

How universal are prominence hierarchies?

Evidence from native English speakers

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Prominence Hierarchies

- **What are they?** Rankings of nouns in a sentence by how likely they are to fulfil the agent/patient semantic roles [1].
- **Explanatory power:** Account for linguistic phenomena such as in-verseness and split ergativity [1][2].
- **Common patterns:**
 - **Pronouns** outrank **other nouns** [1].
 - **First** and **second person** outrank **third person** [1].
 - **Animate entities** outrank **inanimates** [1].
- **How do they arise?** Explanations often appeal to cognitive biases or functional constraints, e.g. cognitive accessibility [3] or naturalness of viewpoint [4].

Prominence Hierarchies and Cognition

Hypothesis:

If prominence hierarchies arise from cognitive biases or functional constraints, it is possible that they may still be represented in the minds of speakers of languages that do not explicitly encode them in their grammar.

Research Question:

Do speakers of such a language still perceive higher-ranking nouns to be more likely agents than lower-ranking nouns?

This study:

- Looks at the **first person**, **second person** > **third person** ranking.
- Looks at native speakers of English, a language not known to explicitly encode this ranking in its grammar.

References

- [1] Lockwood, H.T., & Macaulay, M. (2012). Prominence Hierarchies. *Language and Linguistics Compass*, 6(7), 431–446.
- [2] Silverstein, Michael. 1976. 'Hierarchy of Features and Ergativity'. In R. M. W. Dixon (Ed.), *Grammatical Categories in Australian Languages* (pp. 112–71). Canberra: Australian National University.
- [3] Bickel, B., & Nichols, J. (2007). Inflectional morphology. *Language Typology and Syntactic Description*, 3(2), 169–240.
- [4] DeLancey, S. (1981). An Interpretation of Split Ergativity and Related Patterns. *Language*, 57(3), 626–657.

Methodology

Participants

- 53 native speakers of English

Stimuli and Design

- 24 target sentences constructed in the following way:
 - 24 verbs with clearly agentive subjects.
 - 8 case-matched pairs of **first** and **third person** pronouns:

I HE I SHE ME HIM ME HER
HE I SHE I HIM ME HER ME

- Latin-square design matching each verb with one of the 8 pairs of pronouns to produce a pseudo-sentence of the form:

BANDAGED I HE
ASSASSINATED HER ME
SLAPPED SHE I

- Balanced so that each pronoun pair appears 3 times in these sentences.
- 36 filler sentences.

Task

- Online experiment.
- Participants presented with the 60 sentences (24 target and 36 filler) and asked to determine which of the two nouns is the 'doer' (i.e. agent) in each sentence.

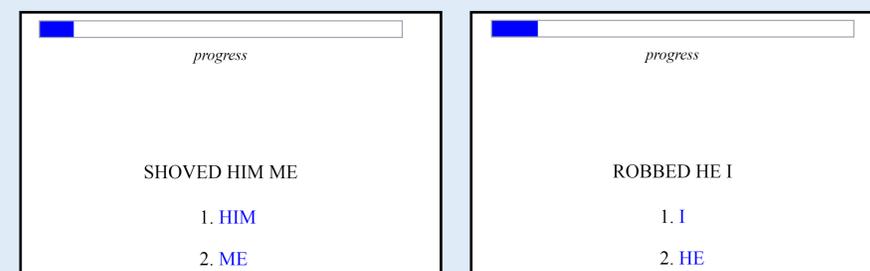


Fig. 1: Screenshots of the online experiment

Results

- Participants interpreted the **first person** pronoun as the 'doer' (agent) more often than the **third person** pronoun
 - in both the nominative and accusative case;
 - and both when the pronoun was immediately after the verb (Position 1) or at the end of the sentence (Position 2).

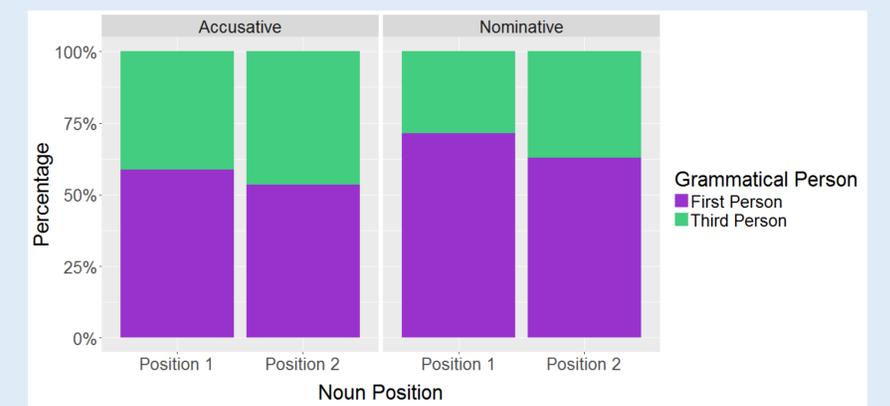


Fig. 2: Grammatical person of pronoun picked as 'doer'

- The location of the **first person** pronoun in the sentence had a significant effect on which pronoun was picked as the 'doer' ($\chi^2(1) = 75.79$, $p < 0.001$).

Discussion and Conclusions

- This study shows that English speakers implicitly assume that a **first person** event participant is more likely to be an agent than a **third person** participant.
- Suggests that native speakers of English are indeed sensitive to prominence distinctions between **first** and **third person**.
- This is consistent with the claim that prominence hierarchies are represented in the minds of speakers of all languages.
- **Further research** is needed to investigate the exact nature of these mental representations, how they are acquired, and what other effects they may have on language processing and production.