Case Assignment

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Agenda

- How does TSL (Tier-based, strictly local) case assign?
- Motivation
- How the code works
  - Issues encountered
  - When the code failed
- Further studies and improvements

TSL and Case Assignments

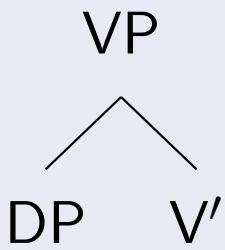
"Case assignment in TSL syntax: a case study" (2019) - Mai Ha Vu, Nazila Shafiei, Thomas Graf

- Morphological case assignments are strictly local.
- Find the DP's mother head and ignore the remainder of tree

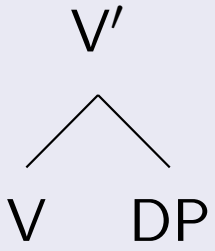
Domains

Code focuses on the local domain of each DP. Each case assignment has their own unique domain.

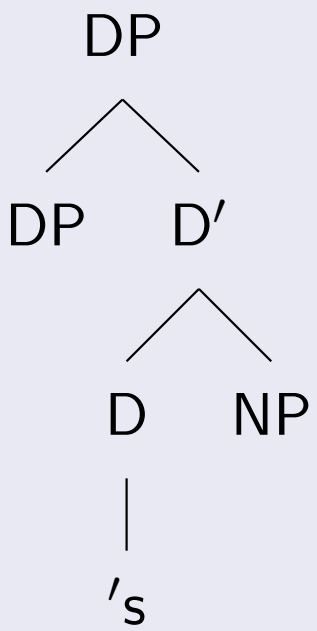
Nominative Case



Accusative Case



Genitive Case



Motivation

To develop a code that accurately assigns case assignments in MG for future translation purposes.

Code

The input of the code requires a binary branching syntax tree.

Input of “He likes her”:

```
S1 = Node("TP", Node(""), Node("T'", Node("T"),
Node("VP", Node("DP", Node(""), Node("he")),
Node("V'", Node("V", Node(""), Node("likes")),
Node("DP", Node(""), Node("her"))))))
```

Overview of the code

- **Reminder:** code ignores non-local domains
- **Procedure:**
  1. Pre-order traverse of tree
  2. Save each DPs and its mother node
  3. construct dictionary of the DPs and their case assignment
- **Test:**
  1. Cases tested: Nominative, Accusative, and Genitive
  2. Configurations: Subjects and objects in English and Korean

Sample input and output

The output of “He likes her”, from the code is the below:

```
noun_case assignment(S1)

The nouns and their parent nodes are:
{'he': 'VP', 'her': "V'"}
The case assignment of the nouns in the sentence are:
{'he': 'nominative', 'her': 'accusative'}
```

Issues Encountered

The original tree input was the biggest issue encountered.

- Asked for each node already parsed by the user using BFS
- Print of the tree traversal showed parts of the tree deleting
- **The Issue:** using a node counter allowed error

```
root = Node("TP")
root.right = Node("T'")
root.right.left = Node("T")
root.right.right = Node("VP")
...
```

When The Code Fails

Fails: "There seems to be a man in the garden."

- "The man" originates under a PP that and gets a nominative case assignment
  - The P-head motherhood is not an allowed domain for NOM
  - Code assigns NOM only to nouns with V' mother head.

Further Studies

- **Dependent Case Theory:** highest DP c-commanding always receives NOM and lower DPs will receive ACC.
  - Always underlying structure of tree
  - Non c-commanding DP relationships?

Further studies must be done in order to obtain a better analysis and understanding.

Resources

Vu, M., Shafiei, N., Graf, T. (2019). "Case assignment in TSL syntax: a case study", *Proceedings of the Society for Computation in Linguistics:* Vol.2, Article 28.

Thank you!

If you have any suggestion, questions or concerns for the code, please contact me!

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