The emergence of the unmarked in L2 acquisition: Interpreting null subjects

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The acquisition of L2 is significantly affected by L1 knowledge; a.k.a. L1 transfer [18].

However, there are observations that L1 transfer does not entirely govern L2 acquisition, hinting at the role of grammar in L2 acquisition (see [20] for a review).
This talk focuses on the emergence of the unmarked (TETU) effect in L2 acquisition.

It has been observed in the phonological literature that L2 learners go through a stage in which they only show unmarked structures, albeit the lack of evidence in L1 or L2 [1, 4, 5].
Question

- Would we observe the effect of the emergence of the unmarked in L2 acquisition in domains other than phonology? (cf. [2, 5, 8].)

- In order to address this question, the current experiment tested the case of the interpretations of null subjects where L1 transfer and TETU make different predictions.

- The experiment demonstrates that at least the majority of speakers show behaviors that are compatible with the markedness theory.
What is markedness?

- “Markedness” [13] has been used to express several different notions, not all of which are well received or well defined [10].

- We use the notion of markedness which can be defined formally.
What is markedness?

- Implicational universal: The linguistic structure $X$ is marked and $Y$ is unmarked, if all languages that allow $Y$ also allow $X$, but not vice versa [8, 9, 17].

- In terms of the subset-superset relationship: The unmarked structure $X$ is an element in the subset languages (also allowed in the superset languages) [3, 7, 19] cf. [15].
Illustration of markedness

marked; allowed only in the superset language

[b, d, g]

unmarked; allowed in the subset language

[p, t, k]

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TETU in L2
A case study: Japanese null subject construction

(1) a. San-nin-no keisatu-ga Sato-san-no three-CL-no police-officer-NOM Ms.Sato-GEN ie-ni kita. house-DAT came

‘Three police officers came to Ms. Sato’s house.’

b. e Yamada-san-no ie-ni-mo kita. NULL Ms.Yamada-GEN house-DAT-also came

‘The three police officers/Three police officers also came to Ms. Yamada’s house.’

This sentence is ambiguous in terms of the interpretation of null subjects [16].
The three policemen who came to Ms. Yamada’s house are the same as those who came to Ms. Sato’s house.
Quantificational reading

The three policemen who came to Ms. Yamada’s house can be different from those who came to Ms. Sato’s house.
This sentence in Mandarin Chinese is not ambiguous: it only allows the pro reading.
The pro reading is unmarked

- Japanese allows both of these two readings, while Mandarin Chinese allows only the pro reading.
- A cross-linguistic survey with 9 languages with null subject reveals [14]:
  1. languages with both readings,\(^1\)
  2. languages with only the pro reading,\(^2\)
  3. but no languages with only the quantificational reading.

\(^1\)Korean, Japanese, and Greek.
\(^2\)Basque, Mandarin Chinese, Serbo-Croatian, Spanish, and Turkish.
Accordingly, the pro reading is the unmarked reading (or the “subset reading”), while the quantificational reading is the marked reading (or the “superset reading”).

(This markedness asymmetry may be grounded in an additional processing burden of introducing new referents for the quantificational reading (cf. [8, 11, 12]), but we nevertheless take the position that this psycholinguistic difficulty is grammaticalized via some abstraction [14].)
Illustration of markedness

- Quantificational reading
  - marked; allowed only in the superset language
- Pro reading
  - unmarked; allowed in the subset language

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TETU in L2
The predictions of the two theories

- When Japanese speakers (the superset speakers) learn Mandarin Chinese (the subset languages) as L2:
  - L1 transfer: Japanese speakers would accept both readings in Mandarin Chinese sentences, since their L1 (=Japanese) allows both readings.
  - TETU (or the Subset Principle): Japanese speakers start with the unmarked, subset reading (i.e. the pro reading).
Participants

- The participants were 22 introductory-level Japanese learners of MC.

- The experiment targeted introductory learners to tap the initial L2 learning state.
Participants

- The age of first exposure to MC ranged from 18;7 to 19;5 (average: 18;11) (well after the critical period).

- The duration of exposure of formal instruction in Japan ranged from 0;10 to 1;10. (average: 0;11, about a year).
Stimuli

- Target stimuli: five sets of Mandarin Chinese sentences with null subjects.
- Control stimuli: five sets of equivalent Japanese sentences.
- Those who did not understand the ambiguity in the Japanese control sentences were excluded from the analysis.
Task

- A truth value judgment task (a well-established approach in the acquisition literature [7]; see [14] for detail).

- A picture that depicts a particular interpretation (examples shown previously) was shown along with each target sentence.
Task

- The participants were asked to indicate whether each sentence correctly described the picture.

- The two questions on the same sentence were presented separately (i.e. one question per trial). The task was thus not to detect an ambiguity of stimulus sentences.
Procedure

- For each sentence, the picture that indicates a quantificational interpretation was presented before the picture that indicates a pro reading.

- It was expected to be easier for native MC speakers and Japanese learners to assign a pro interpretation than a quantificational reading, and a pro reading may prime the quantificational reading for the same sentence.
Almost all the participants judged the pro reading to be possible.
Results: Quant-reading

Many learners rejected the quantificational reading; the difference between the two readings is significant ($p < .001$ by a Wilcoxon test).
The TETU effect (or the Subset Principle) predicts this behavior; i.e., those who accept only the unmarked, pro reading.

However, some other learners accepted both readings (the marked and unmarked).

L1 transfer may have governed the behavior of these speakers.
Discussion: two groups of participants?

- Those that follow TETU or the Subset Principle
- Those that follow L1 transfer

Number of QUANT POSSIBLE responses

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TETU in L2
Discussion: a question

Could they have learned the lack of quantificational reading in Mandarin Chinese?

1. Their textbook does not state that the pro-reading is how to interpret null subjects in Mandarin Chinese.
2. Neither do their language instructors teach that.
3. The participants all reported that they had never been explicitly how to interpret null subjects in Mandarin Chinese.
Further questions

- Could it have been that the participants simply did not like ambiguity?

- Unlikely, because they did not have a trouble detecting the ambiguity for Japanese sentences (i.e. the control stimuli).
Further questions

- Could it have been that the quantificational reading imposed more processing burden, and hence it was rejected?

- No evidence that this purported difference in processing burden influences their judgement when they judged L1 sentences.\(^3\)

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\(^3\)After all, we do not know yet that the quantificational reading imposes substantially more psycholinguistic burden to process than the pro reading in this context. This assumption needs to be shown in future experimental work (cf. [6]).
More remaining questions and issues

- Why do the current participants split into two groups?

- Not clear. At least their age and duration of exposure to L2 are comparable across all participants, which therefore cannot be the separating factor.
More remaining questions and issues

- Small number of items (five in the current experiment)?

- Order effect? The current experiment was blocked for a reason, but it could have introduced a compound.
L1 transfer and some linguistic mechanisms (markedness pressure or the Subset Principle) can conflict.

In the case of the interpretation of null subjects, many speakers showed behaviors that are compatible with the grammatical principle(s) (the emergence of the unmarked or the Subset Principle)—their behavior cannot be explained by L1 transfer, at least.

Some other speakers behaved as predicted by L1 transfer.
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References


