

Effects of morphological and prosodic focus cues on topic maintenance in Korean

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How do morphology and prosody work together to manage a discourse topic?

Morphological and Prosodic Focus Cues in Korean

- (1) Chelswu-ssi-ka Yengswu-ssi-eykey chayk-ul kenney-ess-ta.
C-HON-NOM Y-HON-DAT book-ACC hand-PAST-DECL
'Mr. Chelswu handed a book to Mr. Yengswu.'
- (2) Chelswu-ssi-nun Yengswu-ssi-eykey chayk-ul kenney-ess-ta.
C-HON-TC Y-HON-DAT book-ACC hand-PAST-DECL
'Mr. Chelswu_{TC} handed a book to Mr. Yengswu.'
- (3) Chelswu-ssi-ka YENGSWU-SSI-EYKEY-NUN chayk-ul kenney-ess-ta.
C-HON-NOM Y-HON-DAT-TC book-ACC hand-PAST-DECL
'Mr. Chelswu handed a book to Mr. YENGSWU_{TC}'.

Sohn (1999):

"[-nun] provides the co-occurring noun phrase with either a **topic meaning**, usually when the noun phrase is **unstressed** and occurs **in the sentence-initial position**, or a **contrast meaning**, especially when the noun phrase is **stressed** or appears in a **non-initial position**."

NB: (1) with contrastive focus prosody and (3) without contrastive focus prosody are unnatural in Korean.

Motivation for this Study

• Kim, Grüter & Schafer (2013) tested the effect of topic/focus marking on topic maintenance, using sentence types (1)-(3) in a written story continuation task. They found:

- No difference between (1) and (2) in topic choice in the continuation (see also Ueno & Kehler, 2010, for Japanese).
- (3) increased maintenance of the current topic (vs. (1) & (2)).
- This goes against the idea that focus increases salience and therefore subsequent reference (Birch & Garnsey, 1995).
- This supports the idea that focus highlights a reference set with alternatives (Rooth, 1992), which allows maintenance of the current topic (source/subject), together with a contrastive alternative as focus (see Appendix, example (ii)).

• What remains unresolved:

To what extent is this effect due to

- (a) the presence of the morphological marker **-nun** on the goal, or
- (b) the presence of implicit prosody on the **-nun**-marked goal?

→ Need for **spoken** stimuli with manipulation of prosody: this study.

References

- Birch, S. L., & Garnsey, S. (1995). The effect of focus on memory for words in sentences. *Journal of Memory and Language*, 34, 232-267.
- Kim, K., Grüter, T., & Schafer, A. (2013). Effects of event-structure and topic/focus-marking on pronoun reference in Korean. Poster presented at CUNY2013.
- Rooth, M. (1992). A theory of focus interpretation. *Natural Language Semantics*, 1, 75-116.
- Sohn, H.-M. (1999). *The Korean language*. New York: Cambridge University Press.
- Ueno, M., & Kehler, A. (2010). The interpretation of null and overt pronouns in Japanese: grammatical and pragmatic factors. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Meeting of the Cognitive Science Society* (pp. 2057-2062). Austin, TX: Cognitive Science Society.

Method

Participants: 32 students at Seoul National University

Task: Participants *listened* to a context sentence (1-4), then wrote a continuation.

Materials: 4 conditions (see 1-4 below); 70 items (42 experimentals; 28 fillers)

- **Broad focus prosody (Cond1)**

- (1) Chelswu-ssi-ka Yengswu-ssi-eykey chayk-ul kenney-ess-ta.
C-HON-NOM Y-HON-DAT book-ACC hand-PAST-DECL
'Mr. Chelswu handed a book to Mr. Yengswu.'

- **Focus on source/subject: morphology only (Cond2)**

- (2) Chelswu-ssi-nun Yengswu-ssi-eykey chayk-ul kenney-ess-ta.
C-HON-TC Y-HON-DAT book-ACC hand-PAST-DECL
'Mr. Chelswu_{TC} handed a book to Mr. Yengswu.'

- **Focus on source/subject: morphology & prosody (Cond3)**

- (3) CHELSWU-SSI-NUN Yengswu-ssi-eykey chayk-ul kenney-ess-ta.
C-HON-TC Y-HON-DAT book-ACC hand-PAST-DECL
'Mr. CHELSWU_{TC} handed a book to Mr. Yengswu.'

- **Focus on goal/non-subject: morphology & prosody (Cond4)**

- (4) Chelswu-ssi-ka YENGSWU-SSI-EYKEY-NUN chayk-ul kenney-ess-ta.
C-HON-NOM Y-HON-DAT-TC book-ACC hand-PAST-DECL
'Mr. Chelswu handed a book to Mr. YENGSWU_{TC}'.

Prosodic analyses

Fig1. Duration (in ms) of critical regions. Pause after contrastive **-nun**.

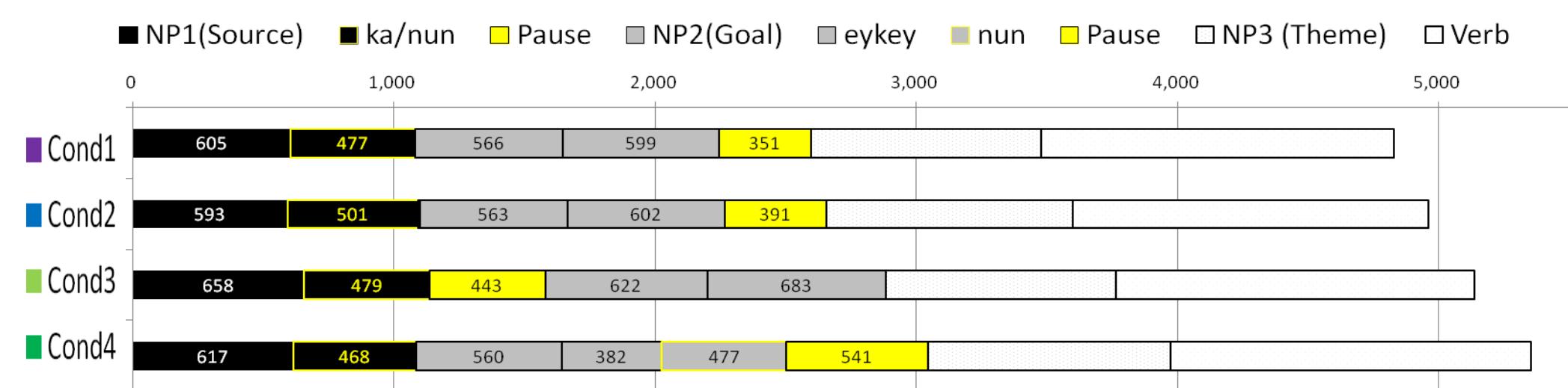
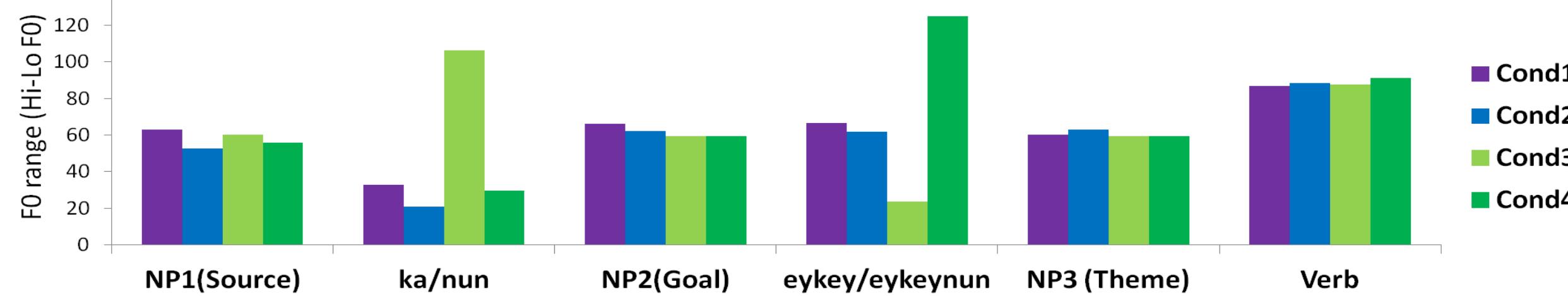


Fig2. Prosodic analyses, F0 range. Greater F0 range with contrastive **-nun**.



Questions and Predictions

• **Cond2 vs Cond1:** How does morphology alone on the **source/subject** affect topic selection in the continuation?

- Previous (written) work showed no effect (Kim et al., 2013; Ueno & Kehler, 2010).

• **Cond3 vs Cond2 (and 1):** How do morphology and prosody together on the **source/subject** affect topic selection in the continuation?

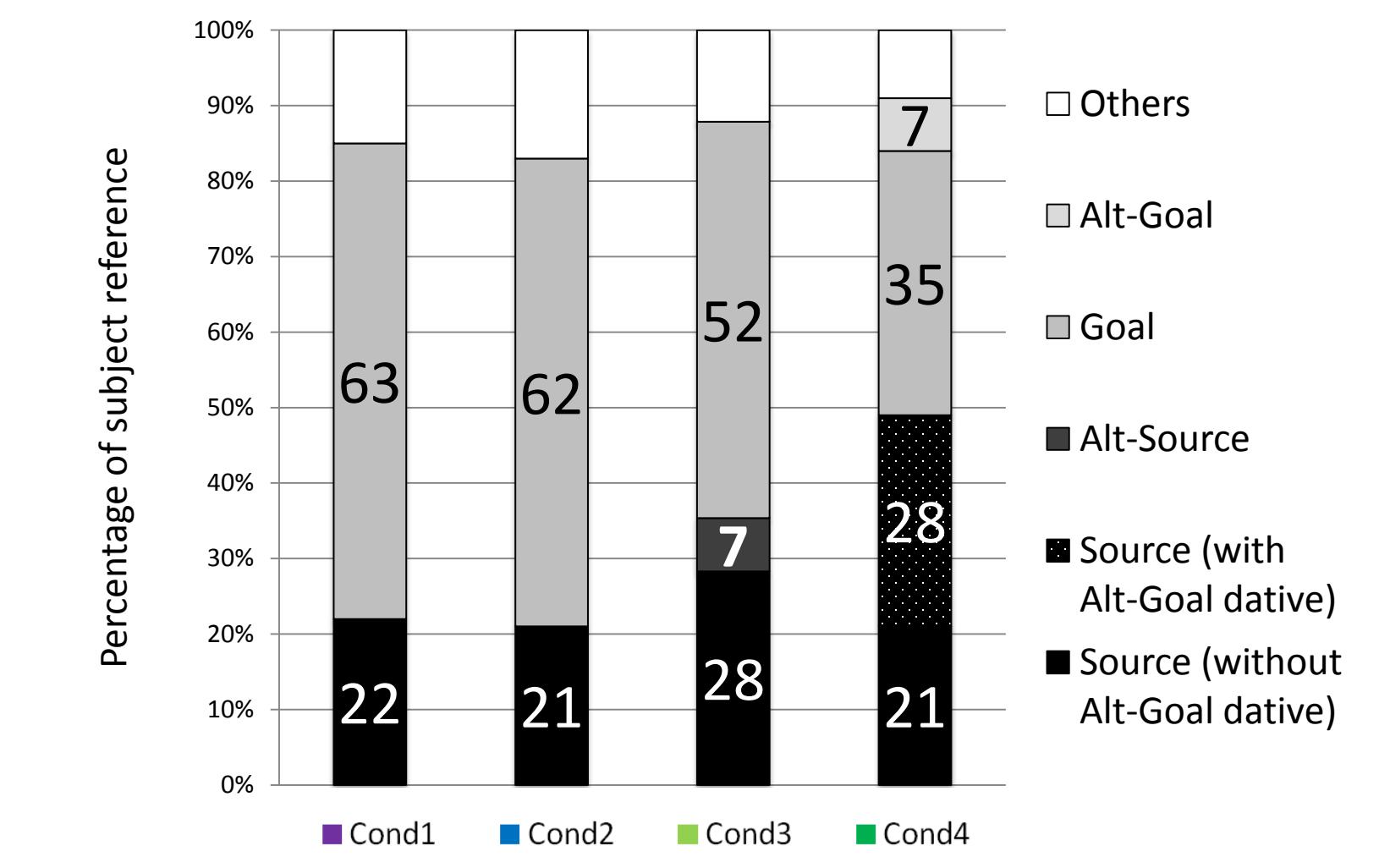
- If increased salience promotes increased selection for topic,
→ more source selections for topic
- If focus highlights a reference set with alternatives,
→ more continuations with contrastive (parallel) coherence relation
→ more selections from source reference set (alternative or original source) for topic

• **Cond4 vs Cond2 (and 1):** How do morphology and prosody together on the **goal/non-subject** affect topic selection in the continuation?

- If increased salience promotes increased selection for topic,
→ more goal selections for topic
- If focus highlights a reference set with alternatives,
→ more continuations with contrastive (parallel) coherence relation
→ more selections from goal reference set (alternative or original goal), especially as the focus, while maintaining current (source/subject) topic

Results

Fig3. Referential patterns: Sentential subject of continuation



%Source reference:

Cond2 = Cond1

21% vs. 22%: $t_1(31) = .122, p = .904$
 $t_2(41) = .008, p = .994$

Cond2 < Cond3

21% vs. 28%: $t_1(31) = -2.013, p = .053$
 $t_2(41) = -2.019, p = .050$

21% vs. 35%: $t_1(31) = -2.879, p < .01$
 $t_2(41) = -3.403, p < .01$

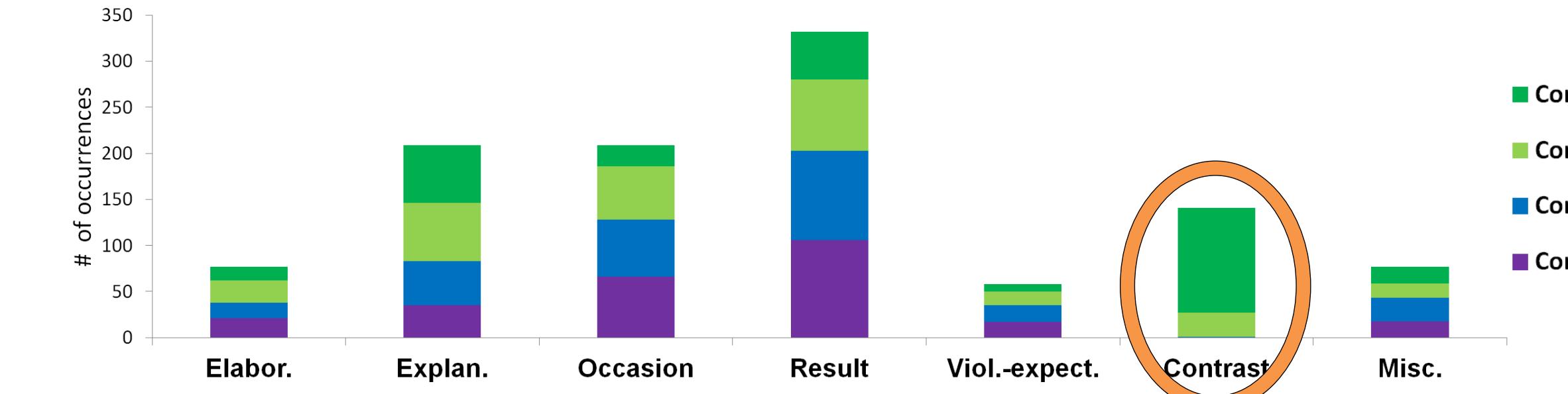
Cond2 < Cond4

21% vs. 49%: $t_1(31) = -4.488, p < .001$
 $t_2(41) = -6.164, p < .001$

• Replication of written study: Broad focus **-ka** and **-nun** result in similar referential patterns. (Written **-nun** in sentence-initial position is interpreted with implicit broad focus prosody.)

• Contrastive prosody on **-nun** results in distinct referential patterns:
→ Contrastive prosody on the **source** increases source and alt-source selections for the topic.
→ Contrastive prosody (+ **-nun**) on the **goal** also increases source selections for the topic: Goal focus enhances topic maintenance, together with a selection from the goal reference set as the focus.

Fig4. Coherence relations vary by condition



• Contrastive coherence relations were found only in Cond3 and Cond4

contrastive focus prosody → contrastive coherence rel. → maintenance of current topic

Conclusion

• Contrastive prosody plus contrastive morphology together produce contrastive focus, which in turn affects discourse coherence and topic management.
• Contrastive morphology alone does not.

Appendix: Examples of Contrastive Continuations

• Found only in Cond3 - Alt-Source subject continuation (7%)

Context: CHELSWU-SSI-NUN Yengswu-ssi-eykey chayk-ul book-ACC kenneyestaa.
C-HON-TC Y-HON-DAT
'Mr. CHELSWU handed a book to Mr. Yengswu.'
Continuation: (i) Alt-ssi-nun Yengswu-ssi-eykey chayk-ul book-ACC kenney-ci anh-ass-ta.
Alt-HON-TC Y-HON-DAT
'Mr. Alt did not hand a book to Mr. Yengswu.'

• Found only in Cond4 - Alt-Goal dative (28%), Alt-Goal subject (7%) continuations

Context: Chelswu-ssi-ka YENGSWU-SSI-EYKEY-NUN C-HON-NOM Y-HON-DAT-TC
'Mr. Chelswu handed a book to Mr. YENGSWU.'

Source subject with Alternative Goal dative
Continuation: (ii) Chelswu-ssi-ka Alt-ssi-eykey-nun C-HON-NOM ALT-HON-DAT-TC
'Mr. Chelswu did not hand a book to Mr. ALT.'

Alternative Goal subject
Continuation: (iii) Alt-ssi-nun Chelswu-ssi-eykeye C-HON-from
Alt-HON-TC
'Mr. Alt did not receive a book from Mr. Chelswu.'