

It's Not the End of the CED as We Know It: Revisiting German and Japanese Subject Islands

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1. Introduction

Ross's (1967) discovery of island constraints led subsequent work to examine the distribution of island domains. One robust generalization is the Condition on Extraction Domains (CED) proposed in Huang (1982), which subsumes the subject island constraint (Chomsky 1973) and the adjunct island constraint (Ross 1967) under a general ban on extraction out of non-complements. Recently, Uriagereka (1999) and Nunes and Uriagereka (2000) have proposed to derive the CED from the Linear Correspondence Axiom (Kayne 1994), which states that asymmetric c-command relations determine linear order. They claim that subjects and adjuncts need to be 'flattened out' into a single unit in order to participate in asymmetric c-command relations, and thus disallow extraction out of them. On the other hand, Stepanov (2007) claims that subjects, unlike adjuncts, are not universally islands and that the apparent subject island effects reflect freezing effects; subjects become opaque domains merely as a result of displacement (Takahashi 1994; Wexler and Culicover 1981). Languages that allow subjects to stay in-situ are therefore predicted to allow extraction out of in-situ subjects.

Both accounts derive subject effects from independently motivated mechanisms, but they differ in the empirical assumption regarding the CED: the linearization account assumes that the CED holds and that all subjects are islands, whereas the freezing account assumes that subjects are islands only when they are moved. In order to investigate this issue, the controversies and methodological concerns with previously reported data must be resolved. We discuss three acceptability judgment studies in German and Japanese that demonstrate that extraction out of subjects consistently leads to a larger degradation in acceptability than extraction out of objects. These results suggest the validity of the CED and consequently lend support to the accounts that treat all subjects as islands.

2. German

2.1. Experiment 1: German sub-extraction using *was-für split*

In the German syntax literature, the claims are mixed regarding which domains allow NP sub-extraction: den Besten (1985) reports that only objects are licit extraction domains, but Haider (1993) claims that extraction out of subjects are also acceptable. Diesing (1992) argues that sub-extraction can originate from in-situ subjects, but not from the derived subject position, whereas Müller (2010) claims that extraction out of in-situ subjects is only licit if the object is scrambled across it.

Since German allows indefinite subjects to optionally stay in-situ (e.g., Diesing 1992, Haider 1993), it allows us to investigate whether (and if so, how) specifier and freezing effects interact. The

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goal of the following experiments was to collect fine-grained data and shed light on the distribution of subject island effects. Experiment 1 uses *was-für* split to examine the contrast between sub-extraction out of subjects and objects when they are moved/in-situ.¹ The CED predicts that sentences with extraction out of any subjects should be degraded, whereas the freezing account predicts that extraction out of in-situ subjects and in-situ objects is equally acceptable.

2.1.1. Participants and method

Thirty-two native speakers of German volunteered to participate in the experiment. Twenty-eight were undergraduates at the University of Vienna with no training in formal syntax and were asked to rate sentences presented to them in a paper questionnaire. Four speakers took part in the experiment online, using Alex Drummond's *webspr* software (<http://code.google.com/p/webspr/>). One participant was excluded for not completing the questionnaire. The data of 31 participants were included in the data analysis. Participants were asked to rate sentences on a 7-point Likert scale according to their intuitions. The participants were asked to give 6 or 7 to sentences they found perfectly acceptable, to give 1 or 2 to sentences they found completely unacceptable and to give 3 -5 to sentences they found not totally unacceptable but also not completely perfect.²

The experiment manipulated the factors SUB/OBJ and MOVED/INSITU and the existence of the '*was für*' split. These factors result in the following 6 conditions (1a-f).

- (1) a. *moved subject, no split*
 Was für ein Käfer hat denn den Beamten gebissen?
 what for a beetle has indeed the clerk bitten
 'What kind of beetle bit the clerk?'
- b. *moved object, no split*
 Was für einen Beamten hat denn der Käfer gebissen?
 what for a clerk has indeed the beetle bitten
 'What kind of clerk did the beetle bite?'
- c. '*was für*' split, *in-situ subject* (meaning = 1a)
 Was hat denn für ein Käfer den Beamten gebissen?
 what has indeed for a beetle the clerk bitten
- d. '*was für*' split, *moved subject* (meaning = 1a)
 Was hat für ein Käfer denn den Beamten gebissen?
 what has for a beetle indeed the clerk bitten
- e. '*was für*' split, *in-situ object* (meaning = 1b)
 Was hat der Käfer denn für einen Beamten gebissen?
 what has the beetle indeed for a clerk bitten
- f. '*was für*' split, *moved object* (meaning = 1b)
 Was hat denn für einen Beamten der Käfer gebissen?
 what has indeed for a clerk the beetle bitten

In (1a) and (1b), the entire *was-für* phrase is moved to the left periphery and no split takes place. These two conditions constitute baseline subject and object conditions without any grammatical violations. (1c) and (1d) both contain sub-extraction of *was*, but the structural position of the subject is manipulated by using the particle *denn* ('indeed'), i.e., the subject preceding *denn* ((1c)) is moved while the subject following *denn* ((1d)) is in-situ (Webelhuth 1989; Diesing 1992). In (1e), the split originates from an unmoved object, while in (1f), *was* is moved out of an object in a derived position.

We created 3 lexicalizations for each condition, yielding 18 stimuli, which were distributed among 6 lists using a Latin Square design. These target sentences were combined with 24 stimuli from a

¹ See Jurka (2010) for a series of cross-linguistic experiments investigating various aspects of CED-effects and detailed theoretical discussions.

² See Jurka (2010) for a more detailed discussion about the methodology, English, German and Japanese versions of the instruction as well as the full list of all items used.

different experiment and 36 fillers of all levels of acceptability, which appeared in a pseudo-randomized order. As a result, each participant was presented with 78 sentences.

2.1.2. Results

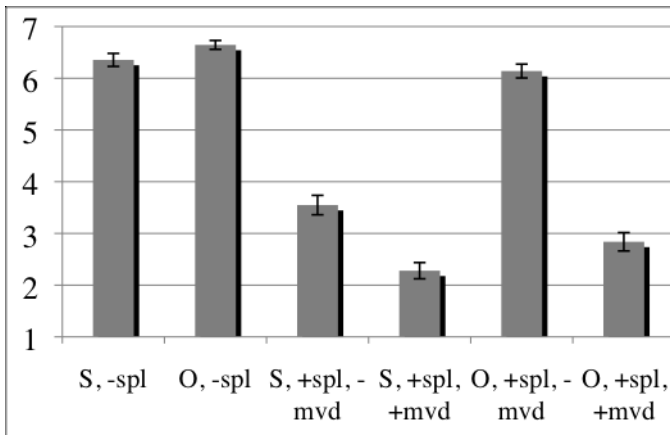


Figure 1 - Mean acceptability rating Experiment 1 (German)

Our acceptability judgment results (Figure 1) show the pattern expected if the CED is correct. We found main effects for both the factor SUB/OBJ ($F(1,92)=113.554$, $p<0.001$) and the factor MOVED/INSITU ($F(1,92)=222.02$, $p<0.001$), as well as an interaction effect ($F(1,92)=44.906$, $p<0.001$). While Diesing's (1992) observation is confirmed in that *was-für* split out of in-situ subjects is more acceptable than out of moved subjects (3.55 vs. 2.28, $t(1,92)=5.2$, $p<0.001$), our data reveal another interesting pattern: Extraction out of the in-situ subject is significantly

degraded compared to in-situ objects ($t(1,92)=11.2$, $p<0.001$), and extraction out of moved subjects is marginally degraded compared to unmoved subjects ($t(1,92)=2.4$, $p=.09$).

In summary, as compared to extraction from an unmoved object, the acceptability rating decreases when extraction occurs out of a subject or when it occurs from a moved domain. The effect is cumulative, i.e. extraction out of a moved subject leads to the worst results. Our results are unsurprising in that both subject and object questions without sub-extraction are rated as highly acceptable across the board (Sub:6.35, Obj:6.64). In addition, it is not surprising that we see a decrease when *was* is sub-extracted. Fronting *was* on its own creates a filler-gap dependency, which is well known to yield an overall decrease in acceptability due to increased processing load (Gibson 1998).

2.1.3. Discussion

The three-way distinction in extractability is a novel finding, which strongly suggests that not one, but two separate constraints are active in the grammar of German.

- (2) a. Extraction out of moved domains is degraded. (= Freezing Effect)
- b. Extraction out of subjects is degraded. (= Subject Condition)

The results show that (2b) cannot be reduced to (2a), contrary to Stepanov's claim. Moreover, the constraints are cumulative in the sense that violating both (2a) and (2b), i.e. extracting out of moved subjects ((1d)), leads to the lowest acceptability. These results indicate that the CED holds in German.

2.2. Extraction out of non-finite clauses in German

Sub-extraction out of sentential subjects is another domain where judgments diverge among authors (e.g. Haider 1983 vs. Sternefeld 1985; see Grewendorf 1989 and Jurka 2010 for discussion). Experiment 2 contrasts extraction out of non-finite sentential subjects vs. objects.

2.2.1. Participants and method

Thirty-two native speakers of German participated in this study online, and the same experimental procedure as in Experiment 1 was used. The design had a 2x2 structure manipulating the factors SUB/OBJ and +/- EXTRACTION. This yields the following 4 conditions:

- (3) a. – *extraction, subject*
 Die Diplomarbeit zu schreiben hat die Studentin gelangweilt.
 the MA-thesis to write has the student bored
 ‘Writing the MA thesis bored the student.’
- b. – *extraction, object*
 Die Studentin hat die Diplomarbeit zu schreiben vorgehabt.
 the student has the MA-thesis to write planned
 ‘The student planned to write the MA thesis.’
- c. +*extraction, subject*
 Welche Arbeit hat denn zu schreiben die Studentin gelangweilt.
 which paper has indeed to write the student bored
 (*)‘Which paper did writing __ bore the student?’
- d. +*extraction, object*
 Welche Arbeit hat denn die Studentin zu schreiben vorgehabt.
 which paper has indeed the student to write planned
 ‘Which paper did the student plan to write __?’

Note that we cannot construct ideal minimal pairs in this domain because the predicates that take non-finite sentential subjects and the predicates that take sentential objects do not overlap.³ We thus used psych verbs in the subject conditions and subject control verbs in the object condition, see footnote 4 for examples.⁴ To guard against the possibility of floor effects, we used d-linked wh-arguments in order to increase the general acceptability and make the effect of the critical manipulations most visible. In the same way as in Experiment 1, the particle *denn* (‘indeed’) was used to manipulate the structural position of the subject.

2.2.2. Results and discussion

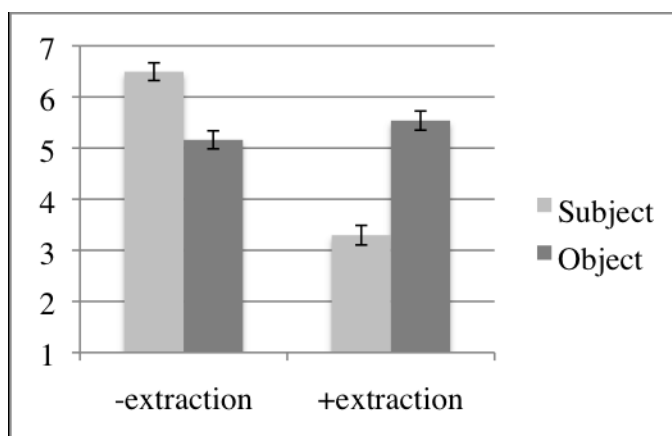


Figure 2 – Mean acceptability ratings Experiment 2

The mean acceptability rating is summarized in Figure 2. There is a strong interaction effect for the factors SUB/OBJ and EXTRACTION ($F(1,92)= 146.428, p<0.001$). Pair-wise comparisons revealed that extraction out of subject clauses is significantly degraded (3.29) in comparison to extraction out of objects (5.52) ($t(1,92)=8.4, p<.001$), while in the baseline conditions subjects (6.49) are preferred to objects (5.16) ($t(1,92)=6.6, p<.001$).

The object baseline condition, (3b) is degraded (5.14) compared to its extraction counterpart (3d) (5.52). This seems peculiar at first glance, for we expect the creation of a wh-dependency to result in decreased acceptability. However, there is an interfering factor in the construction at hand: Speakers strongly disprefer non-extraposed sentential objects, which is likely to

³ It is possible to construct minimal pairs using finite clauses with predicates like *beweisen* (‘prove’), *bestimmen* (‘determine’) or *naheliegen* (‘suggest’). Extracting out of finite clauses, however, is degraded for many German speakers to begin with, and such predicates also seem to create some kind of factive island effects. These examples are very marginal for most speakers and were thus excluded from the study. However, we added some of these as fillers and found a subject/object asymmetry, albeit very low on the scale (1.62 vs. 2.29, $p < .001$).

⁴ Predicate class A includes verbs like: *langweilen* (‘bore’), *belasten* (‘strain’), *erfreuen* (‘delight’), *verärgern* (‘annoy’), etc. and predicate class B includes verbs like: *planen* (‘plan’), *verlautbaren* (‘announce’), *veranlassen* (‘bring about’), *vorhaben* (‘intend’).

be caused by reluctance to place phonologically heavy constituents in the *Mittelfeld*. If the d-linked wh-phrase is moved out of the sentential object and replaced by a trace, this phonological weight is lifted significantly. This factor appears to outweigh the cost of creating wh-dependencies.⁵ Note also that this issue does not arise for the subject baseline condition, and this subject vs. object asymmetry accounts for why the object baseline condition is more degraded than the subject baseline condition.

Crucially, our results indicate that there is an asymmetry between sentential subjects and sentential objects with respect to the extractability of wh-elements. Sub-extraction out of sentential subjects is sometimes judged as acceptable when speakers are asked informally and are only given a binary choice, but our study that allowed nuanced acceptability ratings shows that sub-extraction out of sentential subjects is significantly degraded compared to sub-extraction out of sentential objects.

2.3. Conclusion

We conclude from our controlled acceptability judgment data that there are robust subject island effects in German both in the context of *was-für* split and extraction out of non-finite clauses. We saw that these effects are independent of freezing effects, which we identified as an additional factor that contributes to degradedness. We take these results as evidence that the CED holds in German.

3. Japanese

Japanese is previously reported to allow extraction out of subjects (e.g. Ishii 1997, Takahashi 1994, Kikuchi 1987). Stepanov, citing Kikuchi, gives the following contrast for comparative deletion:

- (4) a. **Op** [Mary-ga **t** yonda no]-ga akirakana yorimo
 Mary-Nom read that-Nom is-obvious than
 John-wa takusan-no hon-o yonda.
 John-Top many-Gen book-Acc read
 ‘(*)John read more books than [that Mary read **t**] is obvious.’
- b. ***Op** Bill-ga [Mary-ga **t** yonda kara] odoroitā yorimo
 Bill-Nom Mary-Nom read because was-surprised than
 John-wa takusan-no hon-o yonda.
 John-Top many-Gen book-Acc read
 ‘*John read more books than Bill was surprised [because Mary read **t**].’

In (4b), the operator-variable dependency is formed across an adjunct, which is deemed unacceptable. Kikuchi takes the existence of adjunct island effects as indicative of the formation of a genuine operator-variable dependency rather than a binding dependency in this construction. On the other hand, the operator movement out of a subject in (4a) is reported to be well-formed.

There are, however, at least two problems with these examples. First, the examples in (4) and other cases cited in the literature in support of the lack of subject island effects involve highly subtle judgments. According to our Japanese informants, many speakers concurred with the unacceptability of the adjunct case, but we saw a large inter-speaker variability in judgments for the subject case. In short, while there is undoubtedly a contrast between extraction out of subjects and adjuncts, classifying this asymmetry in terms of ‘* vs. OK’ requires more careful scrutiny.

Second, it is rather misleading to directly compare a subject island environment with an adjunct island environment. Variation in acceptability of different island violations has been widely reported in the literature, and in fact, the contrast between subjects and adjuncts holds for English as well (e.g., Phillips 2006), which does not imply that subjects are not islands in English. These two points lead us to conclude that Stepanov’s claim about Japanese subject islands is still debatable.

⁵ This explanation is corroborated by the fact that the decreased acceptability of the object baseline condition disappears when the sentential object is extraposed, as was found in a follow-up experiment (Jurka 2010). Extraposition, however, has no effect on the acceptability of the extraction. Wh sub-extraction is judged as highly acceptable whether the sentential object is extraposed or not.

Another case is considered by Lasnik and Saito (1992) (henceforth, LS), where extraction out of subjects is directly compared with extraction out of objects.

- (5) a. ??Dono hon-o Mary-ga [John-ga t katta koto]-o mondai-ni siteiru no?
 which book-Acc Mary-Nom John-Nom bought fact-Acc problem-to making Q
 ‘Which book is it that Mary is calling the fact that John bought into question?’
- b. ??Dono hon-o Mary-ga [John-ga t katta koto]-ga mondai da to
 which book-Acc Mary-Nom John-Nom bought fact-Nom problem be that
 omotteiru no?
 think Q
 ‘Which book is it that Mary thinks the fact that John bought it is a problem?’

LS assign a ‘??’-status to these sentences because both examples involve complex NP-island violations, as the *wh*-element is scrambled across a complex NP headed by the noun *koto* (‘the fact that’). Whatever degradation this incurs, extraction out of subjects and objects is equally degraded, suggesting that subjects are not islands in Japanese.

LS’s sentences reveal a general complication in investigating sub-extraction in Japanese. First, the only testing environment for sub-extraction involves complex NPs headed either by *koto* or *no*.⁶ Japanese does not allow bare finite or non-finite sentential subjects. Moreover, there are two other complicating factors that need to be controlled for. First, the examples in (5) differ in that the subject version (5b) involves an additional clause compared to the object version (5a). In (5b), the matrix clause ‘Mary thinks’ is added on top of the clause that includes the sentential subject, while the sentential object resides in the same clause as ‘Mary thinks’ in (5a). (5b) had to have this extra clause in order to exclude the possibility of clause-internal scrambling, which is illustrated in (6):

- (6) a. Dono hon-o [Mary-ga t katta koto]-ga mondai na no?
 which book-Acc Mary-Nom bought fact-Nom problem be Q
 ‘Which book is it that the fact that Mary bought it is a problem?’
- b. [which book [Mary-Nom t bought fact]-Nom problem be Q]?
- c. [[which book [Mary-Nom t bought fact]]-Nom problem be Q]?

The string (6a) could be analyzed as involving cross-clausal scrambling, as in (6b), or it could be analyzed as including scrambling within the *koto*-clause, as in (6c). In the latter analysis, there is no scrambling ‘out of’ a subject. Adding the extra clause blocks this interpretation and guarantees that the *wh*-phrase has undergone long-distance scrambling. This is not the case in (5a), as the fact that ‘which book’ is to the left of ‘Mary’ unambiguously indicates that long-distance scrambling has taken place.

Second, LS do not consider the status of the baseline conditions, i.e. whether there is a contrast between sentential subjects vs. sentential objects without scrambling. This is particularly relevant in the case at hand, as the object but not the subject example involves one level of center-embedding, which notoriously incurs a higher processing cost that leads to a lower acceptability.

To sum up, previous reports on subject islands in Japanese leave open a number of questions. The fact that extraction out of subjects is less degraded than extraction out of adjuncts does not necessarily imply that subject islands do not exist in Japanese. Although the direct comparison between subject and object sub-extraction by LS suggests that there is no contrast, some potentially complicating factors were not controlled for. In addition, many of the pertinent judgments are very subtle, and prone to a considerable amount of inter-speaker variation. In short, the empirical evidence on the absence of subject island effects in Japanese is weak and calls for a more rigorous empirical examination.

⁶ *No*, which is used in (4), also has a nominal status. It is often referred to as a ‘nominalizing complementizer’ (i.e. ‘NL’ in (7e-f)), although it is translated as ‘that’ in this example. It is unclear why this example is not as degraded as the two examples in (5), but it does not seem to be the case that *no* does not induce the CNPC effects because replacing *koto* with *no* does not seem to make (4a) and (4b) any better than ‘??’, i.e. both induce CNPC islands.

3.1. Scrambling and Clefting in Japanese

3.1.1. Participants and method

We took LS's cases as the point of departure but modified them in several ways. The study had a 2x3 design, manipulating the factors SUB/OBJ and movement status (INSITU, SCRAMBLING and CLEFTING). This yields 6 conditions (7a-f):

(7) a. *subject, insitu*

Sono syouzyo-wa [[iziwaruna ane-ga **kuma-no-nuigurumi-o** suteta
 the girl-Top mean sister-Nom **teddy.bear-Acc** dumped
 koto]-ga kenka-no genin da to] uttaeta.
 fact-Nom fight-Gen cause be that claimed

‘The girl claimed [that [the fact that her mean sister dumped her teddy bear] is the cause of the fight].’

b. *object, insitu*

Sono syouzyo-wa [iziwaruna ane₂-ga [PRO₂ **kuma-no-nuigurumi-o** suteta
 the girl-Top mean sister-Nom **teddy.bear-Acc** dumped
 koto]-o naisyo-ni siteita to] uttaeta.
 fact-Acc secret-Dat kept that claimed

‘The girl claimed [that her mean sister₂ kept as a secret [the fact that she₂ dumped her teddy bear]].’

c. *subject, scrambling* (meaning = 7a)

Kuma-no-nuigurumi₁-o sono syouzyo-wa [[iziwaruna ane-ga **t₁** suteta
teddy.bear-Acc the girl-Top mean sister-Nom dumped
 koto]-ga kenka-no genin da to] uttaeta.
 fact-Nom fight-Gen cause be that claimed

d. *object, scrambling* (meaning = 7b)

Kuma-no-nuigurumi₁-o sono syouzyo-wa [iziwaruna ane₂-ga [PRO₂ **t₁** suteta
teddy.bear-Acc the girl-Top mean sister-Nom dumped
 koto]-o naisyo-ni siteita to] uttaeta.
 fact-Acc secret-Dat kept that claimed

e. *subject, clefting*

Sono zyouzyo-ga [[iziwaruna ane-ga **e₁** suteta koto]-ga kenka-no
 the girl-Nom mean sister-Nom dumped fact-Nom fight-Gen
 genin da to] uttaeta no-wa **kuma-no-nuigurumi₁** da.
 cause be that claimed NL-Top **teddy.bear** be

‘It is her teddy bear₁, that the girl claimed [that [the fact that her mean sister dumped e₁] is the cause of the fight].’

f. *object, clefting*

Sono zyouzyo-ga [iziwaruna ane₂-ga [PRO₂ **e₁** suteta koto]-o naisyo-ni
 the girl-Nom mean sister-Nom dumped fact-Acc secret-Dat
 siteita to] uttaeta no-wa **kuma-no-nuigurumi₁** da.
 kept that claimed NL-Top **teddy.bear** be

‘It is her teddy bear₁, that the girl claimed [that her mean sister₂ kept as a secret [the fact that she₂ dumped t₁].’

We constructed 18 item sets (3 tokens per condition for each subject), which were counter-balanced across 6 lists, and combined with 24 stimuli from a different experiment and 36 fillers of all levels of acceptability. Every participant saw a total of 60 items. Twenty-seven native speakers of Japanese (by self assessment) without any prior training in linguistics participated in the study. The study was conducted online using Alex Drummond's *webspr* software (<http://code.google.com/p/webspr/>).

(7a) and (7b) are the subject and object baseline (INSITU) conditions, and the other conditions were created by scrambling or clefting ‘teddy bear’ from inside the sentential subject/object. Here, the number of clauses was controlled for; (7b) involves a sentential object inside the embedded clause

instead of the matrix clause such that the number of embedded clauses is kept constant across subject and object conditions. This, however, results in a sequence of three subjects in the object conditions. Since three subjects in a row approach being unparseable (e.g., Babyonyshev and Gibson 1999), we replaced the lowest subject with a PRO, which is controlled by the second lowest subject (see Fujii 2006, among others, for control phenomena across a finite clause in Japanese), which should facilitate parsing of the object condition sentence. However, this may create a potential garden path effect only for the object conditions, as the reader only discovers that there is a PRO when he or she reaches the end of the second clause. We will return to this issue in the discussion section below.⁷

3.1.2. Results

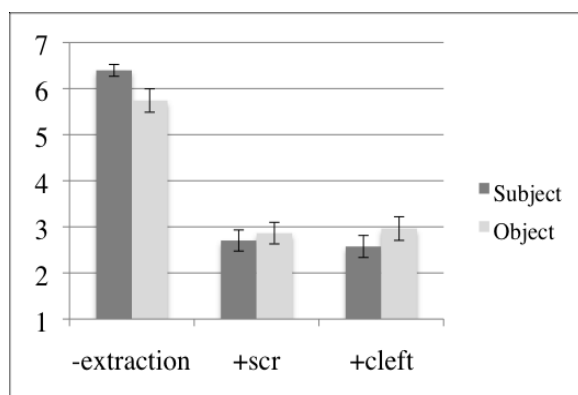


Figure 3 – Mean acceptability ratings Experiment 3

The mean acceptability judgment data are summarized in Figure 3. There is a significant interaction effect between the factors SUB/ OBJ and EXTRACTION ($F(1,80)= 61.366, p<.001$). Pair-wise comparisons confirmed LS's intuitions that there is no significant difference between scrambling out of subjects (2.73) vs. objects (2.85), and no difference between operator movement from subjects (2.57) vs. objects (2.96) in clefts ($t_s<.1$). We do find, however, a significant difference between the baseline conditions, with subjects (6.93) being preferred over objects (5.79) ($t(1,80)=2.9, p=.002$).

3.1.3. Discussion

The lack of a significant difference between scrambling out of subjects vs. scrambling out of objects might tempt us to follow LS in concluding that subject islands do not exist in Japanese. However, once we take the baseline conditions into consideration, a different picture emerges. The object baseline condition (7b), is significantly degraded compared to the subject condition (7a), suggesting that extraction disproportionately affected subjects and objects. While long-distance scrambling causes degradation in both subject and object versions due to the unavoidable CNPC effect induced by *koto*, the acceptability rating in the subject version decreases significantly more than in the object version. We take this to be highly suggestive of the existence of subject islands in Japanese.

What are the origins of the asymmetry between the baseline conditions? We have already hinted above at the potential source. Even though the number of clauses in both conditions is the same, the object condition sentences are significantly more complex than the subject condition sentences. Only the object condition involves center-embedding. This is obviously a disadvantage for the object condition. The object condition also involves three nominal subjects ('girl', 'sister', and PRO controlled by 'sister'). The subject condition involves two nominal subjects: 'girl' and 'sister'. The calculation of the controller of PRO may be an extra burden in the object condition. The parser only realizes that the sentence contains a PRO once it reaches 'kept' at the very end of the sentence. Given these fairly reasonable parsing constraints in the object conditions, it is reasonable that the object baseline condition was rated as significantly less acceptable than the subject baseline condition.

Our study allows us to conclude that subject island effects exist in Japanese, contrary to the majority view in the literature. However, we should be careful to point out that our results are still amenable to alternative interpretations. Our evidence is indirect and relies on the interaction that was resulted from the asymmetry in the baseline conditions. We discussed a number of complicating

⁷ Another minor difference between our examples and LS's is that we scrambled non-wh-phrases rather than wh-phrases. However, this did not seem to affect the pattern of data for our native speaker informants.

factors in Japanese that make it hard to construct ideal stimuli. Nonetheless, given all the extra parsing demands in the object conditions, it seems fair to conclude that the previous arguments for the lack of subject islands in Japanese still warrant further investigation.

4. Conclusion

The results of the three experiments indicate that (i) subject island effects still hold in German and Japanese (and possibly universally), and (ii) a ban on extraction out of subjects cannot be reduced to freezing effects. These results challenge the view that subject island effects should be reduced to freezing effects. After all, Huang's CED still stands, and is an important generalization that must be accounted for by grammatical theories.

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