

Condition C reconstruction, clausal ellipsis and island repair

Masaya Yoshida¹ · David Potter² · Tim Hunter³

Received: 13 August 2016 / Accepted: 1 July 2018 / Published online: 6 November 2018 © Springer Nature B.V. 2018

Abstract This paper makes two related but distinct claims concerning the relationship between islandhood and the clausal ellipsis construction known as stripping. The first claim is that (at least a certain version of) this construction is island insensitive: no unacceptability results from having a correlate inside an island. This claim is supported by evidence from a formal acceptability judgment study. The second claim concerns the question of how to best account for this phenomenon of islandinsensitivity in stripping: we claim that this island-insensitivity is best explained via the notion of island-repair, i.e., the ellipsis site involves the structure of island yet the ellipsis operation ameliorates island violations as opposed to the alternatives that have been dubbed evasion approaches. By this we mean that the island-insensitivity cannot be explained by positing a smaller, non-island structure in the ellipsis site; while this approach does of course explain the lack of an island effect, we show that it is incompatible with other facts about the crucial example sentences. If we instead assume that movement out of an island is grammatical if the island is properly contained inside a clausal ellipsis site, then positing a complete island structure inside the ellipsis site can explain all the properties of these crucial examples.

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    M. Yoshida
m-yoshida@northwestern.edu
    D. Potter
d.potter@moreheadstate.edu
    T. Hunter
timhunter@ucla.edu
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- ¹ Department of Linguistics, Northwestern University, 2016 Sheridan Road, Evanston, IL 60208, USA
- ² Department of English, Morehead State University, 103 Bert Combs Bldg., Morehead, KY 40351, USA
- ³ Department of Linguistics, University of California Los Angeles, 3125 Campbell Hall, Los Angeles, CA 90095, USA

Keywords Stripping \cdot Clausal ellipsis \cdot Island \cdot Island-repair \cdot Condition C reconstruction

1 Introduction

The aim of this study is to show that clausal ellipsis can repair island violations, in at least certain cases. We aim to provide formal experimental results supporting the claim that there exist cases where the clausal ellipsis site is associated with the full structure of the antecedent clause and island violating movement of the remnant is possible. Specifically, we make two related but distinct claims concerning the relationship between islandhood and the clausal ellipsis construction known as stripping (Hankamer and Sag 1976; Bosque 1984; Reinhart 1991; Fukaya and Hoji 1999; Depiante 2000; Merchant 2004; Nakao 2009; Ortega-Santos et al. 2014; Yoshida et al. 2015 among many others). The first claim is that (at least a certain version of) this construction is island insensitive (pace Reinhart 1991; Depiante 2000 among others): no unacceptability results from having a correlate (the antecedent for the phrase that survives the ellipsis, the remnant) inside an island. This claim is supported by evidence from a formal acceptability judgment study. The second claim concerns the question of how to best account for this phenomenon of island-insensitivity in stripping: we claim that this islandinsensitivity is best explained via the notion of island-repair, i.e., the ellipsis site involves the structure of island yet the ellipsis operation ameliorates island violations (Ross 1969; Lasnik 2001, 2005; Merchant 2001, 2004; Fox and Lasnik 2003; Lasnik and Park 2003; Hornstein et al. 2007; Rottman and Yoshida 2013; Merchant et al. 2013 among others),¹ as opposed to the alternatives that have been dubbed *evasion* approaches (Barros 2012; Barros et al. 2014; Vicente to appear).² By this we mean that the island-insensitivity cannot be explained by positing a smaller, non-island structure in the ellipsis site (Pollmann 1975; Erteschik-Shir 1977; Abels 2011; Barros 2012; Barros et al. 2014 among others, see also Merchant 2001; Lasnik 2005 for related discussions); while this approach does of course explain the lack of an island effect (since there is no island structure within the ellipsis site), we will show that it is incompatible with other facts about the crucial example sentences.³ If we instead assume that movement out of an island is grammatical if the

¹Note, there is an important experimental investigation on the structure of Stripping in the literature. Merchant et al. (2013), like the present study, have experimentally investigated fragment answers (or the corrective stripping) in German. They document that when the fragment answer corresponds to the object of the preposition, German speakers prefers to retain a preposition than omitting a preposition in German fragment answers. If the ban on P-stranding in no-P-stranding language (like German) (Merchant 2001) is due to the islandhood of Prepositional Phrase (PP), then what Merchant et al. (2013) is showing is the island effect under ellipsis. Thus, they also show that the ellipsis site involves the structure of islands.

 $^{^{2}}$ Note, Ross (1969) originally did not claim that island violating sluicing is totally acceptable. Rather he claims: "it is perceived to be less ungrammatical" (Ross 1969:276). In this study, however, we follow the standardly reported judgment and we assume that island violations are acceptable under sluicing.

³We do not aim to show exactly how the ellipsis process 'repairs' island violations. The goal of this study is to simply point out that there are cases where the ellipsis site in certain stripping constructions should involve the structure of islands, not alternative non-island sources, suggesting that some version of an island-repair theory is necessary.

island domain is contained within the clausal-ellipsis site, then positing a complete island structure inside the clausal-ellipsis site can explain all the properties of these crucial examples.

In Sect. 2 we review claims concerning the island (in)sensitivity of stripping, and present new evidence that a certain kind of stripping construction is indeed island insensitive (like sluicing). That finding serves as the starting point for the theoretical contribution of the paper, in Sect. 3: we consider two distinct kinds of explanations for this insensitivity to islands (repair approaches and evasion approaches), and present an argument that in certain specific instances an evasion approach cannot be correct because we can detect the presence of material in the ellipsis site that evasion approaches argue is not there.

2 Stripping and islands

In a simple example of stripping (or *Bare Argument Ellipsis*: Hankamer and Sag 1976; Bosque 1984; Reinhart 1991; Fukaya and Hoji 1999; Depiante 2000; Merchant 2004; Nakao 2009; Ortega-Santos et al. 2014; Yoshida et al. 2015 among many others), a fragmental clause which involves an NP or PP and a focus particle (e.g., *only, also, even, too*, etc.), modal adverb (e.g., *always, possibly*, etc.) or polarity marker (e.g., *not*), is coordinated to a full clause (henceforth, *the intra-sentential stripping*), or in an independent utterance in a dialog (henceforth *the inter-sentential stripping*) as in the examples in (1).

a. Mary sent a text to Bill, but not to David
 A: Mary sent a text to Bill. B: Right, not to David.

In order to describe the properties of stripping, we adopt the following terminology. We call the full clause that serves as the antecedent of the fragmental clause the *antecedent clause* (in (1), it is *Mary sent a text to Bill*). The fragmental clause (*not to David*, in (1)) is called the *stripped clause*. The element in the stripped clause which is not a focus particle, a modal adverb, or a polarity marker, is called the *remnant* (*to David*, in (1)). The constituent in the antecedent clause that corresponds to the remnant is called the *correlate* (*to Bill*, in (1)). Following suggestions in some previous studies, we assume that in the stripped clause, the remnant is elided (Depiante 2000; Merchant 2004; Nakao 2009; Ortega-Santos et al. 2014; Yoshida et al. 2015 among many others). For concreteness, we tentatively assume that the landing site of the remnant is Spec_CP (or one of the CPs within the split CP system proposed by Rizzi 1997: see Merchant 2004; Baltin 2010; van Craenenbroeck 2012; Ortega-Santos et al. 2014; Yoshida et al. 2015 for related discussion).

2.1 Clausal ellipsis and island sensitivity

There is disagreement over whether stripping is island sensitive. At issue is whether cases of stripping where the correlate appears inside an island are degraded relative to non-island counterparts; in other words, whether there is a difference in acceptability

between the two stripping examples in (2) analogous to the difference in acceptability between the two overt movement (specifically clefting, which involves movement of the focused phrase) examples in (3).⁴

- (2) a. Ann: James met [NP the journalist [CP who got a commissioned piece]]. Bill: No, a salaried position.
 - Ann: James heard [CP that the journalist got <u>a commissioned piece</u>].
 Bill: No, a salaried position.
- (3) a. *It was a salaried position that James met [NP the journalist [CP who got t_{NP}]].
 - b. It was a salaried position that James heard [CP that the journalist got t_{NP}].

Some previous studies have reported that certain forms of stripping are sensitive to islands, unlike sluicing (Merchant 2004; Griffiths and Lipták 2014). Recent studies, however, have called into question the validity of these empirical claims. Weir (2014:204) finds the Contrastive Stripping examples in (4) to be acceptable. Likewise, Barros et al. (2014:4) note that in an informal judgment experiment, linguists found examples like those in (5) to be acceptable. Merchant (2004:709) mentioned that several types of fragments similar to the implicit questions he discusses demonstrate island insensitivity.⁵ These include corrective constructions, which example (5b) would seem to exemplify.

(4)	a.	Q: Do they grant [NP scholarships to students [CP that study \backsim		
		[Spanish]]]? ⁶		
		A: No, French. (relative clause)		
	b.	Q: Do you take [NP[NP milk] and [NP - honey]] in your tea? A: No, sugar. (coordinate structure)		
(5)	a.	A: Did they hire [NP someone [CP who works on French (last year)]]? B: No. German		

b. A: Did they leave [CP because you offended Mary]?B: ?No, Sarah.

Griffiths and Lipták (2014) claim that the key factor that controls island sensitivity in ellipsis is *Contrastivity*. In Contrastive Stripping, the remnant and correlate are contrastively focused, each in a subset relationship to some contextually relevant set of alternatives. In Non-Contrastive Stripping, the remnant and correlate are not con-

⁴In some previous literature (for example Griffiths and Lipták 2014), something like (2a–b) are referred to as "fragments," but we will use the term "stripping" in this study. We assume that most of the time the term "fragment" and "stripping" are interchangeable.

⁵Merchant (2004) notes that constructions such as correctives and multi-speaker cooperative sentence construction and certain confirmatory, clarificational, elaborative fragments are island insensitive (see Hoji and Fukaya 2001 for related discussion and Ortega-Santos et al. 2014 and Yoshida et al. 2015 for discussion of related Stripping configurations). One of the aims of the present study is, thus, to validate the Merchant's (2004) claim for a subset of the relevant fragment constructions.

⁶The diacritic (\backsim) is used by Weir to indicate the prosody appropriate for the 'implied constituent question' interpretation such examples receive.

trastively focused. Rather the remnant "... provides new information, more specific information, or adds to a contextually relevant set of elements to which the antecedent belongs ..." (Griffiths and Lipták 2014:9).

They claim that while Contrastive ellipsis is island sensitive, Non-Contrastive ellipsis is island insensitive. Griffiths and Lipták report that cases of island-violating Non-Contrastive Stripping, like (6a) below, are acceptable, while cases of Contrastive Stripping,⁷ like (7b), are unacceptable.

- a. Ann: Ingrid knows the student who sent a text to another student.b. Bill: Yeah, to Alexi.
- (7) a. Ann: Ingrid knows the student who sent a text to Tim.

b. Bill: *No, to Alexi.

In the following subsection, we present evidence that Merchant and Griffiths and Lipták were correct that at least a certain kind of contrastive stripping construction is island-insensitive. We then turn to considering the possible explanations for this in Sect. 3.

2.2 Stripping and island sensitivity: An experimental investigation

In light of this uncertainty in the empirical landscape, and the centrality of these data to theories of island sensitivity in Stripping, we conducted a formal acceptability rating experiment. We compared cases of Contrastive Stripping (i.e., the cases that are claimed to be island-sensitive by Griffiths and Lipták 2014) with cases of It-Clefts, in both of which the antecedent clause contained either a definite relative clause island or a non-island complement clause, as shown in (2) and (3). We chose to test definite relative clauses because they seem to show stronger island effect compared to other islands (see discussion in Hofmeister and Sag 2010; Sprouse and Hornstein 2013, and see Kuno 1976; McCawley 1981; Chung and McCloskey 1983 for related discussions). In addition, we tested analogous sentences where the correlate for the Stripping remnant or the cleft pivot was the matrix subject rather than contained within the (island or non-island) embedded clause. Example stimuli are given in (8) below. Anticipating the results of this study, we found that, unlike It-Clefts, Contrastive Stripping of the sort in (2)/(8) failed to exhibit any effect island sensitivity.⁸

⁷Although the remnants in the examples of Contrastive Stripping presented here are proper names, indefinites are also possible remnants in Contrastive ellipsis, as illustrated by Griffiths and Lipták's examples (22), repeated here. (Non-)Contrastivity is independent of the type of remnant.

⁽i) A: John ate a *pizza* for dinner. B: No, a *salad*.

⁸As an anonymous reviewer notes, Barros et al. (2014) claim that utterance final contrastive ellipsis correlates improve the acceptability of such island violations examples. All of our stimuli included utterance final correlates. While it may be that the location of the correlate interacts with ellipsis island sensitivity, our concern here, ultimately, is to investigate the structure associated with an island insensitive elliptical configuration, and so we leave a broader study of the factors conditioning elliptical island sensitivity for future research.

Prior research investigating the effects of extraction from island domains on acceptability in formal judgment experiments have characterized the island effects as a super-additive interaction of the factors of the length of the movement dependency involved and the presence/absence of an island structure within the construction (Sprouse et al. 2012a, 2012b). That is, examples containing islands are generally rated worse than examples which contain complement clauses, and long-distance extractions are worse than short distance dependencies that do not span across an embedded clause boundary. However, long-distance extraction from within islands are rated worse than would be expected by simply adding the reduction in acceptability that would be expected from having a long-distance dependency and having an island within the example. In the present experiment, we use it-clefts as a baseline for whether our experiment is capable of detecting an island effect. In place of the wh-extraction from islands used by Sprouse et al. (2012a, 2012b), we use it-clefts, which have also been known to be island sensitive (Chomsky 1977). Consequently, we expect to see the it-cleft conditions exhibit the same super additive interaction between dependency length and islandhood as shown for wh-extraction. The question we address here is whether a corresponding effect is exhibited in stripping conditions.

Methods

Participants

57 participants were recruited on Amazon Mechanical Turk. Two participants failed to complete the survey, and so their results were excluded from analysis. The data from a further four participants were excluded from analysis, as T-tests revealed these participants did not reliably rate the high acceptability fillers differently from the low acceptability fillers. Taking these exclusions into account, the data of 51 participants were analyzed. Participants were limited to IP addresses within the US, were only permitted to participate in the experiment once and were compensated \$2 USD.

Stimuli

The stimuli conformed to a $2 \times 2 \times 2$ factorial design where *Construction Type (Stripping vs. Cleft), Island-structure (Island vs. Non-Island)*, and *Dependency Length (Short Dependency vs. Long Dependency)* were manipulated as independent factors. The Construction Type factor manipulated whether the target phrase was Contrastive Stripping construction as in (2) (Stripping) or a non-reduced it-cleft construction as in (3) (*Cleft*). The Island-Structure factor manipulated whether the antecedent clause contained a definite relative clause as in (2a) and (3a) (Island), or a complement clause as in (2b) and (3b) (*Non-Island*). The Dependency Length factor manipulated whether the correlate was an object contained within an embedded clause as in all the examples in (2) and (3) (*Long Dependency*) or a matrix subject (*Short Dependency*). The Stripping remnant and cleft pivot were lexically matched, serve the same grammatical function, and contrasted with the correlate in the antecedent sentence. In *Short Dependency* conditions, these items were proper names and in the *Long Dependency* conditions they were direct object definite NPs, indefinite NPs, or proper names. The correlate, the Stripping remnant, and Cleft pivot were italicized, as a cue to identify the relevant elements for the intended interpretation. The target phrase across all conditions contained the sentential polarity marker, *No*. Forty lexicalizations of the eight conditions were constructed.

- (8) a. Long Dependency, Island, Stripping: (= (2a)) Joe: James met the journalist who got a commissioned piece. Bill: No, a salaried position.
 - b. Long Dependency, Non-Island, Stripping: (= (2b))
 Joe: James heard that the journalist got a commissioned piece.
 Bill: No, a salaried position.
 - c. Long Dependency, Island, Cleft: (= (3a)) Joe: James met the journalist who got a commissioned piece.
 Bill: No, it was a salaried position that James met the journalist who got.
 - d. Long Dependency, Non-Island, Cleft: (= (3b))
 - Joe: James heard that the journalist got *a commissioned piece*.
 - Bill: No, it was *a salaried position* that James heard that the journalist got.
 - e. Short Dependency, Island, Stripping: Joe: James met the journalist who got a commissioned piece. Bill: No, David.
 - f. Short Dependency, Non-island, Stripping:
 - Joe: *James* heard that the journalist got a commissioned piece. Bill: No. *David*.
 - g. Short Dependency, Island, Cleft:
 - Joe: James met the journalist who got a commissioned piece.
 - Bill: No, it was *David* who met the journalist who got a commissioned piece.
 - h. Short Dependency, Non-island, Cleft:
 - Joe: James heard that the journalist got a commissioned piece.
 - Bill: No, it was *David* who heard that the journalist got a commissioned piece.

Forty filler items and six practice items were also constructed. Twenty of the filler items were expected to be of high acceptability, with target phrases that included *wh*-movement, complex clauses, passives, pseudopassives, and prepositional pied-piping in conjunction with *wh*-movement. The remaining twenty filler items were expected to be of low acceptability, with target phrases featuring a range of grammatically illicit constructions, including *wh*-movement from within adjunct islands, subject islands, complex noun phrase islands, *wh*-islands, and definite relative clause islands, as well as items in which a sentential subject lacked a complementizer, or there was some number agreement or case violation. The six practice items were a mix of low and high acceptability items, and included an instance of short and of long *wh*-movement, verb phrase ellipsis, sentential subject missing a complementizer, sprout-sluicing, and gapping.

Four lists were constructed using a Latin square design, each containing five distinct lexicalizations of each of the eight conditions, for a total of forty test items per survey. In combination with the forty filler items and six practice items, each survey included eighty-six items. Each list began with the practice items, in the same order. These practice items were not explicitly identified as such, but rather were designed to ensure that each list began with items expected to exhibit a range of acceptabilities. The remaining eighty items were pseudo-randomized in two different orders for each list, such that no two items from the same condition appeared sequentially. This process yielded eight pseudo-randomized surveys.

Procedure

The stimuli were presented to participants in the form of two-turn dialogues between two speakers, for example 'Joe' and 'Bill.' Joe's turn served as the antecedent and Bill's as the target item. Participants were instructed to read the presented dialogues and to rate the underlined phrase, which was always Bill's utterance, for naturalness on a scale of 1 (unnatural) to 7 (natural) in relation to the whole dialogue. The entire dialogue and the rating scale appeared on the same screen.

Results

The data was then analyzed with a linear mixed-effects regression model (LMER; Baayen et al. 2008) with rating as the dependent variable, using the lme4 package in R. Contrast-coded fixed effects included Dependency Length (*Long Dependency* vs. *Short Dependency*), Island-Structure (*Island* vs. *Non-Island*) and Construction Type (*Stripping* vs. *Cleft*), as well as their 2- and 3-way interactions. The maximal random effects structure that would converge was employed, which included random intercepts for Participant and Item, as well as random slopes by participant for Dependency Length, Island-Structure, and Construction Type, and the 2- and 3-way interactions. Model comparisons were performed to determine whether the inclusion of each of these fixed effects and their interactions made a significant contribution to the model.

The results of these analyses in Fig. 1 and Table 1 revealed significant main effects of Islandhood ($\beta = 0.72$, SE $\beta = 0.07$, $\chi^2(1) = 66.19$, p < 0.001), and Dependency Length ($\beta = 0.81$, SE $\beta = 0.13$, $\chi^2(1) = 31.14$, p < 0.001), where overall participants rated *Non-Island* conditions better than *Island* conditions and *Short Dependencies* better than *Long Dependencies*. Additionally, the 2-way interactions of Island-Structure × Dependency Length ($\beta = -1.45$, SE $\beta = 0.13$, $\chi^2(1) = 108.93$, p < 0.001), Island-Structure × Construction Type ($\beta = 1.41$, SE $\beta = 0.13$, $\chi^2(1) = 104$, p < 0.001), and Dependency Length × Construction Type ($\beta = 3.75$, SE $\beta = 0.13$, $\chi^2(1) = 408.39$, p < 0.001) were also significant. Finally, the 3-way interaction of Islandhood × Dependency Length × Construction Type was also significant ($\beta = -2.23$, SE $\beta = 0.25$, $\chi^2(1) = 68.89$, p < 0.001). No main effect of Construction Type was observed ($\chi^2 < 0.96$, p > 0.32).

All further subset models investigating these interactions were investigated, but, for brevity, we focus here on the subset of LMER model comparisons relevant to our



Fig. 1 Experiment 1 acceptability rating

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Table 1 rating	Mean acceptability	Condition	Mean	SD	
		Island/Long/Stripping	5.02	1.54	
		Non-Island/Long/Stripping	5.21	1.53	
		Island/Short/Stripping	4.17	1.80	
		Non-Island/Short/Stripping	3.97	1.87	
		Island/Long/Cleft	2.09	1.56	
		Non-Island/Long/Cleft	4.82	1.86	
		Island/Short/Cleft	6.07	1.33	
		Non-Island/Short/Cleft	6.20	1.30	

hypotheses.⁹ See Appendix A for description and results of the additional models orthogonal to our present interests.

We first examined the Cleft data, establishing that the island effect is present within full it-cleft constructions, as has been previously shown for wh-fronting constructions (Sprouse et al. 2012a). We constructed a separate LMER model for the Cleft construction data and found main effects of Islandhood ($\beta = 1.43$, SE $\beta = 0.12$, $\chi^2(1) = 79.01$, p < 0.001) and Dependency Length ($\beta = 2.68$, SE $\beta = 0.16$, $\chi^2(1) = 99.5$, p < 0.001), as well as the 2-way interaction of Dependency Length × Islandhood

⁹To determine whether the grammatical type of the remnant (*definite NP*, *indefinite NP*, or *proper name*) within the long dependency conditions affected acceptability ratings, we constructed models for this subset of the data that included Helmert coded fixed effects for grammatical type of the remainder. Model comparisons revealed no main effect of remainder type ($\chi^2 < 3.2$, p > 0.5), which suggests that varying the types of remnants did not influence acceptability.

 $(\beta = -2.56, \text{ SE } \beta = 0.20, \chi^2(1) = 108.04, p < 0.001)$. Subset models were constructed to investigate this interaction. Examining the Long Dependencies, we found an effect of Islandhood ($\beta = 2.72$, SE $\beta = 0.21, \chi^2(1) = 79.28, p < 0.001$). No effect of the Island-Structure factor was found within Short Dependencies conditions ($\chi^2 < 1.39, p > 0.23$). Within Island conditions, we found effects of dependency length, ($\beta = 3.97$, SE $\beta = 0.23, \chi^2(1) = 100.98, p < 0.001$). An effect of dependency length was also found in the Non-Island conditions ($\beta = 1.4$, SE $\beta = 0.19, \chi^2(1) = 41.42, p < 0.001$).

We then examined the Stripping data, for which the LMER model revealed a main effect of Dependency Length ($\beta = 1.06$, SE $\beta = 0.18$, $\chi^2(1) = 28.06$, p < 0.001), and an interaction between Dependency Length × Islandhood ($\beta = .34$, SE $\beta = 0.14$, $\chi^2(1) = 5.92$, p = 0.015). This interaction was investigated through subset models. No effect of Islandhood was found for either the Long Dependencies or Short Dependencies ($\chi^2 < 3.00$, p > 0.08). An effect of dependency length was found in the Island conditions ($\beta = 0.89$, SE $\beta = 0.17$, $\chi^2(1) = 22.69$, p < 0.001), as well as in the Non-Island conditions ($\beta = 1.23$, SE $\beta = 0.21$, $\chi^2(1) = 27.06$, p < 0.001).

Discussion

The goal of this experiment was to determine whether Contrastive Stripping displayed island sensitivity, as Griffiths and Lipták (2014) claimed, or not, as Merchant (2004) claimed. We compared Contrastive Stripping constructions with It-Cleft constructions, in island and non-island contexts, in which the stripping remnant or cleft pivot was related to the matrix subject position or an embedded object position within a definite relative clause or within a complement clause. The present results suggest that Contrastive Stripping is, in fact, not island sensitive.

While the expected island effect is clearly observed in the it-cleft cases, it is conspicuously absent in the Contrastive Stripping conditions. Within the long dependency Stripping conditions, there was no difference between Island and Non-Island conditions. If Contrastive Stripping were island sensitive, the island conditions would have been rated worse than the non-island conditions. Furthermore, the island-violating Stripping conditions were rated much better than the long it-cleft conditions, which involved overt extraction from within an island. Taken together, these results strongly suggest that Contrastive Stripping¹⁰ is insensitive to, at least, definite relative clause islands.

¹⁰An anonymous reviewer raises the issue of how Contrastive Stripping would then be expected to compare with Contrastive Sluicing (seen in (i)), which Merchant (2008:148) claimed to be island sensitive. Space precludes a thorough investigation into this related but orthogonal question, but we suspect that Contrastive Sluicing, given the proper context and baseline, may be as island insensitive as Contrastive Stripping.

⁽i) Abby wants to hire someone who speaks Greek_F but I'm not sure what other languages.

3 Choosing between approaches to island insensitivity

Having established that contrastive stripping is indeed island-insensitive, we now turn to considering two different kinds of explanations for this observation, namely the island-repair approach and the evasion approach. In Sect. 3.1 we review the relevant details of these two approaches. We will then argue that only the island-repair approach can account for certain properties of the relevant sentences. For ease of exposition, we present the argument in full in Sect. 3.2. This argument relies, however, on some relatively delicate judgements, and so in Sect. 3.3 we present some further experiments that confirm the empirical basis for the argument.

3.1 Approaches to island insensitivity

In an example like (2a), the island repair approach and the evasion approach assign different structures to the stripped clause. Under the island repair approach, the stripped clause has exactly the same structure as the antecedent clause, as shown in (9) (where non-pronounced structure is indicated by the strike-through). Note that on this view the movement of the remnant in (9) goes across a Complex NP island boundary.

Ann: James met the journalist who got a commissioned piece.
 Bill: No, a salaried position James met [NP the journalist [CP who got t]].

On the other hand, under the evasion approach, the stripped clause does not contain an island boundary. There are various versions of the idea common to all evasion approaches, but one possible analysis of (2a) is that the stripped clause has the structure of the copular clause in the form IT IS REMNANT (before movement), but not the full clause, as illustrated in (10).

(10) Ann: James met the journalist who got a commissioned piece.Bill: No, a salaried position it was *t*.

Under the evasion approach, the remnant still moves, but the movement does not cross an island boundary because there is no island boundary in the stripped clause.

The fact that no island violation effect is observed in (2a) is explained differently under these two approaches. The island repair approach proposes that, although movement across an island boundary did take place, the resulting violation is repaired in some way by the subsequent clausal ellipsis (Lasnik 2001; Merchant 2001, 2004; Lasnik 2005, 2009 among many others). The evasion approach, instead of taking examples like (2a) to be cases of movement across an island boundary that are somehow rendered grammatical, simply denies that there is any movement across an island boundary in such cases: there is no island domain in the proposed structure in (10). Thus, the evasion approach, unlike the repair approach, maintains the assumption that movement out of an island always produces ungrammaticality; in a case like (2a) where there is no ungrammaticality, this is because (perhaps despite first appearances) there is no movement out of an island.

3.2 An argument for island-repair based on Condition C effects in stripping

Our goal is to show that there are examples where, like in (2a), the correlate of stripping appears inside an island, but where it is not plausible to suppose that the ellipsis site contains only the structure of a copular clause as in (10). Our argument will be that in these crucial cases, there is strong evidence (independent of any island-related facts) that the full structure parallel to that of the antecedent clause appears inside the ellipsis site—along the lines of (9). The fact that island effects are not observed in these cases can therefore only be explained by some version of the repair approach. The independent evidence we use to argue for complete structure inside ellipsis sites involves certain instances of stripping whose unacceptability is best analyzed as resulting from a Binding Condition C (henceforth Condition C: Chomsky 1981) violation inside the ellipsis site. To foreshadow, the crucial cases will be examples like those in (11).

a. Joe: She₁ likes [NP the manager [CP who assigned the job to Bill]. Bill: *No, to Mary₁.
b. Joe: Her₁ friends like [NP the manager [CP who assigned the job to Bill]. Bill: No, to Mary₁.

We will argue that in order to account for the disjoint-reference effect in (11a) it is necessary to assume that the stripped clause has the full structure of the antecedent clause, for reasons we expand upon below. This means that in the acceptable (11b), the stripped clause must have the structure of an island violation, i.e., the stripped clause has the structure illustrated in (12).

(12) ... not $[_{CP}[_{PP} \text{ to } Mary_1] [_{TP} \text{ her}_1 \text{ friends like } [_{NP} \text{ the manager } [_{CP} \text{ who assigned the job } t_{PP}].$

As mentioned above, we present the argument in full here in order to make the logic clear, and provide more complete justification for the empirical pattern it relies on in Sect. 3.3.

As a first step, we establish a generalization concerning the interaction of stripping with Condition C. The key point is best illustrated by the examples in (13).

(13)	a.	Joe:	She ₁ said the manager assigned the job to Bill.
		Bill:	*No, to Mary ₁ .
	b.	Joe:	Mary ₁ said the manager assigned the job to Bill.
		Bill:	No, to her ₁ .
	c.	Joe:	Her ₁ friends said the manager assigned the job to Bill.
		Bill:	No, to Mary ₁ .

In (13a) the name *Mary* is part of the remnant, and coreference between the pronoun and the name is unacceptable. Coreference is possible, however, in (13b), where the positions of the name and the pronoun have been reversed, and in (13c), where we restrict the c-command domain of the pronoun by embedding it inside the subject.

These patterns follow immediately from Binding Condition C if the stripped clause has the full structure of the antecedent clause.¹¹ The coreference of the pronoun and the name in (13a) is unacceptable because the pronoun in the ellipsis site c-commands the name in the remnant which is reconstructed to the object position in the ellipsis site. On the other hand, in (13b) the name c-commands the pronouns instead, and in (13c) the pronoun does not c-command the name in the remnant which is reconstructed to the object position.¹² That is, these restrictions on coreference follow immediately if we suppose that because the stripped clauses in these examples have the structure illustrated in (14).

- (14) a. * ... [PP to Mary₁] [she₁ said the manager assigned the job t_{PP}]
 - b. ... [PP to her1] [Mary1 said the manager assigned the job t_{PP}]
 - c. ... [PP to Mary₁] [her friends₁ said the manager assigned the job t_{PP}]

These coreference patterns strongly indicate that the ellipsis site has structure that is subject to Condition C and is parallel to the structure of the antecedent clause.¹³

Most importantly for our purposes, we claim—and this is supported by evidence from a formal plausibility judgment experiment reported below—that the same coreference and disjoint reference pattern can be seen in cases of stripping where the correlate is embedded within an island. In (15), the correlate is embedded in a definite relative clause rather than a complement clause, and we see the same pattern of acceptability as in (13).

(15)	a.	Joe:	She ₁ likes [NP the manager [CP who assigned the job to
			Bill]].
		Bill:	*No, to Mary ₁ .
	b.	Joe:	Mary ₁ likes [NP the manager [CP who assigned the job to
			Bill]].
		Bill:	No, to her ₁ .

¹¹These observations are somewhat surprising given the well-known phenomenon of vehicle change which often eliminates Condition C violations inside ellipsis sites. In general, vehicle change gets in the way of trying to construct arguments that rely on Condition C effects appearing inside ellipsis sites, as we are trying to do here. But vehicle change seems to be blocked in these stripping constructions when the relevant name is part of the remnant (see Hunter and Yoshida 2016 for related discussion, who discovered the lack of Vehicle Change effects in such contexts). Without this generalization it would not be possible to construct the kind of argument we are making in this paper.

¹²There is a certain complication with the Condition C paradigm. It has been often claimed in the literature that when the name is embedded within an adjunct, the Condition C violation is avoided, but when the name is embedded within an NP as an argument, the Condition C violation is observed (Freidin 1986; Lebeaux 1991, 1995; Fox 1999). However, as Lasnik has shown convincingly, if we investigate the paradigm carefully, we do not observe the argument-adjunct asymmetry (Lasnik 1998; see Hunter and Yoshida 2016 for the related).

¹³We remain relatively agnostic here about to what degree the structure inside the ellipsis site is syntactic in nature (i.e., to what degree it resembles overt syntactic structure). Positing full-blown syntactic structure would relatively straightforwardly explain the Condition C effects we are considering, but if one takes Condition C to be stated at a more purely semantic level of structure (e.g., Steedman 1996) then attributing only that level of structure to the ellipsis site could also suffice. Our main concern here is rather the distinction highlighted by (9) and (10) above, between positing "full-sized" content and positing only "partial" content in the ellipsis site.

c. Joe: Her₁ friends like [NP the manager [CP who assigned the job to Bill]].
 Bill: No, to Mary₁.

As with the other cases, when the c-command relation between the pronoun and the name in the remnant is removed, the coreference between the pronoun and the name is possible. In (15b), the positions of the pronoun and the name are switched; in (15c), the pronoun is embedded within an NP.

What do these cases of stripping tell us? In the same way that the observed pattern in (13) led us to assume the structures in (14), the recurrence of this same pattern in cases like (15) leads us to assume the structures in (16), with both the clause that contains the gap site (*the manager who assigned the job*) and crucially also the matrix clause (*she likes*).¹⁴

- (16) a. * ... [PP to Mary₁] she₁ likes [NP the manager [CP who assigned the job t_PP]].
 - b. ... [PP to her1] [Mary1 likes [NP the manager [CP who assigned the job t_PP]].
 - c. ... $[PP \text{ to Mary}_1]$ [her friends₁ likes $[NP \text{ the manager } [CP \text{ who assigned the job t_PP}]].$

Without this complete structure in the ellipsis site, there would be no way to explain why (15a) differs from the more acceptable (15b) and (15c). And given this full-two clause structure in the ellipsis site, the movement of the remnant must cross an island boundary. We therefore argue that (15a) can only be analyzed via a movement which causes an island violation which is subsequently repaired.

In particular, note that the ellipsis site must contain the material in the *matrix* clause in order for the Condition C effect to be predicted. So not only is the reducedcleft type of evasion analysis that we have been focusing on unable to predict this effect, as illustrated in (17a), but so are other alternatives that suppose that the ellipsis site in an example like that in (15a) contains material from the embedded clause but not the matrix clause, as illustrated in (17b).

a. ... [[PP to Mary] it is t_PP].
b. ... [[PP to Mary] [the manager assigned the job t_PP]].

There is a subtle point in the logic here that is worth elaborating slightly. We are using the *unacceptability* of (15a) to argue for *island repair* in the acceptable (15b) and (15c). The link in the logic is the presence of the matrix clause and the crucial pronoun *she*. The direct evidence for the presence of this matrix clause material is of

¹⁴It is important to note that examples of stripping and examples of non-ellipsis reduced cleft show a contrast in terms of the Condition C effect. For example, five native speakers of English we interviewed found (ia) less acceptable than (ib) in terms of the co-reference between the pronoun and the name (even though all of them suggested that (ib) is not perfectly acceptable). This observation further supports that the reduced cleft is not the source of the ellipsis site in Stripping violating Condition C.

⁽i) a. *He₁ will say that Mary took a picture tomorrow, in fact [a picture of John₁].

b. He₁ will say that Mary took a picture tomorrow, in fact [a picture of John₁] it is.

course the Condition C violation in (15a). Our evidence for the presence of the matrix clause material in (15b) and (15c), where we claim that we "observe" island repair (i.e., where we claim that island repair gives rise to acceptability), is less direct: it is essentially by parity of reasoning with (15a).

One might attempt to deny this step of the reasoning, by hypothesizing that although the ellipsis site in (15a) does contain structure parallel to the matrix clause, those in the acceptable (15b) and (15c) do not, and instead only contain an evasion structure, e.g., the copular clause structure (i.e., to her it is). After all, the argument would go, these are precisely the cases where no Condition C effect and no island effect is observed, which is exactly what would be expected given the copular clause structure. This response avoids having to invoke island repair via ellipsis, but leads to rather bizarre conclusions. What we have observed is that the only difference between the acceptable and unacceptable examples of "island-violating" stripping is whether a full-structure ellipsis site would give rise to a Condition C violation or not. So an advocate of this response would need to argue that the ellipsis sites in the examples considered above contain the complete two-clause structures *precisely when* such complete structures would create Condition C violations, i.e., in (15a). Furthermore, recall also that the contrast we are attributing to Condition C appears in the non-island cases in (13), which leaves the treatment of the acceptable (13b) and (13c)unclear for the advocate of this response: should we take (13b) and (13c) to have twoclause structure in the ellipsis site (which is harmless because it contains no islands) on the logic that this closely matches the necessary two-clause structure of (13a), or should we take (13b) and (13c) to have only the shorter, one-clause structure in the ellipsis site on analogy with (15b) and (15c)?

The simpler and more uniform alternative, which we adopt, is to conclude that (i) in all the examples we have considered (both with and without islands) the ellipsis site contains a full two-clause structure parallel to that of the antecedent clause, as indicated relatively straightforwardly by the observed coreference possibilities, and (ii) movement across island boundaries is grammatical when in the clausal ellipsis-site.¹⁵

3.3 Condition C effects in stripping: Experimental investigations

Although the crucial contrasts in (13) and (15) above are quite clear to our ears, there are cases where judgments could get subtle—especially when complex island structures are involved. To ensure that these facts are sufficiently robust to make our argument, we conducted two further formal rating experiments. The Condition C effects are tested using a methodology adapted from Kazanina et al. (2007), in which the participants are asked to rate how natural a sentence is when there are two NPs that are referring to the same person (Gordon and Hendrick 1997; Kazanina et al. 2007).¹⁶

¹⁵Lasnik (2001, 2005) makes a very similar argument to ours in the context of sluicing.

¹⁶We adopt methodology established by Gordon and Hendrick (1997) and Kazanina et al. (2007) because their methodology allows us to reliably assess the acceptability of the coreference relation between a pronoun and name.

3.3.1 Experiment 2

Methods

Participants

44 participants were recruited on Amazon Mechanical Turk. Five participants failed to complete the experiment, and so their data was excluded from the analysis. The data from an additional seven participants were excluded from analysis, as T-tests revealed these participants did not reliably rate the high plausibility fillers differently from the low plausibility fillers. Taking these exclusions into account, the data of 32 participants were analyzed. Participants were limited to IP addresses within the US, were only permitted to participate in the experiment once and were compensated \$2 USD.

Stimuli

We employed a $2 \times 2 \times 2$ factorial design in which *Islandhood (Island vs. Non-Island), Construction Type (Stripping vs. Non-Stripping), Pronominal Status (Pronoun-Name vs. Name-Pronoun)* were manipulated as independent factors. A sample set of stimuli is summarized as below in (18).¹⁷

(18)	a.	Non-Island, Stripping, Pronoun-Name			
		Joe: <u>She</u> said the manager assigned the job to <i>Bill</i> . $(= (13a))$			
		Bill: No, to Mary.			
	b.	Non-Island, Stripping, Name-Pronoun			
		Joe: Mary said the manager assigned the job to <i>Bill</i> . $(= (13b))$			
		Bill: No, to <u>her</u> .			
	c.	Island, Stripping, Pronoun-Name			
		Joe: <u>She</u> likes the manager who assigned the job to <i>Bill</i> . $(= (15a))$			
		Bill: No, to Mary.			
	d.	Island, Stripping, Name-Pronoun			
		Joe: Mary likes the manager who assigned the job to <i>Bill</i> . $(= (15b))$			
		Bill: No, to <u>her</u> .			
	e.	Non-Island, Non-Stripping, Pronoun-Name			
		Joe: <u>She</u> said the manager assigned the job to <i>Bill</i> .			
		Bill: No, she said the manager assigned the job to Mary.			
	f.	Non-Island, Non-Stripping, Name-Pronoun			
		Joe: <u>Mary</u> said the manager assigned the job to <i>Bill</i> .			
		Bill: No, Mary said the manager assigned the job to <u>her</u> .			

¹⁷To achieve sufficient power in our experiment, we avoided adding other islands as further independent variables. In principle, it would be desirable to check other islands with similar experiments. However, incorporating other islands as independent factors would complicate the experimental design unnecessarily, yet conducting an independent experiment on different islands is practically difficult. Therefore, we focused on just one type of island, the definite relative clause islands (see also the discussion in the

Sect. 3.4).

- g. Island, Non-Stripping, Pronoun-Name
 - Joe: <u>She</u> likes the manager who assigned the job to *Bill*.
 - Bill: No, she likes the manager who assigned the job to Mary.
- h. Island, Non-Stripping, Name-Pronoun
 - Joe: Mary likes the manager who assigned the job to *Bill*.
 - Bill: No, Mary likes the manager who assigned the job to her.

The Islandhood factor manipulated whether the first sentence in the dialogue contained a complement clause (Non-Island) or a definite relative clause (Island). The Construction Type factor manipulated whether the second dialogue sentence was a Contrastive Stripping construction (*Stripping*) or a non-stripping construction (*Non*-Stripping). In the Stripping conditions, the remnant is the PP focus. The use of prepositional phrases ensures that the only possible correlate to the Stripping remainder is the PP correlate in the first dialogue sentence. In the Non-Stripping conditions, the first and second dialogue sentences are identical, except for the PP remnant and PP focus. The final factor, Pronominal Status, manipulated the distribution of pronouns and proper names in the underlined phrases in the dialogues. In the 'Name-Pronoun' conditions, the PP focus contained an underlined pronoun and the matrix subjects of the first dialogue, and also the matrix subject of the second sentence in the nonstripping conditions, were underlined proper names that were gender matched to the pronoun in the remnant PP. In the 'Pronoun-Name' conditions, the remnant PP contained an underlined name and the matrix subjects were underlined gender-matched pronouns. Forty items of the eight conditions were constructed, with the gender of the names and pronouns used in the Pronominal Status manipulation were balanced across the lexicalizations.

Additionally, forty filler items, which also included underlined phrases, were constructed, of a variety of grammatical structures, acceptabilities, and plausibilities of coreference for the underlined elements. Twenty items were expected to be fully acceptable and contain fully plausibly coreferential underlined elements. Ten were expected to be less than fully acceptable, including various types of island violation, but with fully plausibly coreferential underlined elements. The final ten fillers were expected to be fully acceptable, but with implausibly coreferential underlined elements, due to either a Binding Condition A or Binding Condition B violation. Six practice items were also constructed, one of which contained a Binding Condition A violation, and the other of which contained a Binding Condition.

Four lists were constructed using a Latin square design, each containing five distinct lexicalizations of each of the eight conditions. Thus, each list contained 40 test items, 40 filler items, and 6 practice items, for a total of 86 items. Each of the four lists was pseudo-randomized to ensure that sequential items were not from the same condition.

Procedure

The stimuli were presented to participants in the form of two-turn dialogues between 'Joe' and 'Bill.' Joe's turn served as the antecedent and Bill's as the target item. The stimuli were presented to participants as two sentence dialogues exactly like in (18), in which the second sentence, preceded by 'No, ...', was intended to be understood as a corrective response to the first sentence. Across conditions, the NP within the remnant PPs (either the name or pronoun) were always underlined, as were the matrix subjects of the first dialogue sentence and, in the non-stripping conditions, the matrix subject of the second dialogue sentence. Following the procedure of Kazanina et al. (2007), participants were instructed to read the presented dialogues and to rate how plausible it would be for the underlined phrases in the dialogue to refer to the same person, on a scale of 1 (implausible) to 7 (plausible). The entire dialogue and the rating scale appeared on the same screen.

Predictions

The Non-Stripping conditions serve as a control, to ensure that the task is sensitive enough to detect a Condition C violation, and that the participants exhibit the Condition C constraint, as has been observed elsewhere (Kazanina et al. 2007). We would expect the co-reference plausibility in the Non-Stripping Pronoun-Name conditions to be rated lower than in the Non-Stripping Pronoun conditions, and expect no effect of islandhood amongst the Non-Stripping conditions as illustrated in Fig. 2.

In the stripping conditions, predictions will vary according to which explanation for the island insensitivity of stripping one adopts, as outlined in our argument above. Island-repair explanations predict that the stripping conditions should show the same sensitivity to the Name/Pronoun manipulation as non-stripping conditions do, thus the data should look exactly like Fig. 2 (in line with the judgments reported informally above for (13) and (15)), because the stripping and non-stripping conditions do not differ in the amount of structure that is assumed. Evasion analyses instead predict that the likelihood ratings in the Stripping conditions: there should be no effect of the Name/Pronoun manipulation in these conditions, because according to evasion analysis the crucial binder, the matrix subject, should be absent from the ellipsis site (recall (17)).

How the likelihood ratings in the Non-Island Stripping conditions are predicted to turn out depends on some details of the evasion analysis one adopts. If evasion structures in the ellipsis site are available anywhere, so long as other constraints on ellipsis, like the identity and licensing conditions, are satisfied, then we would expect Non-Island Stripping conditions to pattern together with the Island Stripping conditions; put differently, we expect evasion of the Condition C, as illustrated in Fig. 3, Predicted Data: Consistently Non-Isomorphic. On the other hand, if evasion structures are only possible in contexts where an isomorphic resolution would yield an island violation then we would expect to see higher likelihood ratings in the Name Island Stripping conditions than in the Name Non-Island conditions, as only in the former are the sort of non-isomorphic resolutions that avoid a Condition C violation possible. Such predictions are illustrated in Fig. 3, Predicted Data: Selectively Non-Isomorphic.



Predicted Data: Non-Stripping







Fig. 4 Coreference plausibility rating

Results

The data was then analyzed with a linear mixed-effects regression model (LMER; Baayen et al. 2008), using lme4 in R, with rating as the dependent variable. Contrastcoded fixed effects included Islandhood (Island, Non-Island), Pronominal Status (Pronoun-Name, Name-Pronoun), and Construction Type (Stripping, Non-Stripping), as well as their 2- and 3-way interactions. The maximal random effects structure that would converge was employed, which included random intercepts for Participant and Item, as well as random slopes by participant for Islandhood, Pronominal Status, and Construction Type, and the 2- and 3-way interactions. Model comparisons were performed to determine whether the inclusion of each of these fixed effects and their interactions made a significant contribution to the model.

The results of these analyses in Fig. 4 and Table 2 revealed significant main effects of Pronominal Status ($\beta = 2.74$, SE $\beta = 0.25$, $\chi^2(1) = 50.07$, p < 0.001), and Construction type ($\beta = 0.51$, SE $\beta = 0.14$, $\chi^2(1) = 10.82$, p = 0.001), where overall participants rated the co-reference relations as less plausible in Stripping Constructions than in Non-Stripping Constructions, and less plausible in Pronoun-Name conditions than in Name-Pronoun conditions. Additionally, the 2-way interaction of Pronominal Status × Construction type ($\beta = 0.92$, SE $\beta = 0.16$, $\chi^2(1) = 32.41$, p < 0.001), was also significant. The 2-way interaction between Island and Pronominal Status approached significance ($\beta = -0.27$, SE $\beta = 0.16$, $\chi^2(1) = 3.1$, p = 0.078). No other effects reached significance ($\chi^2 < 0.53$, p > 0.42).

We investigated the significant 2-way interaction with four further subset LMER models. We first examined the Stripping subset of the data, which displayed a main effect of Pronominal Status ($\beta = 2.27$, SE $\beta = 0.29$, $\chi^2(1) = 33.91$, p < 0.001), such that the co-reference relations in the Pronoun-Name conditions were rated as less

Condition	BCC according to island-repair hypothesis	Mean	SD
Island/Pronoun-Name/Stripping	Violated	2.31	1.41
Non-Island/Pronoun-Name/Stripping	Violated	2.40	1.45
Island/Name-Pronoun/Stripping	Satisfied	4.78	1.78
Non-Island/Name-Pronoun/Stripping	Satisfied	4.46	1.45
Island/Pronoun-Name/Non-Stripping	Violated	2.36	1.60
Non-Island/Pronoun-Name/Non-Stripping	Violated	2.44	1.74
Island/Name-Pronoun/Non-Stripping	Satisfied	5.64	1.41
Non-Island/Name-Pronoun/Non-Stripping	Satisfied	5.56	1.47

Table 2 Mean coreference acceptability rating

plausible than in the Name-Pronoun conditions. The interaction between Pronominal Status and Islandhood also reached significance ($\beta = -0.4$, SE $\beta = 0.19$, $\chi^2(1) = 4.19$, p = 0.04). No other effects reached significance ($\chi^2 < 0.81$, p > 0.36). The interaction between Pronominal Status and Islandhood was investigated through a further four subsets. No significant effects were observed in either the Name-Pronoun Stripping subset ($\chi^2 = -0.31$, p = 0.07) or the Pronoun-Name stripping subset ($\chi^2 = 0.09$, p = 0.49). A significant effect of Pronominal Status was found in both the Island Stripping subset ($\beta = 2.47$, SE $\beta = 0.30$, $\chi^2(1) = 36.90$, p < 0.001), and in the Non-Island Stripping subset ($\beta = 2.07$, SE $\beta = 0.32$, $\chi^2(1) = 27.64$, p < 0.001).

Next, the Non-Stripping data subset yielded a main effect of Pronominal Status ($\beta = 3.21$, SE $\beta = 0.26$, $\chi^2(1) = 58.17$, p < 0.001), such that the co-reference relations in the Pronoun-Name conditions were rated as less plausible than in the Name-Pronoun conditions. No other effects reached significance ($\chi^2 < 0.40$, p > 0.52).

3.3.2 Experiment 3

Experiment 2 showed that Stripping and Non-Stripping conditions pattern similarly with respect to the coreference relations possible of pronouns and names. In particular, it showed that when a pronoun preceded and c-commanded a name, or the Stripping correlate, coreference was rated as less plausible than when the name preceded and c-commanded the pronoun or Stripping correlate. However, that design conflated linear order with c-command. That is, whenever the pronoun c-commanded the name or Stripping correlate, it also preceded it (and vice-versa). Consequently, one might wonder to what degree the observed effects were due to c-command and to what degree they were due to linear order; and importantly, if they were due entirely to linear order, then our argument for complete structure in ellipsis sites based on Condition C would not go through. Experiment 3 sought to answer this question by consistently placing the pronoun in a potentially cataphoric relationship with the name, while manipulating the c-command relationship between pronoun and name.

Methods

Participants

44 participants were recruited on Amazon Mechanical Turk. Four participants failed to complete the experiment, and five participants did not distinguish between good and bad fillers, as measured by a T-test, so their data was excluded from the analysis. Consequently, the data of 35 participants were analyzed. Participants were limited to IP addresses within the US, were only permitted to participate in the experiment once and were compensated \$3 USD.

Stimuli

We employed a 2×2 factorial design in which *Construction Type* (*Stripping vs. Non-Stripping*), and location of a pronoun, *Pronominal Location* (*Adjunct vs. Matrix*) were manipulated as independent factors. A sample set of stimuli is summarized as below in (19).

- (19) a. Stripping, Adjunct
 - Joe: While <u>she</u> was singing, Joe noticed the student who met with *Bill*.
 - Bill: No, with *Mary*.
 - b. Non-Stripping, Adjunct
 - Joe: While <u>she</u> was singing, Joe noticed the student who met with *Bill*.
 - Bill: No, while <u>she</u> was singing, Joe noticed the student who met with *Mary*.
 - c. Stripping, Matrix
 - Joe: While Joe was singing, <u>she</u> noticed the student who met with *Bill*.
 - Bill: No, with Mary.
 - d. Island, Stripping, Pronoun
 - Joe: While Joe was singing, <u>she</u> noticed the student who met with *Bill*.
 - Bill: No, while Joe was singing, <u>she</u> noticed the student who met with *Mary*.

The Construction Type factor manipulated whether the second dialogue sentence was a Contrastive Stripping construction (*Stripping*) or a non-stripping construction (*Non-Stripping*). The Pronominal Location factor manipulated the location of the pronouns in the dialogues. In the 'adjunct' conditions, the pronoun was contained within an adjunct clause that preceded the matrix clause, while in the 'matrix' conditions, the pronoun was the matrix subject. The Matrix conditions are parallel to the Name conditions in the previous experiment (and to (15a)), in that the antecedent clause contains a pronoun that c-commands the correlate; the Adjunct conditions do not exhibit this c-command relationship, but they still have the pronoun preceding the

correlate (like (15c)). Thirty-six sets of lexicalizations for the four conditions were constructed.

Seventy fillers and six practice items were also constructed. Forty of the filler items were perfectly acceptable, twenty included underlining that was expected to induce a binding condition violation, and the remaining ten fillers contained no binding condition violation, but were expected to be degraded for another reason, such as an island violation. The practice items included were identical to those in experiment 2.

Four lists were constructed using a Latin square design, each containing nine distinct lexicalizations of each of the four conditions. Thus, each list contained 36 test items, 70 filler items, and 6 practice items, for a total of 112 items. Each of the four lists was pseudo-randomized to ensure that no test items appeared sequentially.

Procedure

The procedure was identical to that of experiment 2.

Predictions

It could be that the results of the experiment 2 were simply the result of the linear precedence relation between the pronoun and the name. If so, then we would expect in experiment 3 to find no difference in plausibility between the matrix conditions, where the pronoun both precedes and c-commands the correlate, and the adjunct conditions, where the pronoun only precedes and does not c-command the Stripping correlate. However, if the results of experiment 2 were at least partially the result of the c-command relationship between the name and pronoun or correlate, then we would expect the matrix conditions to be rated as less plausible than the adjunct conditions.

Results

The data was then analyzed with a linear mixed-effects regression model (LMER; Baayen et al. 2008), using lme4 in R, with rating as the dependent variable. Contrastcoded fixed effects included Pronominal Location (Adjunct, Matrix), and Construction Type (Stripping, Non-Stripping), as well as their 2-way interactions. The maximal random effects structure that would converge was employed, which included random intercepts for Participant and Item, as well as random slopes by participant for Pronominal Location, and Construction Type, and the 2-way interactions. Model comparisons were performed to determine whether the inclusion of each of these fixed effects and their interactions made a significant contribution to the model.

The results of these analyses in Fig. 5 and Table 3 revealed significant main effects of Pronominal Location ($\beta = 0.18$, SE $\beta = 0.09$, $\chi^2(1) = 4.09$, p = 0.04), and Construction type ($\beta = 0.94$, SE $\beta = 0.21$, $\chi^2(1) = 16$, 58, p < 0.001). Participants rated the co-reference relations as less plausible in Stripping constructions than in Non-Stripping conditions, and less plausible in Matrix conditions than in Adjunct conditions. The 2-way interaction of Pronominal Location × Construction type did not reach significance ($\chi^2 < 0.51$, p > 0.47).



Discussion

In these experiments, we sought evidence supporting the argument that we outlined in Sect. 3.2. The key idea is that if the ellipsis site contained syntactic material isomorphic to the complete antecedent clause, Stripping should pattern like Non-Stripping controls with respect to Condition C and the distribution of co-referential pronouns and R-expressions. On the other hand, if the ellipsis site contained material non-isomorphic to the antecedent, Contrastive Stripping should pattern differently from Non-Stripping controls.

Adjunct/Non-Stripping

Satisfied

3.32

1.84

As expected under island-repair approaches, the Stripping and Non-Stripping conditions patterned similarly. There was no effect of islandhood on plausibility at any level of analysis, and, in experiment 2, there was no difference in likelihood ratings between Pronoun-Name Stripping and Pronoun-Name Non-Stripping conditions. In experiment 3, there was no interaction between construction type and location of the pronoun; apart from lower plausibility ratings for the Stripping conditions, the pattern observed for Stripping and Non-Stripping conditions were similar.

We take a low co-reference likelihood rating in the Non-Stripping Pronoun-Name conditions to be reflective of a Condition C violation. In experiment 2, in these conditions, participants judged it unlikely for a proper name and a pronoun which precedes and C-commands the name to refer to the same person. The Stripping Pronoun-Name conditions patterned no differently, which suggests Condition C is also constraining the interpretation of these elliptical conditions, and which is only expected under an Isomorphic resolution of the ellipsis site. In experiment 3, we showed that the overall pattern observed in experiment 2 cannot be due entirely to the implausibility of cataphoric. Crucially, there was no interaction between construction type and pronoun location, which we take to indicate that the source of the reduced plausibility of the Non-Stripping Matrix conditions in both Stripping and Non-Stripping conditions reflects a Condition C violation. We therefore take these results to strongly support an analysis of island-insensitivity in which the ellipsis site is fully populated by syntactic material that is isomorphic to the antecedent, over analyses in which the elided material is non-isomorphic to the antecedent.

Taken together, we conclude that island-violating stripping shows Binding Condition C effects and thus the ellipsis site contains the structure isomorphic to the antecedent clause.

3.4 Notes on other evasion approaches

To this point we have focused on arguing against one particular "evasion analysis" of the island-insensitivity of ellipsis, namely the copular clause analysis which posits only *it is* in the ellipsis site (Pollmann 1975; Erteschik-Shir 1977; Vicente 2008; Rodrigues et al. 2009; van Craenenbroeck 2010; Barros et al. 2014 among others; Vicente to appear). It should be clear that essentially the same argument can be made against a slight variant of this approach, namely the "short source" strategy (Merchant 2001; Barros et al. 2014 among others; Vicente to appear) in which the ellipsis site has only material corresponding to an embedded clause (recall (17)): using this to circumvent an island violation in examples like (15b,c) will leave unexplained the contrast between these sentences and (15a).

Of course there are many other imaginable evasion strategies, but the relative clause island examples in (15) are particularly noteworthy in light of a recent proposal by Barros et al. (2014). Barros et al. argue that a number of different evasion strategies are available, and that different strategies are suitable for evading different kinds of islands. For relative clause islands, however, Barros et al. conclude that only the short source structure and the copular clause structure are feasible evasion strategies. The significance of the relative clause examples in (15) is that these are cases where Barros et al. conclude that it is the short-source or copular clause evasion strategy, rather than any other, that is responsible for the island insensitivity. But as we have seen, the copular clause or the short source evasion strategy makes incorrect predictions with respect to the Condition C effects: the unacceptability of (15a) is unexpected. So although we have only argued against one particular evasion strategy, namely the short-source strategy, we have shown that our argument applies

in the cases where proponents of various other evasion strategies have concluded that the short-source strategy is the most suitable option.

3.5 Other connectivity effects

So far we have been showing that the ellipsis site in stripping is associated with the structure that parallels that of the antecedent, including the island structures, by looking at the BCC violation patterns. What we have established is that the unacceptability due to the BCC violation illustrated in (11) can only be explained if the ellipsis site is associated with the island violating structure. The crucial points in our argument are that for BCC to be violated in (11a), the ellipsis site must include the matrix subject that c-commands the remnant. Besides BCC violation, there are certainly different ways to establish the similar argument.

One of the convincing ways to show that the ellipsis-site is associated with syntactic structure that holds certain parallelism with the antecedent is to show the connectivity effects (Lasnik 2001, 2005; Merchant 2001, 2004). The connectivity effects in terms of the "binding" relations (Chomsky 1981; Büring 2005) are specifically useful in this respect. This is so because binding relations crucially refers to hierarchical structural relations such as c-command, and the distance between the two NPs that stand in a binding relation can often be long-distance. Thus, if we can show that the binding connectivity effects in the ellipsis-site, that involves a long-distance relation between the two NPs, we can make a strong argument that the ellipsis-site is associated with the structure that involves a long-distance and hierarchical structural relation between the two NPs (see Yoshida et al. 2013, 2015 and Ortega-Santos et al. 2014 for related discussion). It has been known that a reflexive pronoun embedded within a wh-phrase can be bound by an antecedent that is not within the reflexive's binding domain. For example, in (20b), the reflexive in wh-phrase is bound by the antecedent in the matrix clause.

- (20) a. *John₁ says that Mary bought a picture of himself₁.
 - b. [CP Which picture of himself₁ does John₁ say [CP t_wh that Mary bought t_wh]]?

A widely accepted analysis (20b) is that the wh-phrase moves through the intermediate Spec_CP where the reflexive can be locally bound by the matrix subject *John*. If we can show the same effect in a clausal ellipsis environment, we can make an argument that the ellipsis site involves the matrix subject and the intermediate trace. The following examples of sluicing and stripping apparently show such connectivity effects (see Yoshida et al. 2013 for a discussion related to (21a)).

- (21) a. John₁ says that Mary bought many pictures, but I don't know [_{CP}[_{NP} how many pictures of himself₁] [_{TP} John₁ says [_{CP} t_{_wh} [_{C'} that [_{TP} Mary bought t_{_wh}]]]].
 - b. Ann: John₁ says that Mary bought [NP a pictures of Bill].
 Bill: No, [NP a picture of himself₁] [TP John₁ says [CP t_NP [C' that [TP Mary bought t_NP]]]].

This type of connectivity effects, however, has some difficulties. First, in these constructions, typically the reflexive pronoun is embedded within a picture NP. It has been long known that reflexives in picture NPs may not be subject to Binding Condition A, i.e., they do not require c-commanding local antecedent, or they are exempt anaphors or logophors (Pollard and Sag 1992, 1994; Reinhart and Reuland 1991, 1993; Runner 2002). Therefore, it is possible that the anaphor connectivity effects seen in (21) do not necessarily point to the long-distance structural relation between the reflexive and its antecedent. Furthermore, reflexives in (21) is focused and we do not know how the focused reflexive is interpreted. In (21a) the reflexive is focused possibly because it does not have a correlate and the picture NP that is serving as the reflexive is referring to the presupposed set of pictures that includes *pictures of himself* and *pictures of someone others*. In (21b) it is contrasting *pictures of himself* against *pictures of someone others*. In (21b) it is contrasted to *Bill* in the correlate NP.

Lasnik (2001, 2005) points out another type of the connectivity effects. In the sluicing context, the quantifier binds the pronoun in a configuration where the quantifier is outside the relative clause island, and the pronoun embedded within the remnant of sluicing, originated within the island. He cites the following examples.

- (22) a. Every linguist₁ met a philosopher who criticized some of his₁ work, but I'm not sure how much of his₁ work [TP every linguist₁ met [NP a philosopher [CP who criticized t]]].
 - b. ??Every linguist₁, met a philosopher who criticized some of his₁ work, but I'm not sure how much of his₁ work the philosopher criticized t.

In (22a), the bound reading of the pronoun in the sluicing remnant is possible. However, in (22b) it is not possible. This contrast follows if there is a full-fledged structure within the ellipsis site that contains the matrix subject and the relative clause island boundary. Crucially in (22b) the second conjunct does not include quantifier in the subject position. Thus, the bound reading in (22b) suggests that the ellipsis site involves the materials in the matrix clause and the structure that violates the relative clause island.

Lasnik (2001, 2005) further argues that the *each...the other* construction can show a similar point. In the *each...the other* construction the phrase *the other* is licensed by the quantifier *each*. Lasnik (2001, 2005) points out that, in the *each...the other* construction, *the other* is licensed by a quantifier *each*. Lasnik points out that *each* can be outside the island and *the other* is coming from within the island, in an example like (23).

(23) a. *Each* of the linguists met a philosopher who criticized some of *the other* linguists, but I'm not sure how many of *the other* linguists [TP *each* of the linguists met [NP a philosopher [CP who criticized t]]].
 b. ?*How many of *the other* linguists did the philosopher criticize?

The contrast in (23) indicates that *the other* in (23a) is licensed by the quantifier *each*, which is embedded within the ellipsis site. Furthermore, within the ellipsis site,

the quantifier *each* is in the subject position, and thus, the ellipsis site must include the structure of the matrix materials as well as the island boundaries.

4 Conclusion

We first presented evidence that (at least a certain version of) stripping is island insensitive. We then argued that this phenomenon cannot be accounted for by denying that the ellipsis site contains an island domain and positing a single-clause structure in its place. The starting point is the observation that a certain kind of stripping example generates Condition C violations that we have argued are caused by a c-command relation between a pronoun and a name that are in *separate clauses* in the ellipsis site. The crucial evidence for the island-insensitivity debate is that exactly the same pattern of Condition C violations appears in examples where the remnant appears to have moved out of an island and where we must therefore either invoke island repair or invoke some evasion strategy. This is significant because any single-clause evasion strategy predicts that the Condition C violations should disappear, due to the fact that the c-commanding pronoun is not present under such a strategy. While it is possible that some other evasion strategy might be developed that can account for these effects, we propose instead that the simplest account of all the facts is that movement out of islands is ungrammatical only when it does not appear in the clausal ellipsis-site.

Acknowledgements We would like to thank three anonymous reviewers for their valuable comments and suggestions. We would also like to thank Matthew Barros, Sandy Chung, Bob Frank, Tomohiro Fujii, Theresa Gregoire, Norbert Hornstein, Howard Lasnik, Jason Merchant, and Ming Xiang, for their valuable comments and suggestions to the earlier version of this work. We are grateful to the audience of NELS 47. This work has been supported in part by NSF grant BCS-1323245 awarded to Masaya Yoshida.

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