

Remarks and Replies

Resumptive Pronouns Can Ameliorate Illicit Island Extractions

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Syntax literature reports that resumptive pronouns (RPs) ameliorate island violations, but much psycholinguistics literature has found RPs to be no more acceptable than straightforwardly island-violating gaps, even though island production tasks consistently elicit RPs. However, psycholinguistic studies have typically compared RP and illicit gap conditions indirectly. We posit that RP island amelioration in comprehension is undetectable when participants cannot compare alternative sentences, and thus that the apparent production/comprehension split arises from methodological differences between perception and production experiments.

We present six experiments crossing three island types in two tasks (full-sentence forced choice and forced-choice fill-in-the-blank), manipulating gap location (island vs. nonisland). We find that RPs are preferred in islands and gaps in nonislands ($p = .0001$). This suggests that RPs do ameliorate island violations and that the production/comprehension split is a methodological artifact.

Keywords: resumptive pronouns, island violations, acceptability judgments, amelioration, forced choice

1 Introduction

Whether or not resumptive pronouns (RPs) can ameliorate island violations in English is a controversy that divides the literature into two camps: studies rooted in theoretical syntax, and studies rooted in psycholinguistics. In the syntax literature, it has been claimed that RPs can “repair” island violations (Kroch 1981, Chomsky 1986, McDaniel and Cowart 1999, Creswell 2002; cf. Asudeh 2011). Thus, a *wh*-RP dependency across a syntactic island is said to be more acceptable than a corresponding *wh*-gap dependency across the island, as illustrated in (1).

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- (1) a. *Which man_i did Jane say that [the parent who scolded ____i] forgave the babysitter's mistake?
 b. ?Which man_i did Jane say that [the parent who scolded him_i] forgave the babysitter's mistake?

On the other hand, much of the psycholinguistics literature has found no acceptability contrast between the two types of dependencies in English (e.g., Alexopoulou and Keller 2007, Omaki and Nakao 2010, Heestand, Xiang, and Polinsky 2011, Han et al. 2012, Polinsky et al. 2013), possibly because RPs are “intrusive” in English and consequently not grammatically licit as they are in languages such as Irish and Palestinian Arabic (e.g., Sells 1984, Prince 1990, Erteschik-Shir 1992, Shlonsky 1992). Studies on RPs in English have used Likert scale and magnitude estimation tasks to measure relative acceptability of these constructions in a variety of different island contexts. Curiously, the psycholinguistics literature has frequently found that RPs do not repair island violations in the way the syntax literature predicts.

Against this background, the current study explores whether these distinct and conflicting observations are due to differences in the type of decision probed in the different judgment tasks in the syntax and psycholinguistics literature. To address this question, we conducted a series of controlled experiments similar to the typical minimal-pair comparison used informally in syntactic judgment studies: namely, a binary forced-choice experiment (Myers 2009, Sprouse, Schütze, and Almeida 2013). This methodological choice allowed us to gather a large amount of data, as has been done in studies using scalar rating tasks, while employing a decision format more similar to that used in making the original claims of amelioration.¹ Our aim is that these experiments will serve as a connection between the syntax and psycholinguistics literatures, demonstrating the ameliorative properties of resumptive pronouns on island violations in several syntactic contexts. We will also speculate briefly about why these results were not observed in psycholinguistic studies that did not afford participants an opportunity to compare island-violating dependencies with RPs to those with gaps.

2 Resumptive Pronouns

Previous studies have reported that RPs can salvage island violations (Ross 1967, Kroch 1981, McKee and McDaniel 2001), ease processing difficulty (Prince 1990, Asudeh 2004), and/or increase referent accessibility (Ariel 1999). Among others, Asudeh (2004) emphasizes that RPs reduce processing cost and tend to occur in long, complex sentences and when substantial additional material intervenes between an extracted noun and the tail of its dependency (e.g., Erteschik-Shir 1992, Dickey 1996, Hofmeister and Norcliffe 2013).

¹ Our use of *amelioration* will refer to the effect measured by acceptability judgments. This effect may be considered distinct from *repair*, which we take to indicate a process whereby a fully ungrammatical construction is altered to become fully grammatical.

Many psycholinguistic studies in English have addressed the relative acceptability of RPs in island contexts, although there is no clear consensus on the role that RPs may play in the production or comprehension process (cf. Asudeh 2004, 2011, Ferreira and Swets 2005, Clemens et al. 2012, Han et al. 2012). Various acceptability-rating studies, which used tasks such as Likert scale rating (Heestand, Xiang, and Polinsky 2011, Polinsky et al. 2013) and magnitude estimation (Alexopoulou and Keller 2007, Omaki and Nakao 2010), have shown no difference in acceptability between gaps and RPs across islands. On the other hand, Ferreira and Swets (2005) have shown that in island violation contexts, sentences with RPs were produced more often than sentences with gaps, even when speakers were given time to plan their utterances.

It has been suggested that at least in otherwise highly taxing environments, such as in deeply embedded sentences, intrusive RPs serve as a sort of (ungrammatical but informative) signpost for the processing mechanism (Hofmeister and Norcliffe 2013). In other words, by overtly expressing the tail of a *wh*-dependency, an RP can relieve some of the cognitive load on the speaker's limited resources in situations where incremental production (or, potentially, comprehension) would benefit from an overt link to the position that triggered the dependency search (Ferreira and Swets 2005). This argument has typically been made in reference to RPs located in positions that grammatically permit a gap, but such a mechanism may also be consistent with a limited local comprehension mechanism (Asudeh 2004, Beltrama and Xiang 2016).

3 Experiments

One previously unexplored explanation for the fact that RPs show such divergent effects is that the difference in acceptability between RP sentences and gap sentences is normally quite subtle in terms of what rating tasks are able to measure. When native speakers make acceptability judgments for these sentences, they normally report that the difference is unclear but that RP-island-extraction sentences feel somewhat better than gap-island-extraction sentences (Keffala 2013). It is possible that the island-amelioration effects of RPs are sufficiently weak that gradient acceptability-rating tasks are not sensitive enough to detect them. To test this possibility, we adopted a binary forced-choice paradigm. In forced-choice (FC) tasks, minimal pairs are presented to the participants, who are asked to select the option that is more acceptable. It has been reported that binary FC tasks are more sensitive than gradient rating tasks for detecting differences among experimental conditions and more statistically powerful than other tasks (Myers 2009, Schütze and Sprouse 2014, Sprouse and Almeida 2014). This may be due to the forced nature of the task; participants cannot choose to select neither option (or both options) or abstain from choosing. This feature of the binary FC task does not, however, preclude participants from selecting an option at random, which could produce a split between the two options at chance levels.² In this way, there are three logical outcomes: (1) the first option could be chosen more frequently than the second, (2) the second option could be chosen more frequently than the first, or (3) there could be no statistical difference in choices. Because of the limited number of outcomes in this

² Alternatively, other pressures on the participants could result in an unintended bias that could push what "chance" is in one direction or another (Dhar and Simonson 2003).

paradigm, it should offer a maximal chance of detecting subtle contrasts that may have been obscured by more gradient acceptability-rating analyses (Sprouse, Schütze, and Almeida 2013).

We conducted two types of FC experiments. One type used a full-sentence FC task in which two sentences were presented as a pair and participants were asked to choose which of the two was more acceptable. The other type used a binary-choice fill-in-the-blank (FiB) task, in which two minimally different phrases were presented below a sentence with an underlined blank. Participants were instructed to choose which phrase best filled in the blank to complete the sentence. The use of both FC and FiB tasks allowed the possibility of within-study replication, since each set of stimuli was presented to a group of participants, each of which completed one of the two tasks, and the two groups did not overlap. Thus, if the two tasks give rise to similar results (across participants), the conclusions drawn will be stronger.

3.1 Design and Stimuli

We conducted three binary FC experiments and three binary FiB experiments, each pair of which tested the following island environments: relative clause islands (RC islands) (Creswell 2002, Heestand, Xiang, and Polinsky 2011, Han et al. 2012, Polinsky et al. 2013), adverbial clause adjunct islands (adjunct islands) (Heestand, Xiang, and Polinsky 2011, Polinsky et al. 2013), and *wh*-islands (McDaniel and Cowart 1999, Alexopoulou and Keller 2007). The experiments manipulated the factor of Island (Island vs. Nonisland). In the Island condition, the gap or RP was located in an object position within an island (an illicit extraction site). In the Nonisland condition, the gap or RP was not located inside an island; instead, it was in an object position close to the end of the sentence (a licit extraction site). For example, in the RC island in (2), the gap or RP is embedded inside the relative clause in (2a) and in a nonisland environment (the matrix clause in this case) in (2b).

(2) a. *Island*

Which woman did Carlos report that [_{island} the newscaster who exposed **her/Ø**] threatened the detective's case?

b. *Nonisland*

Which woman did Carlos report that [_{island} the newscaster who exposed the criminal] threatened **her/Ø**?

In the FC task, the two sentences were presented together, as illustrated in (3), and the participants were asked to choose the more acceptable sentence of the pair.

(3) Which woman did Carlos report that the newscaster who exposed threatened the detective's case?

Which woman did Carlos report that the newscaster who exposed her threatened the detective's case?

In the FiB task, only one sentence was presented, containing a blank indicated by an underline. In this experiment, the blank always corresponded to the verb phrase. Two phrases were presented directly below the sentence, as in (4).

b. *Nonisland condition*

Which woman did Carlos report that, when the newscaster exposed the detective's case, the criminal threatened?

Which woman did Carlos report that, when the newscaster exposed the detective's case, the criminal threatened her?

(7) *Wh-island*a. *Island condition*

Which woman did Carlos question how the newscaster exposed?

Which woman did Carlos question how the newscaster exposed her?

b. *Nonisland condition*

Which woman did Carlos report that the newscaster exposed?

Which woman did Carlos report that the newscaster exposed her?

What is predicted for these manipulations? First, we consider a hypothesis derived from the bulk of the literature that uses acceptability-rating tasks: RPs in object positions do not ameliorate island violations because the acceptability of RP sentences and gap sentences in island-violating contexts does not differ. In this case, we expect that participants will not display a preference for the sentences with an RP in an island. Consequently, their selection of one option or another will be at chance and will reflect the lack of amelioration seen in previous acceptability-rating studies. This is because, under this hypothesis, the acceptability of the sentence is not affected by the choice of an RP or a gap. Second, if the RP's presence is sensitive to island contexts (i.e., if RPs are employed specifically to ameliorate island violations and are not acceptable outside of this context), then we expect RPs to be chosen significantly less often than gaps in the Nonisland conditions, where gaps are licit. However, if RPs are sensitive to the complexity or other cognitively costly property of the intervening sentence regardless of whether an island is violated or not, then we expect a high rate of RP selection even in Nonisland conditions. Since gaps are licit in the Nonisland condition, we do not necessarily expect RP selection to exceed gap selection in this case, although it is a possibility. If RPs are a preferred method of recalling the tail of a long dependency (Hofmeister and Norcliffe 2013), then they may be preferred to gaps at the end of a highly complex sentence.

3.2 Results and Discussion

Results were analyzed using logistic regression, with random slopes of item and subject (binomial general linear mixed models fit by Laplace approximation, with maximally expanded random effects structures that allowed convergence)⁴ (Barr et al. 2013, Bates et al. 2015). Binomial data from the FC selection were coded with a 0 for a selection containing a gap and 1 for a selection

⁴ Since the maximal models did not converge, random effects were removed until the model did converge. Incidentally, all LMER models converged in the following template:

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lmer(choice ~ condition + (1 | subj) + (1 | item), data = data).
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To determine *p*-value, this model was compared with an ANOVA to a reduced model with *condition* removed.

containing an RP. These data were then centered on 0 in order to prevent miscalculations due to anomalies introduced by the character 0 (Agresti 2002). The fixed effect was the condition (Island or Nonisland), with random intercepts of subject and item. It may be noted that FC paradigms consistently distinguish between two options that differ in scalar rating paradigms (Sprouse, Schütze, and Almeida 2013). Additionally, a 1-sample proportions test with continuity correction was used to determine whether the proportion of RP or gap selections chosen within a given condition was significantly different from chance, with the test value set at .5.⁵ This analysis should determine whether a preference for one option over the other was consistently expressed, or whether no preference was expressed. The rate of RP/gap selections in each experiment is summarized in table 1, and the statistical analyses of the results are summarized in table 2.

As depicted in figure 1, the analysis revealed that there was a main effect of Island in all three experiments, indicating that RPs were selected at a higher rate in Island conditions than in

Table 1

Proportion of resumptive pronoun selections by island type. (RC = relative clause; RP = resumptive pronoun)

	Conditions	RP%	CI (95%)
Forced choice			
RC island	Island	82	77–87
	Nonisland	38	32–44
Adjunct island	Island	79	73–84
	Nonisland	57	50.4–63
<i>Wh</i> -island	Island	63	56–69
	Nonisland	13	9–18
Fill-in-the-blank			
RC island	Island	80	74–85
	Nonisland	25	19–31
Adjunct island	Island	80	74–85
	Nonisland	51	44–57
<i>Wh</i> -island	Island	60	53–66
	Nonisland	11	7–16

⁵ In a chi-square test for homogeneity, an observed proportion in a sample population (e.g., number of RP selections) can be compared to an expected proportion (e.g., chance level is set at 50%). In this case, we compared the observed proportion in one condition to the chance level of 50% and found that in all but one condition, the observed proportion was significantly different from chance. A binomial analysis was performed and reported to compare the RP and gap conditions for each experiment, so a proportions test supplements our analysis to show that in the vast majority of conditions reported (all but one), we are justified in saying that the participants were not choosing at random.

The details of how this statistical test is structured can be found at <https://stat.ethz.ch/R-manual/R-devel/library/stats/html/prop.test.html>.

Table 2

Summary of analyses. (RC = relative clause)

	Main effect of island	Condition	Chance level of performance?
Forced choice			
RC island	$\beta = -0.44$, SE = 0.04, $\chi^2(1) = 126.3$, $p = .0001$	Island	No: $\chi^2(1) = 97.5$, $p = .0001$, 95% CI = 77–87
		Nonisland	No: $\chi^2(1) = 13.54$, $p = .001$, 95% CI = 32–44
Adjunct island	$\beta = 0.22$, SE = 0.04, $\chi^2(1) = 34.1$, $p = .0001$	Island	No: $\chi^2(1) = 77.22$, $p = .0001$, 95% CI = 73–84
		Nonisland	No: $\chi^2(1) = 4.28$, $p = .038$, 95% CI = 50.4–63
<i>Wh</i> -island	$\beta = -0.49$, SE = 0.03, $\chi^2(1) = 168.4$, $p = .0001$	Island	No: $\chi^2(1) = 14.5$, $p = .0001$, 95% CI = 56–69
		Nonisland	No: $\chi^2(1) = 128.7$, $p = .0001$, 95% CI = 9–18
Fill-in-the-blank			
RC island	$\beta = -0.55$, SE = 0.04, $\chi^2(1) = 197.5$, $p = .0001$	Island	No: $\chi^2(1) = 85.2$, $p = .0001$, 95% CI = 74–85
		Nonisland	No: $\chi^2(1) = 61.0$, $p = .0001$, 95% CI = 19–31
Adjunct island	$\beta = 0.29$, SE = 0.04, $\chi^2(1) = 56.1$, $p = .0001$	Island	No: $\chi^2(1) = 84.4$, $p = .0001$, 95% CI = 74–85
		Nonisland	Yes: $\chi^2(1) = 0.04$, $p > .1$, 95% CI = 44–57
<i>Wh</i> -island	$\beta = 0.49$, SE = 0.03, $\chi^2(1) = 169.0$, $p = .0001$	Island	No: $\chi^2(1) = 9.2$, $p = .002$, 95% CI = 53–66
		Nonisland	No: $\chi^2(1) = 145.7$, $p = .0001$, 95% CI = 7–16

Nonisland conditions, overall. In fact, RPs were chosen significantly more often than gaps in the Island condition in all experiments, and gaps were chosen significantly more often than RPs in the Nonisland conditions, except in the adjunct island experiment. In the adjunct island FC experiment, RPs were chosen significantly more often than gaps across the board, although there was still a distinct preference for RPs in the Island condition compared with the Nonisland condition. The same overall pattern can be seen in the adjunct island FiB experiment, but the difference between RP and gap selection in the Nonisland condition was not significant, with RPs and gaps selected approximately in equal proportions. The result of the 1-sample proportions test shows that all other conditions displayed significant differences in RP and gap selection and thus that these differences in preference are reliable across island types and task types. That is, participants were consistently expressing a preference for RPs over gaps in islands across the three island contexts and two task types.

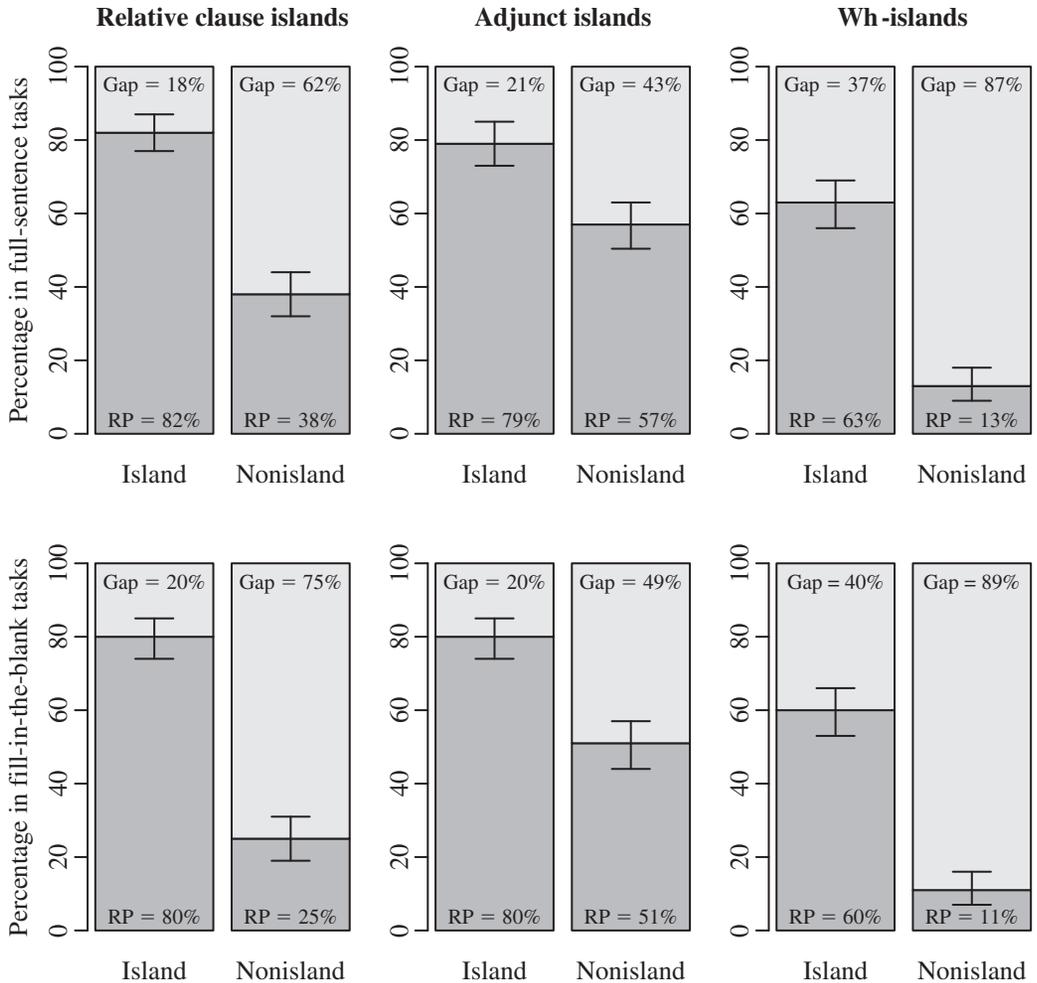


Figure 1

Proportion of resumptive pronoun (RP)/gap selections for each island and task type

4 General Discussion

Our experiments revealed four main findings. First, the consistent preference for RPs in island contexts across all experiments indicates that RPs indeed improve island-violating sentences compared to the corresponding gaps. This is consistent with the island-amelioration effects reported in the syntax literature. Second, that a strong preference for RPs was seen in the island contexts in both FC and FiB tasks supports our claim that RPs can ameliorate island violations in compre-

hension tasks,⁶ contrary to the suggestions by Ferreira and Swets (2005), Heestand, Xiang, and Polinsky (2011), and Han et al. (2012). Third, the observation that gaps were not preferred in the Nonisland context in the adjunct island experiments is compatible with the claim that RPs appear at the tails of long dependencies or in deeply embedded structures (e.g., Dickey 1996, Asudeh 2011). However, that a similar dispreference for gaps was not shown in the Nonisland conditions in the *wh*- and RC island experiments could be problematic for this explanation, unless the center-embedded structure created by the adjunct clause somehow specifically triggers the process by which nonisland RPs are produced (and sometimes accepted). If this is the case, the absence of a preference for gaps in the Nonisland condition of the adjunct island experiment could be attributed to the relatively increased complexity of the material that intervenes between the extracted materials and the (licit) gap, or possibly to the embedded nature of the adjunct clause (cf. Hofmeister and Norcliffe 2013, for RPs in center-embedded contexts).⁷ Fourth, the result of these experiments overall suggests that RPs may indeed improve island-violating sentences, contrary to the conclusions of many previous acceptability-rating studies. In the FC tasks, specifically, the participants were asked to choose the sentence that was more acceptable, to make the task as similar as possible to more traditional acceptability judgments. Furthermore, as we have discussed, it is possible that the RP island-amelioration effect is subtle or weak. The fact that a clear effect of island amelioration can be seen in the FC and FiB tasks, despite the paucity of positive results in more gradient comprehension tasks and the sensitivity and statistical power of FC tasks, supports this position (Myers 2009, Sprouse, Schütze, and Almeida 2013).

Although RPs may not rescue island violations completely, the results of the reported experiments strongly indicate that they do improve island-violating sentences. In what follows, we discuss the possible interpretations of such results.

Our study found a substantial and reliable preference for RPs over gaps in islands, which is problematic for the claim that object-extracted RPs are always unacceptable in English. How can an RP be as unacceptable as an object-extracted illicit gap, yet be preferred to the corresponding gap?⁸ One possibility is that RPs do improve island violations, but that RPs and gaps have

⁶ We treat the FiB task as a comprehension task, although it might also have a production component. We do so because participants only get two choices of words/phrases to put in the blank, so they must read and comprehend both in order to select one.

⁷ We cannot resolve this issue with the data at hand; see the explanations offered in Dickey's (1996) Strategic Shunting Hypothesis and Asudeh's (2011) Lexical-Functional Grammar-based account. But this point is not central to the present study, and we leave it for future investigations.

⁸ An anonymous reviewer suggests that preference between two forms and relative acceptability of those forms are not necessarily related measures. While we agree with this observation, we believe that treating gradient acceptability ratings and FC preferences as related is a reasonable first step to take in uniting the results of this study with the literature at large. In particular, it is possible that *preference* measures frequency in colloquial language (Arppe and Järviö 2007). This confounds questions about individual variation in the grammar with questions about population-level trends, which might include stylistic and pedagogic influences. That is, the surface-level observations might be equated with the underlying source of the pattern. However, if we follow the extensive literature suggesting that RPs in English are ungrammatical, we must ask *why* a preference would be apparent in a reading task when it has only been reliably detected in production tasks in the past. Our answer, at least for now, is that a preference for RPs detected in an FC task *could* reflect a higher frequency of RPs than gaps in colloquial language. However, this would have to be squared with the theories of language processing that prevent the parser from coming to a globally coherent analysis of RPs and predict their uniform unacceptability in gradient rating tasks. In other words: why should readers or speakers have a preference here if there is no possibility of a processing benefit?

indistinguishably similar acceptability ratings. This could be due to a floor effect in which any sentence containing an island violation is necessarily rated at floor, independent of whether the island contains an RP or a gap. Alternatively, it could be due to a ceiling effect in which sentences with island violations are never rated higher than a certain value, so even though RPs are perceived as better than gaps, their ungrammaticality prevents participants from expressing this nuanced reaction. Another way of conceptualizing this possibility is that RPs do show the rescuing (or otherwise ameliorating) effect for island violations, as some previous studies suggest (McDaniel and Cowart 1999, Creswell 2002). However, the effect of RPs is not enough to be detected in gradient rating studies, in which the ratings are compressed in the lowest part of the scale, even in more flexible tasks such as magnitude estimation. That is, a ceiling effect may be preventing any distinction from obtaining between the gap and RP conditions in studies such as Heestand, Xiang, and Polinsky's (2011; and see works cited therein), in conjunction with a floor effect preventing a more nuanced distinction between different flavors of ungrammaticality. It is not clear how fruitful an inquiry into distinguishing different "types" of unacceptable ratings would be for the question at hand, since that question is no longer directed at the syntax or processing of resumptive pronouns, but rather at what acceptability-rating tasks are capable of detecting on a fundamental level.

Another possibility is that the observed unacceptability of RPs is due to their ungrammaticality, but that some influence of processing increases their acceptability as compared with gaps in island contexts. In other words, if one must (ungrammatically) extract material from an object position within an island, an RP is better than a gap for both the speaker and the listener. On the other hand, this is potentially incompatible with processing theories that account for the production of RPs by (local) evaluation mechanisms that allow for production of RPs but reject RPs in (global) analysis (e.g., Dickey 1996, Asudeh 2011, Beltrama and Xiang 2016). Given these types of theories, it is not clear how RPs could elicit a consistent and reliable preference over gaps during reading-based tasks. This is because the mechanism that prevents RPs' acceptability should not be able to distinguish between gaps and RPs in terms of their ungrammaticality during comprehension. That is, under this hypothesis, the robust preference for RPs in island contexts we have reported is unexpected.

5 Conclusion

Contra claims that RPs have no ameliorative effect in comprehension and only serve a processing purpose in production, both our FC task and our FiB task detected a strong preference for RPs in islands. Requiring participants to choose a sentence in each pair, regardless of "goodness" relative to some fully, incontrovertibly grammatical sentence, may have magnified the relatively weak acceptability differences between gaps and RPs in island-violating contexts. In sum, our observations refute the claim that RPs are as dispreferred as gaps in island contexts. In conjunction with other recent studies, however, we suggest that differences in the types of tasks used to obtain readers' judgments may account for this discrepancy in the literature.

References

- Agresti, Alan. 2002. *Categorical data analysis*. 2nd ed. Hoboken, NJ: Wiley.
- Alexopoulou, Theodora, and Frank Keller. 2007. Locality, cyclicity, and resumption: At the interface between the grammar and the human sentence processor. *Language* 83:110–160.
- Ariel, Mira. 1999. Cognitive universals and linguistic conventions: The case of resumptive pronouns. *Studies in Language* 23:217–269.
- Arppe, Antti, and Juhani Järviö. 2007. Every method counts: Combining corpus-based and experimental evidence in the study of synonymy. *Corpus Linguistics and Linguistic Theory* 3:131–159.
- Asudeh, Arshia (Ash). 2004. Resumption as resource management. Doctoral dissertation, Stanford University, Palo Alto, CA.
- Asudeh, Ash. 2011. Local grammaticality in syntactic production. In *Language from a cognitive perspective: Grammar, usage, and processing*, ed. by Emily Bender and Jennifer Arnold, 51–79. Stanford, CA: CSLI Publications.
- Barr, Dale J., Roger Levy, Christoph Scheepers, and Harry J. Tily. 2013. Random effects structure for confirmatory hypothesis testing: Keep it maximal. *Journal of Memory and Language* 68:255–278.
- Bates, Douglas, Reinhold Kliegl, Shravan Vasishth, and Harald Baayen. 2015. Parsimonious mixed models. *arXiv preprint arXiv:1506.04967*.
- Beltrama, Andrea, and Ming Xiang. 2016. Unacceptable but comprehensible: The facilitation effect of resumptive pronouns. *Glossa* 1(1):29. <http://doi.org/10.5334/gjgl.24>.
- Chomsky, Noam. 1986. *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Clemens, Laurel E., Adam A. Morgan, Maria Polinsky, and Ming Xiang. 2012. Listening to resumptives: An auditory experiment. Paper presented at the 25th Annual CUNY Conference on Human Sentence Processing (CUNY 25), City University of New York, 14–16 March.
- Creswell, Cassandre. 2002. Resumptive pronouns, *wh*-island violations, and sentence production. In *Proceedings of the Sixth International Workshop on Tree Adjoining Grammar and Related Frameworks (TAG+6)*, 40–47. Association for Computational Linguistics.
- Dhar, Ravi, and Itamar Simonson. 2003. The effect of forced choice on choice. *Journal of Marketing Research* 40:146–160.
- Dickey, Michael Walsh. 1996. Constraints on the sentence processor and the distribution of resumptive pronouns. In *University of Massachusetts occasional papers in linguistics 19: Linguistics in the laboratory*, ed. by Michael Walsh Dickey and Susanne Tunstall, 157–192. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Erteschik-Shir, Nomi. 1992. Resumptive pronouns in islands. In *Island constraints: Theory, acquisition, and processing*, ed. by Helen Goodluck and Michael Rochemont, 89–108. Dordrecht: Kluwer.
- Ferreira, Fernanda, and Benjamin Swets. 2005. The production and comprehension of resumptive pronouns in relative clause “island” contexts. In *Twenty-first century psycholinguistics: Four cornerstones*, ed. by Anne Cutler, 263–278. Mahwah, NJ: Lawrence Erlbaum.
- Han, Chung-hye, Noureddine Elouazizi, Christina Galeano, Emrah Görgülü, Nancy Hedberg, Jennifer Hinnell, Meghan Jeffrey, Kyeong-min Kim, and Susannah Kirby. 2012. Processing strategies and resumptive pronouns in English. In *WCCFL 30: Proceedings of the 30th West Coast Conference on Formal Linguistics*, ed. by Nathan Arnett and Ryan Bennett, 153–161. Somerville, MA: Cascadilla Press.
- Heestand, Dustin, Ming Xiang, and Maria Polinsky. 2011. Resumption still does not rescue islands. *Linguistic Inquiry* 42:138–152.
- Hofmeister, Philip, and Elisabeth Norcliffe. 2013. Does resumption facilitate sentence comprehension? In *The core and the periphery: Data-driven perspectives on syntax inspired by Ivan A. Sag*, ed. by Philip Hofmeister and Elisabeth Norcliffe, 225–246. Stanford, CA: CSLI Publications.
- Keffala, Bethany. 2013. Resumption and gaps in English relative clauses: Relative acceptability creates an illusion of ‘saving’. In *Proceedings of the 37th Annual Meeting of the Berkeley Linguistics Society*, ed. by Chundra Cathcart, I-Hsuan Chen, Greg Finley, Shinae Kang, Clare S. Sandy, and Elise Stickles, 140–154. Berkeley: University of California, Berkeley Linguistics Society.

- Kroch, Anthony. 1981. On the role of resumptive pronouns in amnestying island constraint violations. In *Papers from the 17th Regional Meeting, Chicago Linguistic Society*, ed. by Roberta A. Hendrick, Carrie S. Masek, and Mary Frances Miller, 125–135. Chicago: University of Chicago, Chicago Linguistic Society.
- McDaniel, Dana, and Wayne Cowart. 1999. Experimental evidence for a Minimalist account of English resumptive pronouns. *Cognition* 70:B15–B24.
- McKee, Cecile, and Dana McDaniel. 2001. Resumptive pronouns in English relative clauses. *Language Acquisition* 9:113–156.
- Myers, James. 2009. Syntactic judgment experiments. *Language and Linguistics Compass* 3:406–423.
- Omaki, Akira, and Chizuru Nakao. 2010. Does English resumption really help to repair island violations? *Snippets* 21:11–12.
- Polinsky, Maria, Lauren E. Clemens, Adam M. Morgan, Ming Xiang, and Dustin Heestand. 2013. Resumption in English. In *Experimental syntax and island effects*, ed. by Jon Sprouse and Norbert Hornstein, 341–359. New York: Cambridge University Press.
- Prince, Ellen. 1990. Syntax and discourse: A look at resumptive pronouns. In *Proceedings of the Sixteenth Annual Meeting of the Berkeley Linguistics Society: Parasession on the legacy of Grice*, ed. by Kira Hall, Jean-Pierre Koenig, Michael Meacham, Sondra Reinman, and Laurel A. Sutton, 482–497. Berkeley: University of California, Berkeley Linguistics Society.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral dissertation, MIT, Cambridge, MA. [Published as *Infinite syntax!* Norwood, NJ: Ablex, 1986.]
- Schütze, Carson T., and Jon Sprouse. 2014. Judgment data. In *Research methods in linguistics*, ed. by Robert Podesva and Devyani Sharma, 27–50. New York: Cambridge University Press.
- Sells, Peter. 1984. Syntax and semantics of resumptive pronouns. Doctoral dissertation, University of Massachusetts at Amherst.
- Shlonsky, Ur. 1992. Resumptive pronouns as a last resort. *Linguistic Inquiry* 23:443–468.
- Sprouse, Jon, Carson T. Schütze, and Diogo Almeida. 2013. A comparison of informal and formal acceptability judgments using a random sample from *Linguistic Inquiry* 2001–2010. *Lingua* 134:219–248.

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