiguous regions of northern Norway, Sweden, and Finland
- Unique in Europe as a minority language in contact with majority languages from two different language families: **Indo-European** [mainly prepositional] and **Finno-Ugric** [mainly postpositional] (Ylikoski 2009:201-202)
5 = North Sámi
Ambipositions:
Adpositions that function as both prepositions and postpositions

- Typologically rare phenomenon (Hagège 2010)
  - Such adpositions are found in Finnish, Estonian, and the Sámi languages
  - There are more of them in Sámi languages (see Table 1 on handout)
  - In Finnish and Estonian there are strong tendencies (e.g., time with preposition, space with postposition)
  - Distribution in Sámi languages has not previously been studied in detail
4 Ambipositions in North Sámi

1. a. **miehtá dálvvi**
   [over winter-G]
   ‘during the winter’

   b. **dálvvi miehtá**
   [winter-G over]

2. a. **čađa áiggi**
   [through time-G]
   ‘through time’

   b. **áiggi čađa**
   [time-G through]

3. a. **rastá joga**
   [across river-G]
   ‘across the river’

   b. **joga rastá**
   [river-G across]

4. a. **maŋŋel soađi**
   [after war-G]
   ‘after the war’

   b. **soađi maŋŋel**
   [war-G after]
Three hypotheses

1. We expect to find regional variation in use of ambipositions since N. Sámi is in contact with Finnish (predominantly postpositional) in East, and in contact with Norwegian/Swedish (prepositional) in Central and West regions.

2. We expect position to be associated with differences in expression of meaning.

3. We expect that a language with more ambipositions will use position in a more complex way.
Examples from newspapers

- 1997-2011: 10M words
- Automatic extraction found 7496 sentences with the 4 ambipositions
- Goal: Tag by hand ≥100 examples for each position for each adposition
- In all, 901 examples were tagged by hand for types of meaning expressed
Distribution of adpositions in newspaper corpus (10M words)
Examples from literature

- Examples extracted partly automatically, partly by hand
- 652 examples of the 4 ambipositions found, all tagged by hand
- 20 texts, three geographical regions:
  - West = S. Troms (contact with Norwegian and Swedish)
  - Central = Kautokeino (contact with Norwegian)
  - East = Tana (contact with Finnish)
- New translation of the New Testament
Geographical distribution of literary texts
Distribution of adpositions in literature

- miehtá
- čaďa
- rastá
- manjel

Legend:
- PR
- PO
Hypothesis 1 is confirmed

\[ X^2 = 129.7, \text{ df}=2, \quad p<2.2\times10^{-16} \]

Cramer’s V = 0.48
Distribution of adpositions

- S. Troms
- Kautokeino
- Tana
- NT
- Newspapers

% PR
% PO

2013-07-15
Radial categories: 
miehtá ‘over’ in newspapers

preposition
- time: 9%
- extent: 79%
- motion: 12%

postposition
- time: 95%
- extent: 5%

X-squared = 170, df = 2, p-value < 2.2e-16; V = 0.85
Radial categories: *miehtá* ‘over’ in literary texts

**Preposition**
- Time: 21%
- Extent: 69%
- Motion: 10%

**Postposition**
- Time: 48%
- Extent: 36%
- Motion: 16%
**miehtá ‘over’**

**Preposition**
- Prefers extent, usually in two dimensions
- Used with ‘world’ and words naming countries, territories, regions

**Postposition**
- In newspapers prefers time, especially with words for: ‘summer’, ‘winter’, ‘day’, ‘night’, but does not express motion
- In literature, most often refers to time and extent
Radial categories: čaďa ‘through’ in newspapers

**preposition**
- **time**: 55%
- **motion**: 37%
- **extent**: 8%

**postposition**
- **time**: 25%
- **motion**: 49%
- **means**: 25%
- **extent**: 2%

X-squared = 45, df = 2, p-value < 1.3e-10; V = 0.43
Radial categories: čađa ‘through’ in literary texts

**preposition**
- time: 9%
- extent: 25%
- motion: 66%

**postposition**
- time: 2%
- extent: 1%
- motion: 94%
- means: 3%
ćađa ‘through’

• In newspapers:
  • Preposition: time > motion
  • Postposition: motion > means = time
  • Frequent words from the domain of time:
    • Preposition: *gaska* ‘interval’, ‘time (sg/pl)’
    • Postposition: ‘time (sg/pl)’

• Motion: openings, obstacles, problems, weather – this meaning predominates in literature

• Means (postposition): actions, instruments, media, administrative measures, organizations
Radial categories: *rastá* ‘across’ in newspapers

**preposition**
- motion: 77%
- extent: 23%
- endpoint: 1%

**postposition**
- motion: 48%
- extent: 45%
- endpoint: 7%

X-squared = 12, df = 2, p-value < 4.4e-4; V = 0.25
Radial categories: *rastá* ‘across’ in literary texts

**Preposition**
- Motion: 92%
- Extent: 8%

**Postposition**
- Motion: 84%
- Extent: 14%
- Endpoint: 2%
**rastá ‘across’**

- **In newspapers:**
  - Preposition: motion > extent
  - Postposition: motion ≅ extent
- Mostly used with nouns denoting rivers, lakes, borders, roads, bridges
- Endpoint is fairly rare but possible in both positions
- Motion predominates in literature in both positions
\textit{maŋŋel} ‘after’

\begin{itemize}
\item Preposition often comes after the verb
\item Preposition prefers bare nouns
\item Preposition is preferred in combination with adverbs meaning ‘immediately’ or phrases quantifying a time interval
\end{itemize}

\begin{itemize}
\item Postposition is balanced between preverbal and postverbal position
\item Postposition prefers pronouns and modified nouns
\end{itemize}
Radial category profiling of Sámi adpositions

• For each adposition, the preposition and postposition share the same radial category, but the distribution of meanings can differ significantly

• Radial category profiling makes it possible to measure the differences between prepositions and postpositions

• There is no single tendency for all adpositions
  • For miehtá time is stronger for the postposition
  For čađa time is stronger for the preposition

Hypothesis 2 is confirmed
Typological observation

- Languages with few ambipositions do not use position to signal meaning
  - English, Norwegian *over*: postposition marginal
  - Russian *spustja, pogodja* ‘later’, *radi* ‘for the sake of’: no differences in use connected to position

- Finnish and Estonian have systematic use of ambipositions (10-13% of adpositions) and do show differences connected to position; these involve clear tendencies (e.g. preposition preferred for temporal expression)

- N. Sámi has extensive systematic use of ambipositions (22% of adpositions) and has strong, but complex differentiation of use according to position (*miehtá* prefers postposition to express time, *čađa* -- preposition)

**Hypothesis 3 is confirmed**
Conclusions: Three hypotheses confirmed

1. We found regional variation in use of ambipositions aligned with use of adpositions in contact languages
2. We found that position is associated with differences in expression of meaning
3. North Sámi has more ambipositions and uses position in a more complex way