

Question under Discussion-based analysis of Japanese ellipses

Tomoya Tanabe and Yurie Hara

Abstract

This paper proposes an analysis of Japanese ellipses using the notion of Question under Discussion (QuD). That is, what is elided in a sentence with ellipsis is a QuD. The proposed analysis explains the scope patterns of disjunction and focus particle *-dake* 'only' with respect to negation in elided constructions.

1 Introduction

In Japanese, when disjunction co-occurs with negation within a clause, the disjunction takes scope over the negation as Goro (2007) observes. However, the seemingly stable scope relation between the disjunction and the negation is reversed in the context of ellipsis (Funakoshi, 2013). We offer a Question under Discussion (QuD)-based analysis which explains the pattern of the scope reversal. Specifically, we argue that what is being elided is a QuD. Further, the scope interaction between disjunction and negation in elided constructions is explained by the question-answer congruence between the clause containing an ellipsis and the QuD. The proposed analysis supports the idea that ellipsis is not anaphoric to the explicit antecedent clause but to the implicitly raised QuD (see also Kuno, 1976; Kotek & Barros, 2018; Griffiths, 2019, a.o).

This paper is structured as follows: Section 2 introduces the puzzle regarding ellipsis with disjunction in Japanese and briefly reviews previous approaches to the puzzle. Section 3 proposes a QuD ellipsis (QuDE) analysis and shows that the wide scope reading for disjunction with respect to negation is available if the sentence that contains the ellipsis provides an appropriate answer to the QuD. Section 4 shows that the QuDE analysis also explains the scope patterns of a focus particle *-dake* 'only' and negation in an elided construction. Section 5 concludes the paper.

2 Puzzle

Disjunction in Japanese does not take scope below its clause-mate negation as (1) shows. Since (1) has two logical operators, namely disjunction and negation, both the OR>NEG reading and the NEG>OR reading should be available. However, (1) has only the OR>NEG reading. More precisely, while (1) has the interpretation '(Ken doesn't speak Spanish) or (Ken doesn't speak French)', it does not have the interpretation that it is not the case that Ken speaks Spanish or French.

- (1) Ken-wa supeingo-ka-furansugo-o hanas-ana-i. (OR>NEG, *NEG>OR)
 Ken-TOP Spanish-or-French-ACC speak-NEG-PRS
 lit. 'Ken doesn't speak Spanish or French.'

Interestingly, the scope between the disjunction and negation reverses once the disjunctive phrase undergoes ellipsis as Funakoshi (2013) observes. Consider (2). Anteceded by (2a), (2b) has only the NEG>OR reading. While (2b) is true when Ken speaks neither Spanish nor French, it is false when Ken speaks either Spanish or French (see also Sato & Maeda, 2020, for a similar observation).

- (2) a. Yumi-wa supeingo-ka-furansugo-o hanas-u ga,
 Yumi-TOP Spanish-or-French-ACC speak-PRS but
 'Yumi speaks Spanish or French, but'
 b. Ken-wa hanas-ana-i. (*OR>NEG, NEG>OR)
 Ken-TOP speak-NEG-PRS
 lit. 'Ken doesn't speak.'

This is puzzling under the traditional ellipsis analysis. That is, if (2b) had the same structure as (1), (2b) should have only the OR>NEG reading.

Funakoshi (2013) argues that the unavailability of the OR>NEG reading in (2b) is explained by Otani & Whitman's (1991) verb-stranding VP ellipsis analysis of null objects. Funakoshi assumes that negation in Japanese is higher than VP (Shibata, 2015), and thus disjunction moves out of VP and takes scope over negation. It follows that the disjunctive phrase in (2b) cannot be elided via VP ellipsis.¹ Saito (2017), on the other hand, argues that the unavailability of the OR>NEG reading in (2b) is explained by the Argument Ellipsis (AE) analysis of null objects if we assume the LF-copy analysis of AE (Oku, 1998). Saito (2017) shares the assumption with Funakoshi (2013) that the disjunctive phrase in (2b) moves out of the VP and takes scope over the negation. Further, Saito (2017) assumes that the movement creates an operator-variable chain. Saito (2017) then argues that applying LF-copy to the chain results in an uninterpretable LF representation, which explains the unavailability of the NEG>OR reading in (2b).

However, as Sakamoto (2016) points out, both analyses undergenerate the OR>NEG reading available in (3), where the antecedent is also negated.

- (3) a. Yumi-wa supeingo-ka-furansugo-o hanas-ana-i.
 Yumi-TOP Spanish-or-French-ACC speak-NEG-PRS
 'Yumi doesn't speak Spanish or French'
 b. Ken-mo hanas-ana-i. (OR>NEG, *NEG>OR)
 Ken-ADD speak-NEG-PRS
 lit. 'Ken doesn't speak, either.'

Given this, neither the VP ellipsis analysis nor the AE analysis explains the scope pattern of disjunction and negation in Japanese elided constructions.

3 Proposal: QuD ellipsis

In this model, information structure of a discourse is analyzed in terms of questions being addressed and answers to these questions. In particular, the central question that conversation participants attempt to resolve is called a QuD (Roberts, 2012). Employing this notion of QuD, we propose the following:

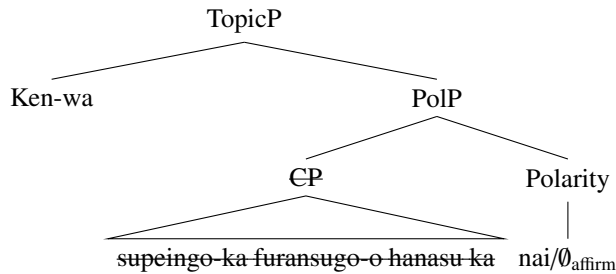
- (4) Proposal: QuD Ellipsis (QuDE)

¹Funakoshi (2013) argues that the NEG>OR reading in (2b) is not derived from the NEG>OR structure and it arises from a phonetically null *pro* which corresponds to Spanish and French. However, we show below that the elided construction does contain a disjunction and do not need to assume a *pro* of conjunction. (see Maeda, 2019; Sato & Maeda, 2020, for relevant discussion).

What has been elided in a sentence with ellipsis is a Question under Discussion.

Under our proposal, (2b) is analyzed to have a structure in (5), where what is elided is the CP which denotes the QuD, i.e., *supeingo-ka-furansugo-o hanasu ka* ‘whether Ken speaks Spanish or French’ (see Reich, 2004; Griffiths, 2019, for arguments that QuDs are covertly structured syntactic objects).

(5)



As can be seen in (5), the elided QuD embedded in PolP is negated with respect to the topic, Ken, by the polarity head which bears a negative operator *nai* ‘not’. Since Japanese *nai* is a bound morpheme, it is spelled-out with the verb stem as *hanasa-nai* ‘(do) not speak’ as in (2b). When the sentence is affirmative, i.e., the answer is “yes”, the polarity head is occupied by a phonologically null affirmative operator, $\emptyset_{\text{affirm}}$.

Under our proposal, a narrative sequence like (2) is analyzed as answers to an (implicit) overall QuD as shown in (6) (see Kotek & Barros, 2018; Griffiths, 2019, for discussion on possible factors which determine the saliency of a specific QuD). Crucial to the current analysis is that the clause that contains the ellipsis (6b) is anaphoric to the QuD rather than to the immediately preceding clause that contains the disjunction (6a), hence the target of ellipsis is the QuD itself.

- (6) QuD: Yumi to Ken-wa supeingo-ka-furansugo-o hanasi-masu-ka?
 Yumi and Ken-TOP Spanish-or-French-ACC speak-POL-Q
 ‘Do Yumi and Ken speak Spanish or French?’
- a. Yumi-wa supeingo-ka-furansugo-o hanas-u ga,
 Yumi-TOP Spanish-or-French-ACC speak-PRS but
 ‘Yumi speaks Spanish or French, but’
- b. Ken-wa hanas-ana-i. (*OR>NEG, NEG>OR)
 Ken-TOP speak-NEG-PRS
 lit. ‘Ken doesn’t speak.’

Now, our QuDE analysis reveals that the OR>NEG reading is unavailable in (6b) because the OR>NEG reading does not provide an appropriate answer to the QuD: Among Spanish and French, is there a language that Ken speaks? (6b) with the OR>NEG reading is false if and only if Ken speaks both, thus it provides only the information that it is not the case that Ken speaks both. On the other hand, (6b) with the NEG>OR reading, which entails that Ken speaks neither Spanish nor French, is an appropriate negative answer to the QuD which asks whether Ken speaks Spanish or French.

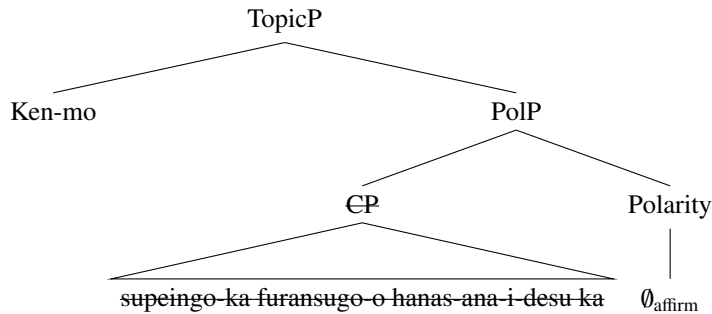
Recall that the OR>NEG reading is available in the sentence with ellipsis if the antecedent is also negated as in (3). The availability of the OR>NEG reading is explained by our QuDE analysis because both sentences in (3) are appropriate answers to a single overall QuD as shown in (7). In contrast to (6b), (7b) with the OR>NEG reading is an affirmative answer to the QuD, namely “You’re right about Ken. As for Ken, he doesn’t speak either Spanish or French”.

- (7) QuD: Yumi to Ken-wa supeingo-ka-furansugo-o hanas-ana-i-desu-ka? (OR>NEG, *NEG>OR)
 Yumi and Ken-TOP Spanish-or-French-ACC speak-NEG-PRS-COP-Q
 ‘Do Yumi and Ken not speak Spanish or French?’

- a. Yumi-wa supeingo-ka-furansugo-o hanas-ana-i.
Yumi-TOP Spanish-or-French-ACC speak-NEG-PRS
'Yumi doesn't speak Spanish or French'
- b. Ken-mo hanas-ana-i. (OR>NEG, *NEG>OR)
Ken-ADD speak-NEG-PRS
lit. 'Ken also doesn't speak.'

The structure of (7b) is depicted in (8). The QuD is affirmed by an affirmative operator with respect to the topic, Ken. Since the affirmative operator is phonologically null, the phonological output results in *hanas-ana-i* 'do not speak' as in (7b).²

(8)



It is worth noting that Funakoshi (2013) observes that the OR>NEG reading in the case like (7) appears to come from the strong parallelism requirement forced by the additive particle *mo*. Although we admit that the effect of the additive particle is at work, the following example shows that the OR>NEG reading is obtained in an elided construction without the additive particle. Consider (9), where the antecedent clause is positive. The QuD in (9) is a negative question just like the one in (7), hence the clause that contains the ellipsis (9b) is an appropriate answer to the QuD in the same way as (7b) is. Given its QuD, (9) is a discourse context where the antecedent (9a) becomes a negative answer to the QuD and (9b) becomes an affirmative answer to the QuD. Consequently, (9b) has only the OR>NEG reading just like its QuD.

- (9) QuD: Yumi to Ken-wa supeingo-ka-furansugo-o hanas-ana-i-desu-ka? (OR>NEG, *NEG>OR)
'Do Yumi and Ken not speak Spanish or French?'
 - a. Yumi-wa supeingo-ka-furansugo-o hanas-u ga,
Yumi-TOP Spanish-or-French-ACC speak-PRS but
'Yumi speaks Spanish or French, but'
 - b. Ken-wa hanas-ana-i. (OR>NEG, *NEG>OR)
Ken-TOP speak-NEG-PRS
lit. 'Ken doesn't speak.'

This data also shows that our QuDE analysis is superior to Maeda's (2019) analysis based on *Scope Economy* and *Parallelism* (Fox, 2000). The disjunction is the only logical operator in (9a), hence quantifier raising of the disjunction does not change scope possibilities. In this respect, (9a) is regarded as scopally uninformative in the sense of Fox (2000). Since *Scope Economy* prohibits quantifier raising of the disjunction in the scopally uninformative (9a), *Scope parallelism* prohibits quantifier raising of the disjunction in (9b). Accordingly, Maeda (2019) predicts that the inverse scope reading, i.e., the OR>NEG reading, is unavailable in (9b), contrary to fact.

²Unlike languages like English, *hai* 'yes' in Japanese is an affirmative answer to a negative question. Thus, the question-answer pair that corresponds to QuD-(7b) is literally translated as 'Does Ken not speak Spanish or French?-Yes, he doesn't (speak Spanish or French)', which is unacceptable in English.

Overall, our QuDE analysis explains Japanese data on scope interaction between disjunction and negation in elided constructions. This shows that what is elided in a sentence with ellipsis is a QuD.

4 Scope patterns of *-dake* 'only' in ellipsis

Focus particle *-dake* 'only' in Japanese does not take scope below its clause-mate negation. While (10) has the ONLY>NEG reading that it is only bread that Ken didn't eat, it does not have the NEG>ONLY reading that it is not the case that Ken ate only bread.

- (10) Ken-wa pan-dake tabe-nak-atta. (ONLY>NEG, *NEG>ONLY)
 Ken-TOP bread-only eat-NEG-PST
 lit. 'Ken didn't eat only bread.'

Now, consider (11). Anteceded by (11a), (11b) is most likely to be interpreted as Ken didn't eat anything. Thus, neither the ONLY>NEG reading nor the NEG>ONLY reading is possible for (11b) (see Funakoshi, 2012; Sato, 2020; Sato & Maeda, 2020, for similar observations).

- (11) a. Yumi-wa pan-dake tabe-ta.
 Yumi-TOP bread-only eat-PST
 'Yumi ate only bread'
 b. Ken-wa tabe-nak-atta. (*ONLY>NEG, *NEG>ONLY)
 Ken-TOP speak-NEG-PST
 lit. 'Ken didn't eat.'
 OK: 'Ken didn't eat anything.'

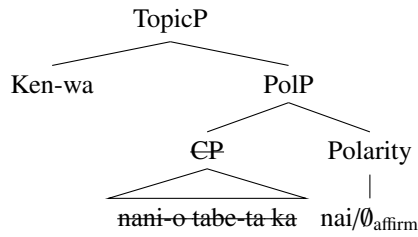
Under our QuDE analysis, the narrative sequence in (11) is a sequence of answers to the QuD in (12). Such an implicit QuD is inferred as salient in the discourse probably because the object argument in the antecedent sentence is focus-marked. That is, as an answer to the QuD which asks what Yumi ate, (12a) is an object focus sentence, thus it is natural for the object argument to be focus-marked by *-dake*.³ The unavailability of the ONLY>NEG reading in (12b) is again ruled out since stating that it was only bread that Ken didn't eat does not provide an answer to the QuD.

- (12) QuD: Yumi to Ken-wa nani-o tabe-masi-ta-ka?
 Yumi and Ken-TOP what-ACC eat-POL-PST-Q
 'What did Yumi and Ken eat?'
 a. Yumi-wa pan-dake tabe-ta.
 Yumi-TOP bread-only eat-PST
 'Yumi ate only bread'
 b. Ken-wa tabe-nak-atta. (*ONLY>NEG, *NEG>ONLY)
 Ken-TOP eat-NEG-PST
 lit. 'Ken didn't eat.'
 OK: 'Ken didn't eat anything.'

The remaining question is then why (12b) has the interpretation that Ken didn't eat anything. Our QuDE analysis reveals that the interpretation arises from the structure in (13). In (13), the QuD 'What did Ken eat?' is negated with respect to Ken. To be more precise, the QuD is roughly a set of proposition of the form $\{x: \text{Ken ate } x\}$ and the negative operator negates the QuD, i.e., there is no x such that Ken ate x , which leads to the interpretation that Ken didn't eat anything.

³It is more or less standardly assumed that it is the antecedent sentence that raises the QuD (see AnderBois, 2014; Kotek & Barros, 2018)

(13)



Now, let us consider another QuD candidate in (14). The QuD in (14) presupposes that Yumi and Ken both ate bread and asks whether it is the case that each individual didn't eat anything else (other than bread). Therefore, (14b), which asserts that Ken didn't eat bread, causes a presupposition failure, thus is an unacceptable answer to the QuD. On the other hand, if some comment which cancels the presupposition is added at the beginning as in (14c), it becomes an acceptable response.

- (14) QuD: Yumi to Ken-wa pan-dake tabe-masi-ta-ka?
 Yumi and Ken-TOP bread-ONLY eat-POL-PST-Q
 'Did Yumi and Ken eat only bread?'
- a. Yumi-wa pan-dake tabe-ta.
 Yumi-TOP bread-only eat-PST
 'Yumi ate only bread'
- b. #Ken-wa pan-dake tabe-nak-atta. (ONLY>NEG, *NEG>ONLY)
 Ken-TOP bread-only eat-NEG-PST
 lit. 'Ken didn't eat only bread.'
- c. Iya, toiuka, Ken-wa pan-dake tabe-nak-atta(-nda-yo).
 no in.fact Ken-TOP bread-only eat-NEG-PST-COP-PTCP
 'No, in fact, it was only bread that Ken didn't eat.'

Finally, as we observed in the ellipsis of disjunction in Section 3, the wide scope reading of *-dake* is available in the elided clause if it provides an appropriate answer to the QuD as shown in (15). Since (15b) is an affirmative answer to the QuD which asks whether bread was the only thing that Ken didn't eat, the ONLY>NEG reading is available.

- (15) QuD: Yumi to Ken-wa pan-dake tabe-mas-en-desi-ta-ka?
 Yumi and Ken-TOP bread-ONLY eat-POL-NEG-COP-PST-Q
 'Did Yumi and Ken not eat only bread?'
- a. Yumi-wa pan-dake tabe-nak-atta.
 Yumi-TOP bread-only eat-NEG-PST
 'Yumi didn't eat only bread'
- b. Ken-mo tabe-nak-atta. (ONLY>NEG, *NEG>ONLY)
 Ken-ADD bread-only eat-NEG-PST
 lit. 'Ken also didn't eat.'

We have shown that our QuDE analysis explains the scope patterns of *-dake* 'only' and negation in elided constructions.

5 Conclusion

We proposed a new analysis of ellipsis constructions: What is elided is neither the object argument nor the VP in the antecedent but the QuD itself. The proposed analysis supports the view that ellipsis takes place in the clause that answers an (often implicit) QuD. Thus, ellipsis is not anaphoric to the

antecedent clause but to the QuD in the discourse. Our QuDE analysis explains the scope patterns of disjunction as well as focus particle *-dake* ‘only’ with respect to negation in elided constructions.

References

- AnderBois, Scott. 2014. The semantics of sluicing: Beyond truth conditions. *Language* 90. 887–926.
- Fox, Danny. 2000. *Economy and scope interpretation*. Cambridge, MA: MIT Press.
- Funakoshi, Kenshi. 2012. On headless XP-movement/ellipsis. *Linguistic Inquiry* 43. 519–562.
- Funakoshi, Kenshi. 2013. Disjunction and object drop. *Tampa Papers in Linguistics* 4. 11–20.
- Goro, Takuya. 2007. *Language specific constraints on scope interpretation in first language acquisition*. College Park: University of Maryland: Doctoral dissertation.
- Griffiths, James. 2019. A Q-based approach to clausal ellipsis: Deriving the preposition stranding and island sensitivity generalisations without movement. *Glossa: A Journal of General Linguistics* 4. 1–41.
- Kotek, Hadas & Matthew Barros. 2018. Multiple sluicing, scope, and superiority: Consequences for ellipsis identity. *Linguistic Inquiry* 49. 781–812.
- Kuno, Susumu. 1976. Gapping: A functional analysis. *Linguistic Inquiry* 7. 300–318.
- Maeda, Masako. 2019. Argument ellipsis and scope economy. *Syntax* 22. 419–437.
- Oku, Satoshi. 1998. *A theory of selection and reconstruction in the minimalist program*. Storrs: University of Connecticut: Doctoral dissertation.
- Otani, Kazuyo & John Whitman. 1991. V-raising and VP-ellipsis. *Linguistic Inquiry* 22. 345–358.
- Reich, Ingo. 2004. Association with focus and choice functions: A binding approach. *Research on Language and Computation* 2. 463–489.
- Roberts, Craige. 2012. Information structure in discourse: Towards an integrated formal theory of pragmatics 5. 1–69.
- Saito, Mamoru. 2017. Ellipsis. In Masayoshi Shibatani, Shigeru Miyagawa & Hisashi Noda (eds.), *Handbook of Japanese Syntax*, 701–750. Berlin: Mouton de Gruyter.
- Sakamoto, Yuta. 2016. Scope and disjunction feed an even more argument for argument ellipsis in Japanese. In Michael Kenstowicz, Theodore Levin & Ryo Masuda (eds.), *Japanese/Korean Linguistics*, vol. 23, Stanford, CA: CSLI Publications.
- Sato, Yosuke. 2020. Focus mismatch under ellipsis in Japanese, polarity and head movement. In Tae Sik Kim & Sae-Youn Cho (eds.), *Proceedings of the 22nd Seoul International Conference on Generative Grammar* The Korean Generative Circle, 224–232.
- Sato, Yosuke & Masako Maeda. 2020. Syntactic head movement in Japanese: Evidence from verb-echo answers and negative scope reversal. *Linguistic Inquiry* advanced online publication. doi: https://doi.org/10.1162/ling_a_00380.
- Shibata, Yoshiyuki. 2015. Negative structure and object movement in Japanese. *Journal of East Asian Linguistics* 24. 217–269.