A corpus-based study of *pro* drop in Standard Malay

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Pro drop in Standard Malay

Standard Malay (henceforth “Malay”) allows the so-called *pro* drop, especially in its colloquial variety (Koh 1990: 141–146).

(1) Jangan bimbang pasal harga boleh berunding.
‘(You) Don’t worry because (regarding its) price (we) can negotiate.’

(2) Awak jangan bimbang pasal harga dia kita boleh berunding.

Previous studies on Malay *pro* drop

- All most all are qualitative.
  e.g. Koh (1990), Mashudi (2003), Ahmad Syafiq Amir et al. (2022), Nomoto (2022), Nomoto and Matsuura (2023)
- Nomoto and Kartini (2014) examine the frequency of *pro* occurring as *di-* passive agents.
- However, *pro* drop involving subjects and objects has not been investigated quantitatively.

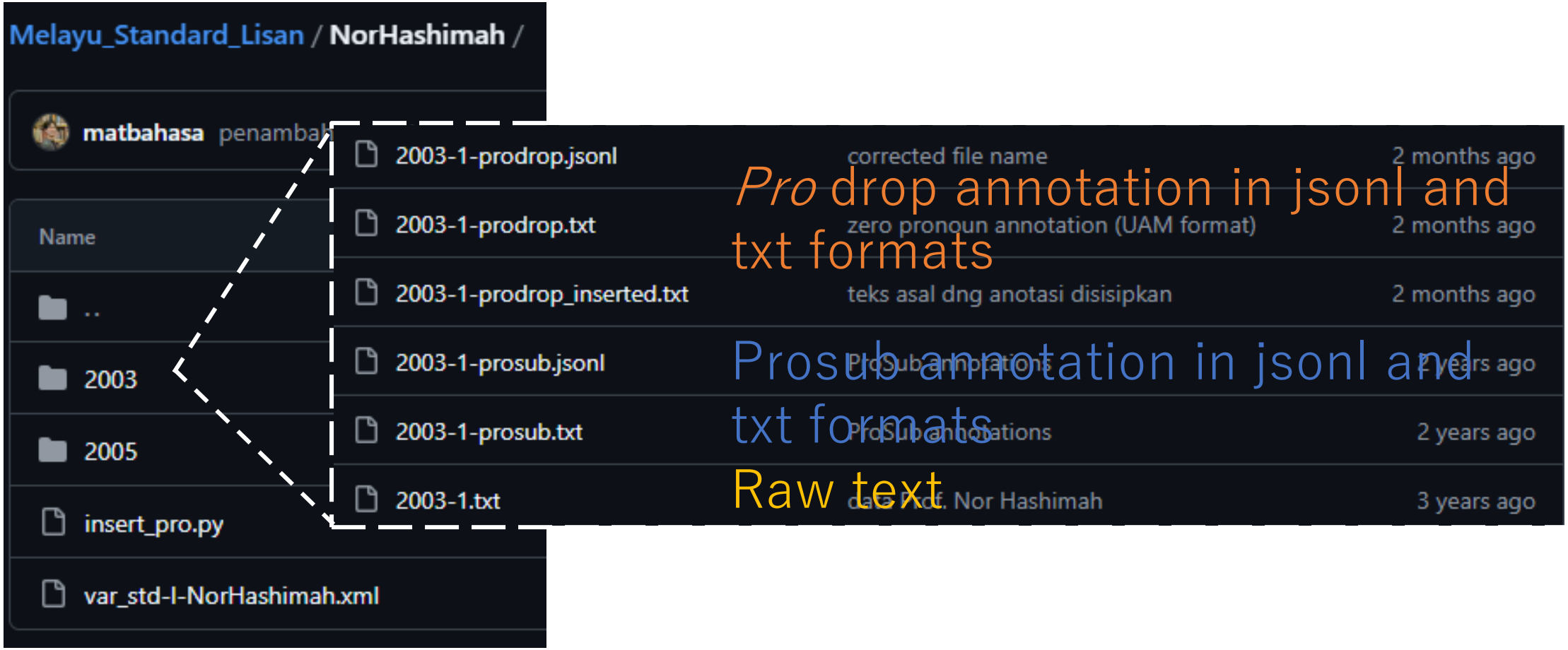
This study

- Fills this gap in research.
- Annotated a corpus for *pro* drop.
- Examined the frequency of *pro* dropped elements according to person and grammatical function.

Corpus

- The conversation data provided as appendices by Nor Hashimah (2003) and Nor Hashimah et al. (2005).
  - (2003) *Bahasa dalam Perniagaan: Satu Analisis Semantik dan Pragmatik*
  - (2005) *Sistem Panggilan dalam Keluarga Melayu: Satu Dokumentasi*
- Digitalized and published as part of *Korpus Variasi Bahasa Melayu: Standard Lisan*.
  https://github.com/matbahasa/Melayu_Standard_Lisan/tree/master/NorHashimah

Files


Melayu_Standard_Lisan / NorHashimah /
matbahasa penambah
Name
..
2003
2005
insert_pro.py
var_std-I-NorHashimah.xml
2003-1-prodrop.jsonl
corrected file name
2 months ago
2003-1-prodrop.txt
zero pronoun annotation (UAM format)
2 months ago
2003-1-prodrop_inserted.txt
teks asal dng anotasi disisipkan
2 months ago
2003-1-prosub.jsonl
ProSub annotations
2 years ago
2003-1-prosub.txt
ProSub annotations
2 years ago
2003-1.txt
data Prof. Nor Hashimah
3 years ago
Pro drop annotation in jsonl and txt formats
Prosub annotation in jsonl and txt formats
Raw text

Corpus details

- **Size**: 4,518 sentences, 34,724 tokens
- **Language**: Standard Malay (zsm) with dialectal mixing. [The data was been collected in various places, but the original authors normalized it (i.e. applied the standard orthography, e.g. *manɔ* → *mana*, not *mano* or *manor*).]
- **Content**:
  - 2003: Conversations between sellers and buyers at markets
  - 2005: (i) Conversations during cooking gatherings
    (ii) Interviews about the use of referring expressions

Annotation scheme

- No specific analysis of *pro* drop (e.g. Huang 1984; Barbosa 2019) was assumed.
- All null arguments in positions where an overt argument can occur were treated as *pro*.
- Exception: passive agents
- **Rule of thumb:** “Posit *pro* if you can insert a personal pronoun (e.g. *saya*, *awak*, *dia*).”
- The token immediately after *pro* was assigned an annotation tag (or tags).

Annotation tags

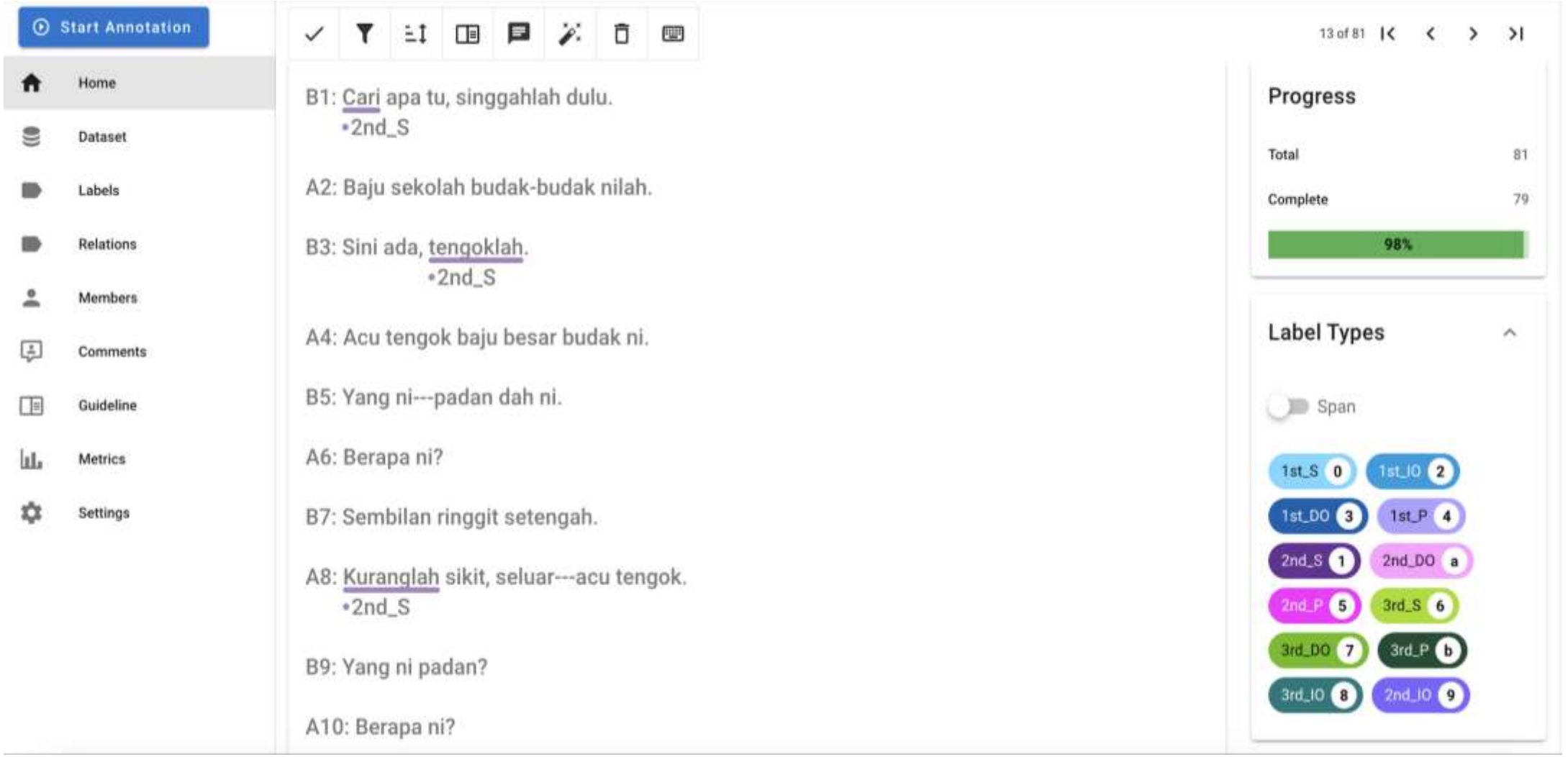
Person

- 1st
- 2nd
- 3rd

Grammatical function

- S
- DO
- IO
- P (possessor)

Doccano (Nakayama et al. 2018)



Examples

Rule: Annotate the token immediately after *pro*.

(3) a. Kenapa tak hidupkan?
2nd_S 3rd_DO

b. Kenapa awak tak hidupkan dia?

(4) a. Jangan bimbang pasal harga boleh
2nd_S 3rd_P
berunding. 1st_S

b. Awak jangan bimbang pasal harga dia kita boleh berunding.

Construction-specific rules: Dative alternation

<u>Adopt the double object analysis whenever possible.</u>

V DO (V = ditransitive/monotransitive)

☞ V ~~IO~~ DO (*pro* drop of IO)

V DO ~~*kepada/untuk IO*~~ (no *pro* drop)

(5) Kak **bagi harga niaga** dah ni.

a. ☞ Kak **bagi *pro*$_{awak}$ harga niaga** dah ni.

b. Kak **bagi harga niaga** dah ni.

Construction-specific rules: Bare definites vs. possessive definites

<u>Adopt the possessive definite analysis whenever possible.</u>

NP $Ø_D$ (no *pro* drop)

☞ NP Poss (*pro* drop of P)

(6) Jangan bimbang pasal **harga** boleh berunding.

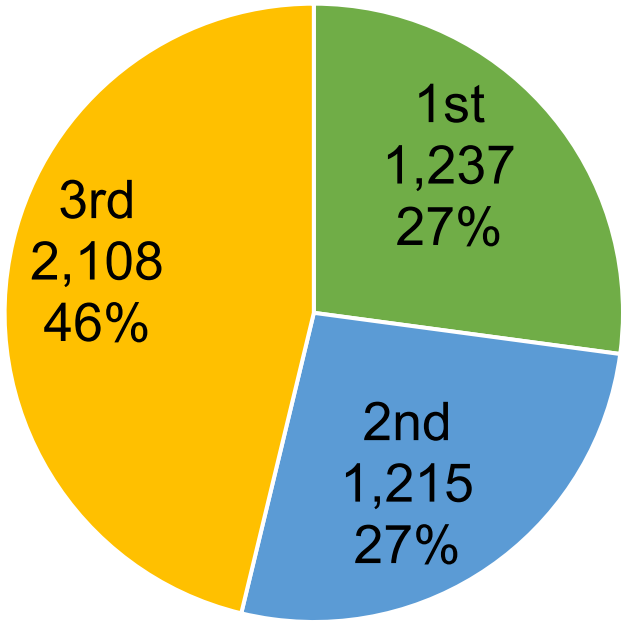
a. … **harga** boleh berunding.

b. ☞ … **harga** ***pro*** $_{dia}$ boleh berunding.

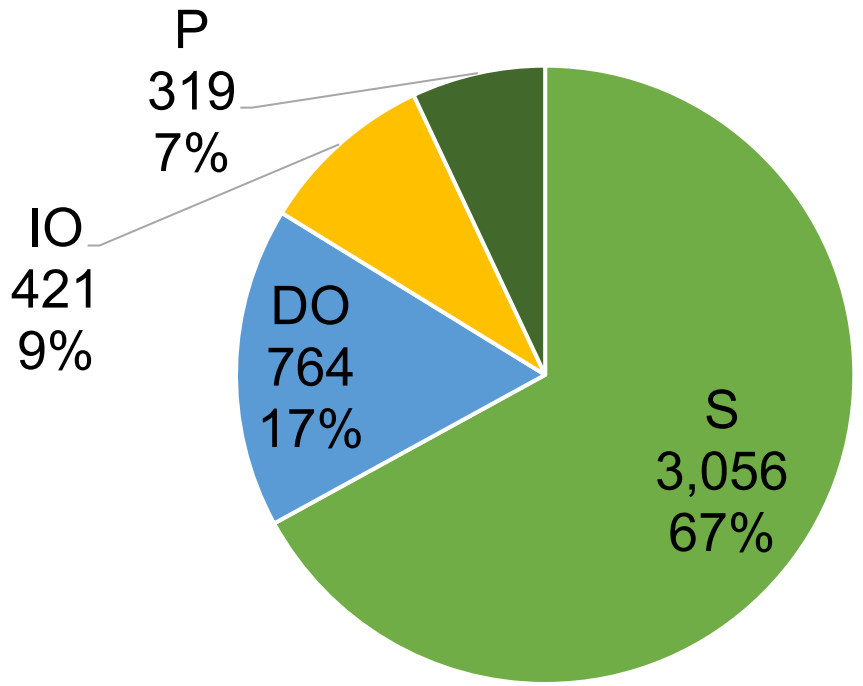
cf. Appendix in Nomoto et al. (2025) for other construction-specific rules.

Results (updated from Nomoto et al. 2025)

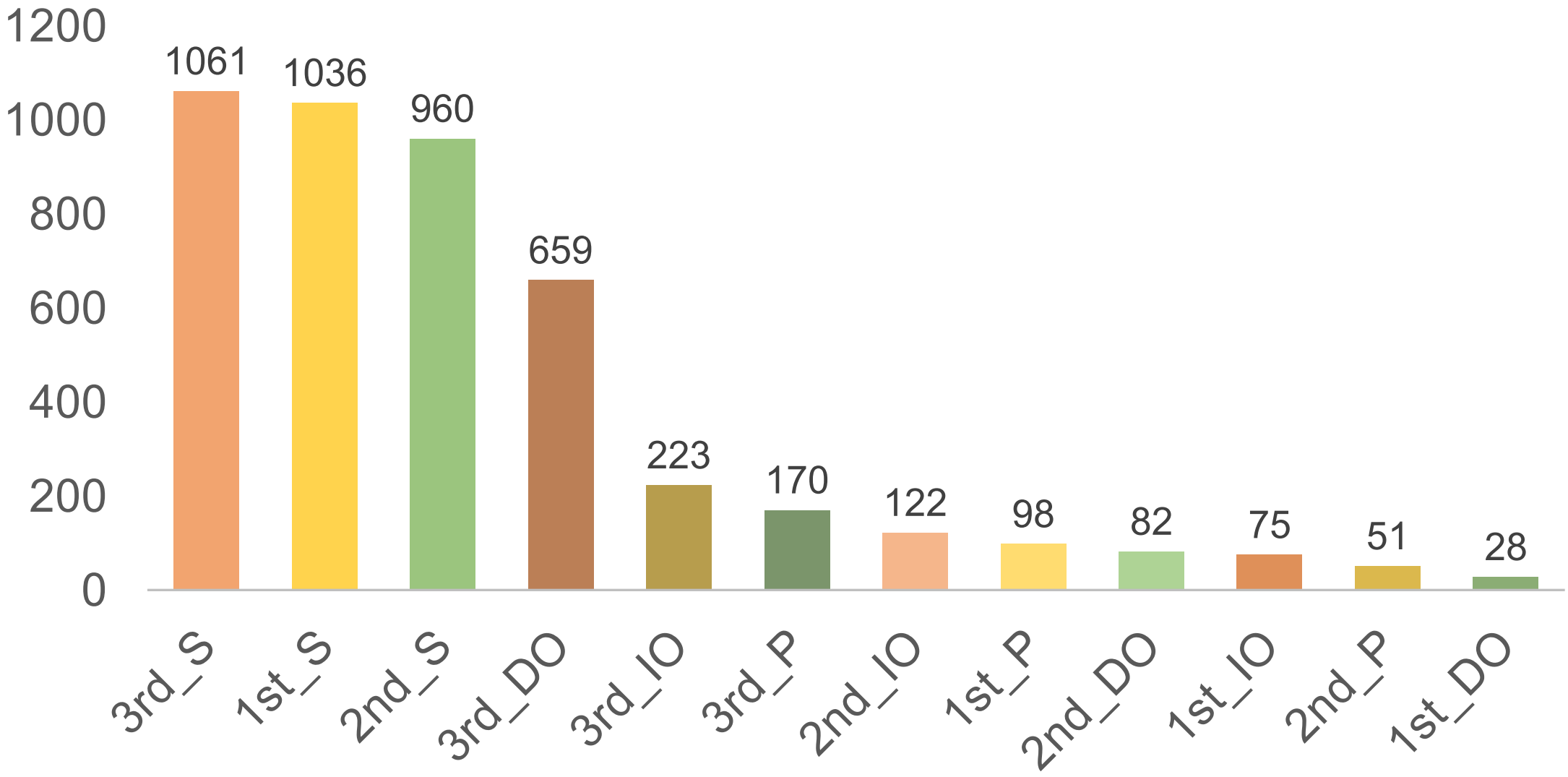
Person



Grammatical function



Person + function combined



On object *pro* drop

Nomoto and Matsuura (2023)

- Empty objects are not pro but a variable bound by a null topic (= Huang's (1984) analysis).
- **Prediction:** *MeN-* cannot occur before empty objects, given its movement blocking effect (Saddy 1991; Soh 1998; Cole and Hermon 1998)

(7) Siti membeli atau meminjam buku itu?
—Dia {pinjam/*meminjam} *e*. (N & M 2023)

(8) Nadiah menulis surat kepada Siti
dan Siti sudah {terima/*menerima} *e*. (N & M 2023)

Counterexamples in the corpus

(9) Abah, Mak **menanak *pro*$_{dia}$** kat rumah tu.

(10) Tak bubuh lagi, ni baru nak **menghidang *pro*$_{dia}$**.

(11) Kan Pak Long pergi **menyiasat *pro*$_{dia}$**, orang kata dia minta sedekah kat jejentas Johor?

(12) Sebab tu aku siap **merakam *pro*$_{dia}$** ni.

(13) Ingatkan nak pergi masa **menghantar *pro*$_{dia}$** nanti.

(14) Cangkerang menggunakan perkataan untuk **menerangkan *pro*$_{dia}$**… tak lepas dah tu. (unfinished sentence, so may not be problematic)

Possible reasons for *meN-*

1. The *meN-* verbs in (10)–(14) occur in embedded contexts.
   (10) … [$_{VP}$ nak [menghidang
   (11) … [$_{VP}$ pergi [menyiasat
   (12) … [$_{VP}$ siap [merakam
   (13) … [$_{CP}$ masa menghantar
   (14) … [$_{CP}$ untuk menerangkan
2. Some of these *meN-* verbs may have an intransitive use.

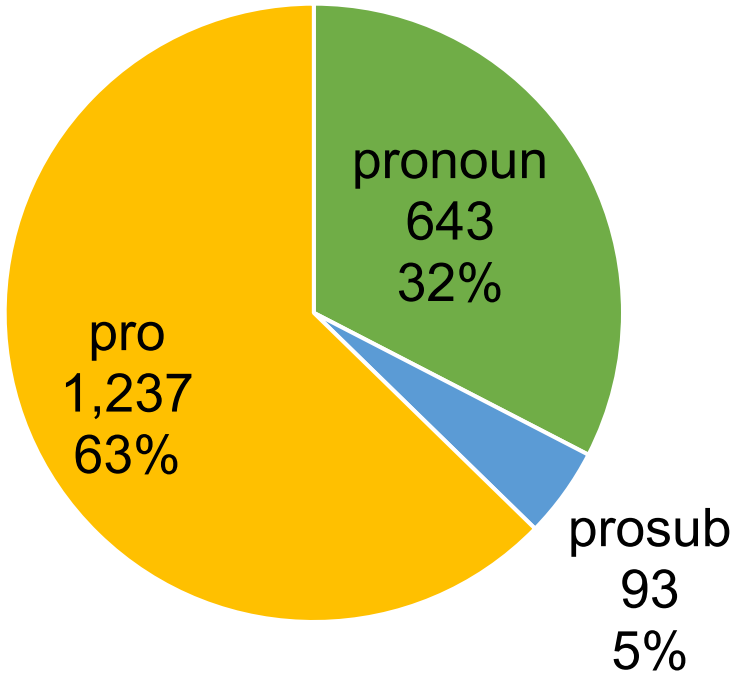
Overt vs. covert expressions

- The same corpus has been also annotated for overt first and second person expressions (Nomoto et al. 2023).
- So, we can now see the distribution of overt and covert expressions.
- Two types of overt fist and second person expressions:
  - Personal pronouns
    e.g. *saya*, *aku*, *I*, *awak*, *kamu*, *(eng)kau*, *you*
  - Pronoun substitutes (prosubs)
    e.g. *encik*, *puan*, *cik*, *pak cik*, *mak cik*, *mak*, *ayah*, *abang*, *kakak*, *adik*, *cikgu*, *Dato'*, *prof.*, *Dr.*, NAME, TITLE + NAME

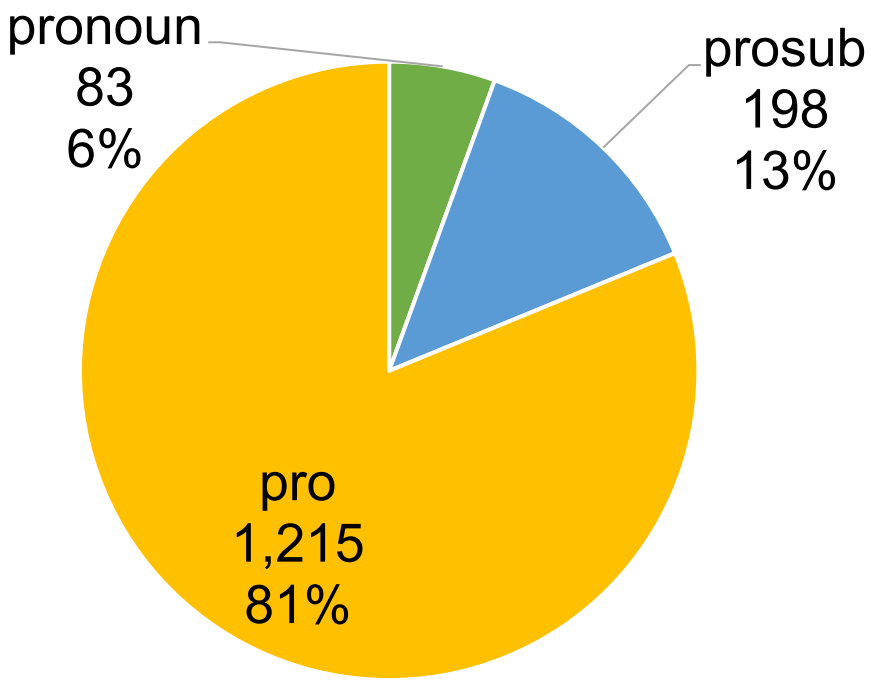
Distribution of 1st and 2nd person expressions in the corpus

1st

Personal pronouns are also frequent for 1st person.



2nd



Pro is prevalent across persons.

Conclusion and future direction

- Annotated a corpus of Standard Malay for empty arguments.
- Examined their distributions.
  - Person: 3rd >> 1st, 2nd
  - Grammatical function: S (approx. 2/3) >> DO > IO > P
- Utilizing the existing other annotation, showed how prevalent *pro* drop is.
- **Future:** Annotate overt expressions for grammatical functions (almost done) to enable a comparison/integration with the *pro* drop annotation.

Acknowledgements

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