A null pronominal account for apparent parasitic gaps in Japanese
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1 The puzzle

Japanese has gaps that behave in an important way like parasitic gaps in English. In (1a), the gap inside a subject relative clause island can be bound by the wh-phrase when it has undergone A\(^-\)movement in a cleft; but not when the wh-phrase is in situ as in (1b).

(1) a. [\[ Kaigi-de \( e_i \) mikaketa \( t_i \) kiniitta \] no-wa dare,-o desu ka? \( e_i \) at-meeting saw person-NOM liked NL-TOP who-ACC be Q

‘Who, was it that a person who saw \( e_i \) at the meeting liked \( t_i \)?

b. * [ Kaigi-de \( e_i \) mikaketa \( t_i \) kiniitta no? \( e_i \) at-meeting saw person-NOM who-ACC liked Q

‘Who, did the person who saw \( e \) at the meeting like \( t \)?

(2) * I forget who filed which articles without reading pg .

To account for this contrast, Takahashi (2006) argues that the empty category inside the island is an elliptic position, which obtains its content by copying the real trace. When there is no wh-movement, what is copied onto \( e \) is the wh-phrase itself, which does not lead us to an intended bound reading. On the other hand, Abe (2011) argues that the empty categories in (1a) are real parasitic gaps, like those found in English. Assuming Nissenbaum’s (1998) analysis, the obligatory movement in (1a-b) would be motivated by a type mismatch. In this study, I present the data that show all instances of apparent parasitic gaps in Japanese are null pronouns (pro), contra both Takahashi and Abe. The contrast in (1a-b) arises, I propose, from the semantic composition of question in Japanese; for the empty category to covary with the wh-phrase, it must move, leaving behind a trace.

2 Data

There are two arguments for my claim that parasitic gaps in Japanese are pro. First, they cannot appear in anti-pronominal contexts (Postal 1998). In (3), an empty category in the subject relative clause island cannot be bound by the wh-phrase when it occurs in the change-of-color environment.

(3) * [kabe-o \( e_i \) nutta hito]-ga isu-o \( t_i \) nutta no-wa naniiro,-ni desu ka? wall-ACC painted person-NOM chair-ACC painted COMP-TOP what color COP

Q

‘[What color] \( e_i \) was it that the person who painted the wall \( e_i \) painted the chair \( t_i \)?’

In addition, apparent parasitic gaps in Japanese cannot appear in the other types of anti-pronominal contexts, including adverbial positions (Takahashi 2006, 21), and name positions (data not shown). Second, the apparent parasitic gaps in Japanese can be in a DP or PP position, not an AP position. Takahashi (2006, 18) claims that DP, PP, AP, and a part of idiom can be apparent parasitic gaps. But I surveyed 18 speakers of Japanese, and there was a clear difference in acceptability of DP, PP gaps and AP gaps: AP gaps were usually rejected, while DP and PP gaps were accepted at the same rate. The difference between AP and DP/PP was significant (Wilcoxon rank sum test: \( W= 15826.5, p < 0.0001, N=18 \)).

3 Apparent parasitic gaps in Japanese are pro

To account for this distribution of apparent parasitic gaps in Japanese, I propose that all instances of them are pro. This analysis predicts that apparent parasitic gaps can appear only in a place where pro can appear. This is why parasitic gaps cannot appear in the anti-pronominal contexts. Moreover, APs are not possible antecedents of pro in Japanese. On the other hand,
DPs and PPs can be antecedents of pro. So we can explain the difference in acceptability between them.

The data shown above would be unexpected to both Takahashi (2006) and Abe (2011). If apparent parasitic gaps are the result of argument ellipsis as Takanashi proposes, it is hard to explain why such an ellipsis cannot happen in the anti-pronominal contexts. Moreover, if ellipsis can apply equally across categories, there should be no difference in acceptability between DPs and PPs, on the one hand, and APs, on the other. Similarly, if these empty categories are real parasitic gaps with the syntax that Nissenbaum (1998) proposes, then they should be possible to appear in the anti-pronominal context because in his account, parasitic gaps are trace of null operator movement, and the wh-extraction is possible even in the anti-pronominal context (What color did you paint the wall t?). Also, there would be no categorical restriction as well.

4 Solving a puzzle
Recall that the bound reading cannot be obtained without movement, just like English parasitic gap cases. I propose that the contrast in (1a-b) arises from the semantic composition of question in Japanese. I assume that wh-phrases in Japanese can be interpreted in situ (Shimoyama, Hagstrom, Cable). Specifically, following Cable (2010), I take the wh-phrase to introduce a set of alternatives. It combines with other elements in the sentence by pointwise functional application, so that the question operator combines with a set of propositional alternatives.

This compositional mechanism derives the ungrammaticality of (1b) under the bound interpretation. The pro in the island cannot covary with the wh-phrase because alternatives derived by the wh-phrase are independent of the assignment function which is applied to the whole sentence. In other words, the value of pro is determined by the assignment function independently as shown in (4).

\[
(4) \quad [\{\text{a person who saw pro}_1 \text{ at the meeting liked John, a person who saw pro}_1 \text{ at the meeting liked Mary, } \ldots\}] = Q(\{\text{a person who saw pro}_1 \text{ at the meeting liked John, } \ldots\})
\]

On the other hand, when the wh-phrase moves, it leaves behind a trace. The lambda operator that abstracts over the trace can also abstract over pro inside the island as in (5a). This makes the covariation possible as long as pro and the trace have the same index. Therefore we can get a set of alternatives we want shown in (5b).

\[
(5) \quad \text{a. } [\text{Kaigi-de pro}_1 \text{ mikaketa} \text{ hito-ga t}_1 \text{ kiniitta} \text{ no-wa } \lambda_1 \text{ dare}_1-o \text{ desu ka?}]
\]

\[
(5) \quad \text{b. } [\{\text{(1a)}\}] = Q(\{\text{a person who saw Bob at the meeting liked Bob, a person who saw John at the meeting liked John, } \ldots\})
\]

To conclude, this idea gives us a better analysis of Japanese apparent parasitic gaps. Specifically it can predict where they can appear: exactly in the same position as pro can occur. Furthermore, I showed the contrast of availability of the bound reading as in (1a-b) comes from the semantic composition of question in Japanese.

References